

TABLE OF CONTENTS

I. SUMMARY 3

II. NOTICES AND COMMUNICATIONS 5

III. BACKGROUND..... 5

 A. Regulatory Framework 5

 B. NERC Reliability Standards Development Procedure 6

 C. The Need for Reliability Standards to Address Cold Weather Risks 7

 D. Project 2019-06 Cold Weather..... 11

IV. JUSTIFICATION FOR APPROVAL 12

 A. Proposed Reliability Standard EOP-011-2 13

 B. Proposed Reliability Standards IRO-010-4 and TOP-003-5 21

V. EFFECTIVE DATE 23

VI. NEXT STEPS..... 24

VII. REQUEST FOR EXPEDITED ACTION 26

VIII. CONCLUSION 27

Exhibit A	The Proposed Reliability Standards
Exhibit A-1	EOP-011-2 Clean Redline to Last Approved
Exhibit A-2	IRO-010-4 Clean Redline to Last Approved
Exhibit A-3	TOP-003-5 Clean Redline to Last Approved
Exhibit B	Implementation Plan
Exhibit C	Technical Rationale
Exhibit C-1	EOP-011-2
Exhibit C-2	IRO-010-4
Exhibit C-3	TOP-003-5
Exhibit D	Order No. 672 Criteria
Exhibit E	Analysis of Violation Risk Factors and Violation Severity Levels
Exhibit F	Summary of Development and Complete Record of Development
Exhibit G	Standard Drafting Team Roster, Project 2019-06 Cold Weather

cold weather preparedness. Additionally, the proposed Cold Weather Reliability Standards would enhance the ability of the Balancing Authority, Transmission Operator, and Reliability Coordinator to plan and operate the grid reliably during cold weather conditions by requiring the exchange of information related to the generator’s capability to operate. The proposed standards address recommendations arising from FERC and NERC Staff’s report on the causes of the January 17, 2018 cold weather event affecting the south central United States.⁵

NERC requests that the Commission approve the proposed Cold Weather Reliability Standards, as shown in **Exhibit A**, as just, reasonable, not unduly discriminatory or preferential, and in the public interest. NERC also requests that the Commission approve: (i) the associated Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) (**Exhibit E**); (ii) the retirement of currently effective Reliability Standards EOP-011-1, IRO-010-3, and TOP-003-4; and (iii) the proposed implementation plan (**Exhibit B**).

In light of the demonstrated risks to reliability posed by the failure to prepare properly for cold weather, NERC respectfully requests that the Commission consider approving the proposed Cold Weather Reliability Standards and the associated elements on an expedited timeframe.

As required by Section 39.5(a)⁶ of the Commission’s regulations, this petition presents the technical basis and purpose of the proposed Reliability Standards, a demonstration that the proposed Reliability Standards meet the criteria identified by the Commission in Order No. 672⁷

⁵ See FERC and NERC Staff, *The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Jul. 2019), https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf [hereinafter FERC/NERC Staff Report].

⁶ 18 C.F.R. § 39.5(a).

⁷ The Commission specified in Order No. 672 certain general factors it would consider when assessing whether a particular Reliability Standard is just and reasonable. *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, 114 FERC ¶ 61,104, at P 262, 321-37 (“Order No. 672”), *order on reh’g*, Order No. 672-A, 114 FERC ¶ 61,328 (2006).

(**Exhibit D**), and a summary of the standard development history (**Exhibit F**). The NERC Board of Trustees adopted the proposed Reliability Standards on June 11, 2021.

This petition is organized as follows: Section I provides a summary of the proposed Cold Weather Reliability Standards and the cold weather events that led to their development. Section II of the petition provides the individuals to whom notices and communications related to the filing should be provided. Section III provides relevant background regarding: (i) the regulatory structure governing the Reliability Standards approval process; (ii) the January 17, 2018 cold weather event that led to the development of the proposed Cold Weather Reliability Standards; and (iii) information on the development process for the proposed Cold Weather Reliability Standards. Section IV of the petition provides an overview and justification for the proposed Cold Weather Reliability Standards. Section V of the petition provides a summary of the proposed implementation plan, and Section VI provides a summary of next steps NERC plans to take regarding cold weather reliability risks. Section VII summarizes why NERC requests expedited action in this proceeding.

I. SUMMARY

Several notable events over the last decade have demonstrated the substantial impacts that extreme cold weather conditions can have on the reliability of the Bulk-Power System. Extreme cold weather was a major factor in Bulk-Power System reliability events in 2011,⁸ 2014,⁹ and 2018.¹⁰ Extreme cold weather was likely a major factor in the February 2021 event affecting Texas

⁸ See FERC and NERC Staff, *Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations* (Aug. 2011), <https://www.ferc.gov/sites/default/files/2020-04/08-16-11-report.pdf>.

⁹ See NERC, *Polar Vortex Review* (Sep. 2014), https://www.nerc.com/pa/rrm/January%202014%20Polar%20Vortex%20Review/Polar_Vortex_Review_29_Sept_2014_Final.pdf (reviewing generator outages during the January 2014 polar vortex weather event).

¹⁰ See FERC/NERC Staff Report, *supra* n. 5.

and the south central United States as well, although this event is still under review and the precise causes still being determined. As NERC has highlighted in its reliability assessments, the grid is rapidly transforming, and it is becoming increasingly reliant on variable energy resources, such as wind and solar, and “just in time” natural gas deliveries. This resource mix is more sensitive to extreme temperature conditions than the generation fleet of prior years. The January 17, 2018 event in particular conclusively demonstrated the need for mandatory Reliability Standards to help support the reliability of the Bulk-Power System during future winter seasons. This need was underscored by the most recent cold weather event in February 2021, which resulted in massive customer load shedding to maintain system stability.

In assessing the causes of the January 17, 2018 event, FERC and NERC staff concluded that the primary cause was a failure to prepare properly or winterize generation facilities for cold temperatures.¹¹ Natural gas supply issues were a major contributing factor.¹² In their report, NERC and FERC staff recommended a multi-pronged approach, including new or revised Reliability Standards, enhanced outreach to Generator Owners and Generator Operators, and market rules where appropriate, to address reliability needs in cold weather conditions.¹³ NERC developed the proposed Cold Weather Reliability Standards - proposed Reliability Standards EOP-011-2 (Emergency Preparedness and Operations), IRO-010-4 (Reliability Coordinator Data Specification and Collection), and TOP-003-5 (Operational Reliability Data) – to address the standards part of this recommendation.

As discussed more fully in this petition, the proposed Cold Weather Reliability Standards contain new and revised requirements that would require Generator Owners to implement plans to

¹¹ *Id.* at 80.

¹² *Id.* at 84.

¹³ *Id.* at 86-87.

prepare for cold weather and to provide certain generator cold weather operating parameters to the Reliability Coordinator, Transmission Operator, and Balancing Authority for use in their analyses and planning. The proposed Cold Weather Reliability Standards would advance the reliability of the Bulk-Power System in future winter seasons by both improving generator readiness for cold weather conditions and enhancing awareness of factors that could limit generating unit availability by the entities responsible for the reliable operation of the grid.

NERC respectfully requests that the Commission approve the proposed Cold Weather Reliability Standards as just, reasonable, not unduly discriminatory or preferential, and in the public interest.

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:

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III. BACKGROUND

A. Regulatory Framework

By enacting the Energy Policy Act of 2005,¹⁴ Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the Bulk-Power System

¹⁴ 16 U.S.C. § 824o.

(“BPS”), and with the duties of certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval. Section 215(b)(1)¹⁵ of the FPA states that all users, owners, and operators of the BPS in the United States will be subject to Commission-approved Reliability Standards. Section 215(d)(5)¹⁶ of the FPA authorizes the Commission to order the ERO to submit a new or modified Reliability Standard. Section 39.5(a)¹⁷ of the Commission’s regulations requires the ERO to file with the Commission for its approval each new Reliability Standard that the ERO proposes should become mandatory and enforceable in the United States, and each modification to a Reliability Standard that the ERO proposes should be made effective.

The Commission is vested with the regulatory responsibility to approve Reliability Standards that protect the reliability of the BPS and to ensure that Reliability Standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. Pursuant to Section 215(d)(2) of the FPA¹⁸ and Section 39.5(c)¹⁹ of the Commission’s regulations, the Commission will give due weight to the technical expertise of the ERO with respect to the content of a Reliability Standard.

B. NERC Reliability Standards Development Procedure

The proposed Cold Weather Reliability Standards were developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development

¹⁵ *Id.* § 824o(b)(1).

¹⁶ *Id.* § 824o(d)(5).

¹⁷ 18 C.F.R. § 39.5(a).

¹⁸ 16 U.S.C. § 824o(d)(2).

¹⁹ 18 C.F.R. § 39.5(c)(1).

process. NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual.²⁰

In its order certifying NERC as the Commission's ERO, the Commission found that NERC's rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards,²¹ and thus satisfy several of the Commission's criteria for approving Reliability Standards.²² The development process is open to any person or entity with a legitimate interest in the reliability of the BPS. NERC considers the comments of all stakeholders. Stakeholders must approve, and the NERC Board of Trustees must adopt, a new or revised Reliability Standard before NERC submits the Reliability Standard to the Commission for approval.

C. The Need for Reliability Standards to Address Cold Weather Risks

As NERC has highlighted in its reliability assessments, the generation resource mix that powers the North American grid is transforming at a rapid pace. Over time, the resource mix has shifted to be increasingly reliant on variable energy resources, such as wind and solar, and "just in time" natural gas deliveries, resulting in a generation fleet that is more sensitive to extreme temperature conditions than the fleet of prior years.²³ Several notable events over the last decade have demonstrated the substantial impacts that extreme cold weather conditions can have on the reliability of the Bulk-Power System. Extreme cold weather was a major factor in BPS reliability

²⁰ The NERC Rules of Procedure, including Appendix 3A, NERC Standard Processes Manual, are available at <http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>.

²¹ *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 at P 250 (2006).

²² Order No. 672, *supra* n. 7, at PP 268, 270.

²³ In response to these developments, NERC began introducing fuel risks into its seasonal assessments and developed more probabilistic analysis of reliability. NERC's Winter Reliability Assessment depicts regions in North America where, under peak demand scenarios, there is heightened reliability risk due to potential extreme weather or fuel supply disruptions. *See* NERC, 2020-2021 Winter Reliability Assessment (Nov. 2020), at 6, 27, https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_WRA_2020_2021.pdf.

events in 2011,²⁴ 2014,²⁵ and 2018.²⁶ Extreme cold weather was likely a major factor in the February 2021 event affecting Texas and the south central United States as well. A joint inquiry consisting of FERC, NERC, and Regional Entity staff is currently underway to identify the precise causes of this most recent event.²⁷

Addressing the risks to reliability posed by cold weather has long been a focus area for NERC and the Regional Entities. In its assessments, NERC has highlighted areas where there is potential reliability risk due to extreme weather conditions. Following the 2011 event, NERC published a Reliability Guideline, *Generating Unit Winter Weather Readiness* to aid entities in preparing for cold weather.²⁸ After the 2011 event and the 2014 polar vortex event, NERC and the Regional Entities also prepared numerous other materials, including training webinars, lessons learned, and other cold weather guidance, to help entities prepare for the winter season. However, the January 17, 2018 cold weather event affecting the south central United States demonstrated the need for NERC to develop mandatory Reliability Standards as an integral part of a broader framework for addressing the risks to reliability posed by cold weather.

The causes of the January 17, 2018 cold weather event are discussed in detail in the FERC and NERC Staff report, *The South Central United States Cold Weather Bulk Electric System Event*

²⁴ See FERC and NERC Staff, *Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations* (Aug. 2011), <https://www.ferc.gov/sites/default/files/2020-04/08-16-11-report.pdf>.

²⁵ See NERC, *Polar Vortex Review* (Sep. 2014), https://www.nerc.com/pa/rm/January%202014%20Polar%20Vortex%20Review/Polar_Vortex_Review_29_Sept_2014_Final.pdf (reviewing generator outages during the January 2014 polar vortex weather event).

²⁶ See FERC/NERC Staff Report, *supra* n. 5.

²⁷ FERC Press Release, *FERC, NERC to Open Joint Inquiry into 2021 Cold Weather Grid Operations* (Feb. 16, 2021), <https://www.ferc.gov/news-events/news/ferc-nerc-open-joint-inquiry-2021-cold-weather-grid-operations>.

²⁸ The first version of this Reliability Guideline was developed in 2012. The current version of the Reliability Guideline – Generating Unit Winter Weather Readiness – Current Industry Practices (v.3, 2020) is available on NERC’s website at: https://www.nerc.com/comm/RSTC_Reliability_Guidelines/Reliability_Guideline_Generating_Unit_Winter_Weather_Readiness_v3_Final.pdf.

of January 17, 2018,²⁹ which was published in July 2019. As discussed in the FERC/NERC Staff Report, a large area of the south central region of the United States experienced unusually cold weather in mid-January 2018. On January 17, 2018, generator outages, derates, and failures to start led to constrained bulk electric system transmission conditions within the Reliability Coordinator footprints of Midcontinent Independent System Operator (MISO), Southwest Power Pool, Inc. (“SPP”), Tennessee Valley Authority (“TVA”), and the Southeastern Reliability Coordinator (“SeRC”)/Southern Company, and an Energy Emergency was declared in the MISO region.³⁰ In the days leading up to and immediately following this event, 183 individual generator units within the Reliability Coordinator footprints of SPP, MISO, TVA, and SeRC/Southern Company, spanning all or parts of nine states, either experienced an outage, a derate, or failure to start. When including generation already on planned or unplanned outages or derated before January 15, the four Reliability Coordinators had over 30,000 MW generation unavailable in the south central portions of their footprints by the January 17, 2018 peak morning hour.³¹ While the system remained stable during the event, the combination of the Energy Emergency and wide-area constrained transmission conditions meant that had MISO’s next single contingency generation outage occurred, operators would have needed to shed firm load promptly to maintain reliable BES operations and prevent further degradation.³²

FERC and NERC staff concluded that the primary cause of the event was a failure to properly prepare or winterize generation facilities for cold temperatures. FERC and NERC staff found that at least 44% of the unplanned outages or derates during the days leading up to and

²⁹ See FERC/NERC Staff Report, *supra* n. 5.

³⁰ FERC/NERC Staff Report at 6-7.

³¹ *Id.*

³² *Id.*

immediately following the event were caused directly by the extreme cold weather (e.g., due to frozen sensing lines, frozen equipment, low temperature limits, and so on), or indirectly attributable to the weather (e.g., due to natural gas curtailments or mechanical problems related to cold weather).³³ FERC and NERC staff further found that natural gas supply issues were a major contributing factor to the event, with natural gas supply issues caused by the extreme cold temperatures leading to outages of 38 natural gas fired units totaling approximately 2,200 MW in the days leading up to and immediately following the event.³⁴

In Recommendation 1 of the Report, FERC and NERC staff recommended a three-pronged approach, including new or revised Reliability Standards, enhanced outreach to Generator Owners and Generator Operators, and market rules where appropriate, to address reliability needs in cold weather conditions. Specifically, the report recommended addressing the following:

- The need for Generator Owners/Generator Operators to perform winterization activities on generating units to prepare for adverse cold weather, in order to maximize generator output and availability for BES reliability during these conditions. These preparations for cold weather should include Generator Owners/Generator Operators:
 - Implementing freeze protection measures and technologies (e.g., installing adequate wind breaks on generating units where necessary).
 - Performing periodic adequate maintenance and inspection of freeze protection elements (e.g., generating units' heat tracing equipment and thermal insulation).
 - If gas-fueled generating units, clearly informing their Reliability Coordinators and Balancing Authorities whether they have firm transportation capacity for natural gas supply
 - Conducting winter-specific and plant-specific operator awareness training.

³³ FERC/NERC Staff Report at 80-83.

³⁴ *Id.* at 84.

- The need for Generator Owners/Operators to ensure accuracy of their generating units' ambient temperature design specifications. The accurate ambient temperature design specifications and expected generating unit performance, including for peak winter conditions, should be incorporated into the plans, procedures and training for operating generating units, and shared with Reliability Coordinators and Balancing Authorities.
- The need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively.³⁵

As discussed further in Section IV below, NERC developed the proposed Cold Weather Reliability Standards that are the subject of this petition to address these recommendations.

D. Project 2019-06 Cold Weather

Following the issuance of the FERC/NERC Staff Report in July 2019, NERC initiated Project 2019-06 Cold Weather to consider Reliability Standards modifications to address Recommendation 1 from the report. The Project 2019-06 standard drafting team developed revisions to three Reliability Standards, referred to collectively herein as the Cold Weather Reliability Standards: proposed Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5.

The proposed Cold Weather Reliability Standards were posted for two formal comment and ballot periods. The first formal comment period and ballot ran from January 27, 2021 through March 12, 2021. On March 22, 2021, the NERC Board of Trustees, recognizing that “the continued reliability of the Bulk-Power System depends on the prompt development of Reliability Standards to address cold weather preparedness,” directed that development of the proposed Cold Weather

³⁵ FERC/NERC Staff Report at 86-87.

Reliability Standards be completed by June 2021.³⁶ Subsequently, the NERC Standards Committee approved a resolution under Section 16 of the NERC Standard Processes Manual³⁷ to shorten any additional formal comment periods to 25 days. The proposed Cold Weather Reliability Standards were posted for a second formal comment period and ballot from April 2, 2021 through April 26, 2021. The proposed Cold Weather Reliability Standards were posted for final ballot from May 18, 2021 through May 27, 2021 and achieved the following approval percentages:

- Proposed Reliability Standard EOP-011-2: 78.26% approval / 90.65% quorum;
- Proposed Reliability Standard IRO-010-4: 87.30% approval / 89.46% quorum; and
- Proposed Reliability Standard TOP-003-5: 87.52% approval / 89.14% quorum.

The NERC Board of Trustees adopted the proposed Cold Weather Reliability Standards on June 11, 2021. A summary of the development history and the complete record of development is attached to this petition as **Exhibit F**.

IV. JUSTIFICATION FOR APPROVAL

In this petition, NERC submits for Commission approval the proposed Cold Weather Reliability Standards: proposed Reliability Standard EOP-011-2 - Emergency Preparedness and Operations, IRO-010-4 - Reliability Coordinator Data Specification and Collection, and TOP-003-5 - Operational Reliability Data. The proposed Cold Weather Reliability Standards mark an important milestone in NERC's longstanding efforts to reduce the risks posed by cold weather to

³⁶ NERC Board of Trustees, March 22, 2021 Action without a Meeting Executed Resolution 2019-06 Cold Weather, <https://www.nerc.com/gov/bot/Pages/Agenda-Highlights-and-Minutes-.aspx>.

³⁷ See NERC, Standard Processes Manual, Appendix 3A to the NERC Rules of Procedure, at Section 16, Waiver; NERC Standards Committee, April 1, 2021 Action without a Meeting, Standard Processes Manual Waiver Request Project 2019-06 Cold Weather, <https://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/SC%20Action%20without%20a%20Meeting%20-%20April%201,%202021.pdf>.

reliability of the BPS. Consistent with Recommendation 1 of the FERC/NERC Staff Report on the 2018 cold weather event, the proposed Cold Weather Reliability Standards contain new and revised requirements that would require generators to implement plans to prepare for cold weather and require the exchange of certain generator cold weather operating parameters that would help enhance situational awareness in the operational planning and Real-time operations timeframes. The new and revised requirements in the proposed Cold Weather Reliability Standards are discussed in detail below.

As discussed in **Exhibit D**, the proposed Reliability Standards meet the Commission’s criteria for approval in Order No. 672 and are just, reasonable, not unduly discriminatory, and in the public interest. NERC respectfully requests that the Commission approve the proposed Cold Weather Reliability Standards, to become effective in accordance with the proposed implementation plan discussed in Section V.

A. Proposed Reliability Standard EOP-011-2

The currently effective Reliability Standard EOP-011-1 – Emergency Operations, was approved by the Commission in 2015.³⁸ The standard was initially developed to consolidate requirements from three then-effective EOP Reliability Standards into a single standard that clarified the critical requirements for Emergency Operations while ensuring strong communication and coordination across the functional entities. The stated purpose of the standard is “To address the effects of operating Emergencies by ensuring each Transmission Operator and Balancing Authority has developed Operating Plan(s) to mitigate operating Emergencies, and that those plans are coordinated within a Reliability Coordinator Area.”

³⁸ *Revisions to Emergency Operations Reliability Standards; Revisions to Undervoltage Load Shedding Reliability Standards; Revisions to the Definition of “Remedial Action Scheme” and Related Reliability Standards*, Order No. 818, 153 FERC ¶ 61,228 (2015).

Proposed Reliability Standard EOP-011-2 would revise the currently effective standard by adding two new requirements, Requirement R7 and Requirement R8, related to generator cold weather preparedness and training, and revising two requirement parts, Requirement R1.2.6 and 2.2.9, related to the consideration of the reliability impacts of cold weather conditions in Transmission Operator and Balancing Authority emergency Operating Plan(s). To reflect the addition of the new cold weather preparedness requirements, the title of the standard is revised, from “Emergency Operations” to “Emergency Preparedness and Operations.” Additionally, the stated purpose of proposed Reliability Standard EOP-011-2 is revised to reflect the addition of the Generator Owner as an applicable entity.

Proposed Reliability Standard EOP-011-2 addresses in part Recommendation 1 of the FERC/NERC Staff Report on the January 2018 cold weather event. This report recommended that requirements be developed to address: (1) the need for Generator Owners or Generator Operators to prepare for cold weather, including implementing freeze protection measures, performing adequate maintenance and inspection of those measures, identifying fuel supply constraints that could impact their availability (such as natural gas supply considerations), and providing appropriate awareness training; and (ii) the need to ensure accurate generating unit design specifications and operating performance data is included in preparedness plans and training and shared with the appropriate reliability entities. The FERC/NERC Staff Report also recommended that requirements be developed to address the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating unit limitations. The proposed standard addresses this recommendation in part by requiring Generator Owners to identify those limitations. Other proposed Reliability Standards requirements, addressed in the following sections of this petition, would require the exchange of this information with Balancing Authorities, Reliability

Coordinators, and Transmission Operators for use in their analyses and monitoring activities. Additionally, the proposed revisions to Requirements R1 and R2 would require consideration of reliability impacts from cold weather specifically in Transmission Operator and Balancing Authority emergency Operating Plans.

The new and revised requirements in proposed Reliability Standard EOP-011-2 are discussed in detail below.

1. New Generator Cold Weather Preparedness Requirements (Requirements R7 and R8)

Proposed Reliability Standard EOP-011-2 contains two new requirements related to generator cold weather preparedness: Requirements R7 and R8.

New Requirement R7 would require each Generator Owner to implement and maintain cold weather preparedness plans for their generating units, to include freeze protection measures, annual inspection and maintenance for such measures, and identification of cold weather operating parameters, including fuel considerations and operating temperatures. In determining the applicable entities for Requirement R7, the standard drafting team determined that the Generator Owner should be responsible for implementing and maintaining cold weather preparedness plans as the “entity that owns and maintains generating Facility(ies).”³⁹ The proposed requirement provides as follows:

- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum:
 - 7.1.** Generating unit(s) freeze protection measures based on geographical location and plant configuration;
 - 7.2.** Annual inspection and maintenance of generating unit(s) freeze protection measures;

³⁹ See Definition of Generator Owner, Appendix 5B to the NERC Rules of Procedure, Statement of Compliance Registry Criteria (rev. 7); see also Definition of Generator Owner, NERC Glossary.

- 7.3. Generating unit(s) cold weather data, to include:
 - 7.3.1. Generating unit(s) operating limitations in cold weather to include:
 - 7.3.1.1. capability and availability;
 - 7.3.1.2. fuel supply and inventory concerns;
 - 7.3.1.3. fuel switching capabilities; and
 - 7.3.1.4. environmental constraints.
 - 7.3.2. Generating unit(s) minimum:
 - 7.3.2.1. design temperature; or
 - 7.3.2.2. historical operating temperature; or
 - 7.3.2.3. current cold weather performance temperature determined by an engineering analysis.

New Requirement R8 in proposed Reliability Standard EOP-011-2 would require each Generator Owner and Generator Operator to provide training to the personnel responsible for implementing the cold weather preparedness plans developed under Requirement R7. The standard drafting team determined that Requirement R8 should apply to both the Generator Owner, defined above, and the Generator Operator, “the entity that operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Service”.⁴⁰ Under this requirement, the entities would be required to identify who among them will be responsible for providing the training to maintenance and operations personnel based on their respective duties and then that entity shall provide the training.

Proposed Requirement R8 provides as follows:

- R8.** Each Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible

⁴⁰ See Definition of Generator Operator, Appendix 5B to the NERC Rules of Procedure, Statement of Compliance Registry Criteria (rev. 7); see also Definition of Generator Operator, NERC Glossary.

for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7.

Proposed Requirements R7 and R8 address in part Recommendation 1 of the FERC/NERC Staff Report. Proposed Requirement R7 addresses the fundamental need, identified in the FERC/NERC Staff Report, for Generator Owners to prepare for cold weather. This new requirement is intended to provide Generator Owners with flexibility to develop appropriate cold weather preparedness plans for their generating units, provided that the plans meet the stated minimum requirements. In implementing Requirement R7, Generator Owners would be required to identify those factors that could limit the ability of the generating unit to perform in cold weather. Proposed Reliability Standards IRO-010-4 and TOP-003-5, discussed in Section IV.B below, would require the exchange of this information with the Reliability Coordinator, Transmission Operator, and Balancing Authority for planning and operations. As a continent-wide requirement, proposed Requirement R7 does not provide a uniform definition of “cold weather”. In developing their cold weather preparedness plans, Generator Owners should take into account factors such as geographic location, climate, commonly-available weather maps, or generating unit performance in past seasons.

Under proposed Requirement R7, all cold weather preparedness plans must address, at a minimum, the following three items.

First, as specified in proposed Reliability Standard EOP-011-2 Requirement R7 Part 7.1, the cold weather preparedness plans must identify the freeze protection measures that are, or will be, implemented at the generating unit. Entities have flexibility to determine which, if any, freeze protection measures are appropriate for the unit, taking into account plant configuration and geographic location.

Second, as specified in proposed Reliability Standard EOP-011-2 Requirement R7 Part 7.2,

the plans must provide for annual inspection and maintenance of the selected freeze protection measures, to help ensure that the measures are working or otherwise available when needed. The standard does not prescribe the specific timing of such inspections; entities should determine the optimal time for such inspections based on their circumstances. For example, entities may schedule their inspections at a time that would allow for the completion of any needed maintenance in advance of the winter season for that geographic location.

Third, as specified in proposed Reliability Standard EOP-011-2 Requirement R7 Part 7.3, the plans must identify certain generating unit cold weather operating parameters, including information on operating limitations and cold weather design temperature or performance data. This information would be exchanged with the Balancing Authority, Transmission Operator, and Reliability Coordinator under the revised data specification requirements in proposed Reliability Standards IRO-010-4 and TOP-003-5. The types of information that Generator Owners would be required to identify under Requirement R7 are described below.

Proposed Reliability Standard EOP-011-2 Requirement R7 Part 7.3.1 specifies that Generator Owners must identify generating unit operating limitations in cold weather, to include capability and availability, fuel supply and inventory concerns, fuel switching capabilities, and environmental constraints. This proposed requirement mirrors existing language in Reliability Standard EOP-011-1 Requirement R2 Part 2.2.3; this currently effective requirement specifies that Balancing Authorities shall have Operating Plans to mitigate Capacity Emergencies and Energy Emergencies that include processes to manage generating resources in its Balancing Authority Area accounting for these same four factors. Proposed Reliability Standard EOP-011-2 Requirement R7 Part 7.3.2 specifies that Generator Owners shall identify in their cold weather preparedness plans cold weather operating temperatures, which may be the design temperature,

historical operating temperature, or a performance temperature as determined by an engineering analysis. The proposed requirement is intended to provide flexibility to Generator Owners in the method used to develop a reasonably accurate understanding of expected unit performance during cold weather conditions for the geographic area, which was identified as an important reliability need in Recommendation 1 of the FERC/NERC Staff Report.

The data requirements in proposed Reliability Standard EOP-011-2 Requirement R7 reflect a recognition that there are a number of factors that may influence a generating unit's performance in cold weather. Through identification and communication of the relevant data points through the proposed Reliability Standards TOP-003-5 and IRO-010-4 discussed in Section IV.B, the proposed Cold Weather Reliability Standards would help promote a clear and complete understanding among generators and reliability entities alike of the factors that may influence generating unit performance in their areas during cold weather conditions.

Lastly, proposed Reliability Standard EOP-011-2 Requirement R8 would address the need for relevant personnel to understand their obligations and responsibilities under the cold weather preparedness plans by requiring that entities train their personnel. This proposed requirement directly addresses that part of Recommendation 1 from the FERC/NERC Staff Report relating to staff training. The proposed requirement affords entities flexibility to determine the appropriate periodicity for such training, given their specific needs and circumstances, as well as the appropriate entity to conduct the training, whether that is the Generator Owner or the Generator Operator at the specific unit.

2. Revisions to Transmission Operator and Balancing Authority Requirements (R1 and R2)

Proposed Reliability Standard EOP-011-2 Requirements R1 and R2 provide that the Transmission Operator and Balancing Authority, respectively, shall develop, maintain, and

implement one or more Operating Plans to mitigate operating Emergencies in their respective areas that address specified topics.

In proposed Reliability Standard EOP-011-2, NERC revises Requirement R1 Part 1.2.6 as follows:

- R1.** Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable:

1.2.6. ~~Reliability~~ Provisions to determine reliability impacts of:

1.2.6.1 cold weather conditions; and

1.2.6.2 extreme weather conditions.

Similar revisions are proposed to Requirement R2 Part 2.2.9, relating to the Balancing Authority's obligations:

- R2.** Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable:

2.2.9 ~~Reliability~~ Provisions to determine reliability impacts of:

2.2.9.1 cold weather conditions; and

2.2.9.2 extreme weather conditions.

The proposed revisions would enhance reliability by requiring the Transmission Operator and Balancing Authority to consider cold weather impacts specifically, in addition to the impacts of extreme weather conditions, when developing and implementing Operating Plans to mitigate emergencies in their respective areas.

B. Proposed Reliability Standards IRO-010-4 and TOP-003-5

The IRO-010 and TOP-003 Reliability Standards are data specification standards. The Commission approved the currently effective versions of the Reliability Standards IRO-010-3 – Reliability Coordinator Data Specification and Collection and TOP-003-4 – Operational Reliability Data in 2020.⁴¹ The IRO-010 Reliability Standard contains requirements for Reliability Coordinator data specifications, while the TOP-003 Reliability Standard contains requirements for Balancing Authority and Transmission Operator data specifications. The purpose of the IRO-010 Reliability Standard, which is unchanged in proposed Reliability Standard IRO-010-4, is “to prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.” The purpose of the TOP-003 Reliability Standard, which is similarly unchanged in proposed Reliability Standard TOP-003-5, “to ensure the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.”

Proposed Reliability Standards IRO-010-4 and TOP-003-5 maintain the general framework of the currently effective standards, which consists of three sets of requirements. First, the Reliability Coordinator and Transmission Operator shall maintain documented data specifications for the data needed for their Operational Planning Analyses, Real-time monitoring, and Real-time Assessments; the Balancing Authority shall maintain documented data specifications for the data needed for its analysis functions and Real-time monitoring.⁴² Second, the Reliability Coordinator, Transmission Operator, and Balancing Authority shall distribute the

⁴¹ *N. Am. Elec. Reliability Corp.*, Docket No. RD20-4-000 (Oct. 30, 2020) (delegated letter order).

⁴² *See* proposed Reliability Standards IRO-010-4 Requirement R1 (Reliability Coordinator), TOP-003-5 Requirement R1 (Transmission Operator), and TOP-003-5 Requirement R2 (Balancing Authority).

data specifications to the entities that have the required data.⁴³ Third, each entity receiving a data specification shall satisfy it using a mutually agreeable process.⁴⁴ In the proposed Reliability Standards, NERC proposes to revise the first set of requirements, related to the documented data specifications, to provide specifically for the inclusion of the cold weather data that would be developed by the Generator Owner under proposed Reliability Standard EOP-011-2 Requirement R7.

In proposed Reliability Standard IRO-010-4, NERC proposes to revise Requirement R1 to add a new Part 1.3, as follows:

- R1.** The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to:

1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:

1.3.1 Operating limitations based on:

1.3.1.1. capability and availability;

1.3.1.2. fuel supply and inventory concerns;

1.3.1.3. fuel switching capabilities; and

1.3.1.4. environmental constraints

1.3.2. Generating unit(s) minimum:

1.3.2.1. design temperature; or

1.3.2.2. historical operating temperature; or

1.3.2.3. current cold weather performance temperature determined by an engineering analysis.

⁴³ See proposed Reliability Standards IRO-010-4 Requirement R2 (Reliability Coordinator), TOP-003-5 Requirement R3 (Transmission Operator), and TOP-003-5 Requirement R4 (Balancing Authority).

⁴⁴ See proposed Reliability Standards IRO-010-4 Requirement R3 (requirement to satisfy Reliability Coordinator data specifications) and TOP-003-5 Requirement R5 (requirement to satisfy Transmission Operator and Balancing Authority data specifications).

NERC proposes to add an identical Requirement Part in proposed Reliability Standard TOP-003-5 Requirements R1 and R2, relating to Transmission Operator and Balancing Authority data specifications, respectively. (All changes are shown in **Exhibit A**.) A Generator Owner receiving a data specification from the Reliability Coordinator, Balancing Authority, or Transmission Operator would be required under the standards to satisfy the data specification according to a mutually agreeable process.

The proposed revisions address that part of Recommendation 1 of the FERC/NERC Staff Report relating to Balancing Authority and Reliability Coordinator awareness of limitations of specific generating units, including temperature limitations and fuel constraints, so they can be taken into account in operational planning analyses and in determining contingency reserves. In developing the requirements, the standard drafting team determined that the Transmission Operator should also receive such information.

In addition to above-listed revisions, the term “Special Protection System” is replaced with the term “Remedial Action Scheme (“RAS”)” throughout proposed Reliability Standards IRO-010-4 and TOP-003-5, consistent with previously approved revisions to the definitions of those terms and similar changes made in other standards.⁴⁵ These revisions are shown in **Exhibit A**.

V. EFFECTIVE DATE

NERC respectfully requests that the Commission approve the implementation plan attached to this petition as **Exhibit B**. The proposed implementation plan provides that the proposed Cold Weather Reliability Standards would become effective on the first day of the first calendar quarter that is eighteen (18) months after applicable regulatory approval. The currently effective versions of the standards would be retired immediately prior to the effective date of the

⁴⁵ See Order No. 818, *supra* n. 38 (approving the revised definition of Remedial Action Scheme”).

revised Reliability Standards. This implementation timeline reflects consideration that Generator Owners entities may need time to develop and implement cold weather preparedness plans for their generating units under proposed Reliability Standard EOP-011-2 Requirement R7, which may include performing engineering analysis to determine cold weather operating temperatures and to identify appropriate freeze protection measures for the climate, and to provide the required training under Requirement R8. The implementation plan also reflects consideration that Reliability Coordinators, Balancing Authorities, and Transmission Operators may need time to develop revised data specifications to include cold weather parameters and to distribute to affected entities, and for the receiving entities to develop the necessary capabilities in order to satisfy the revised data specifications.

While NERC maintains that its proposed implementation period is reasonable in light of the above considerations, NERC strongly encourages entities to prioritize implementation of the proposed Cold Weather Reliability Standards and to comply with them, in whole or in part, as soon as circumstances allow. Such voluntary action would provide needed support to the reliability of the Bulk-Power System during those winter weather seasons that elapse before the standards become mandatory and enforceable. In addition, NERC is planning a number of risk mitigating measures to take place during the implementation period, described below.

VI. NEXT STEPS

Presently, NERC and the Regional Entities are considering a comprehensive suite of measures to help support the reliability of the Bulk-Power System during the upcoming winter season and any future winter seasons that elapse before the Cold Weather Reliability Standards are approved and enforceable. These measures may include winter weather readiness outreach and training, including site visits and webinars; the use of the NERC Alert System, such as to issue

recommended actions to entities;⁴⁶ and compliance practice guides. NERC may also use its Winter Reliability Assessment to help assess and document the industry's preparedness based on the input from the aforementioned activities and scenario analysis. This will include reviewing preparations being made to prepare for the winter season and assessing changes made to operational planning practices and generator preparedness, particularly in areas that experienced significant generator outages during the cold snap experienced in February 2021. NERC will discuss its cold weather approach in detail at the NERC Board of Trustees meeting on August 12, 2021. NERC will keep Commission staff apprised of this discussion and the subsequent cold weather preparation efforts of the ERO Enterprise.

As noted above, a joint inquiry consisting of FERC, NERC, and Regional Entity staff is currently underway to identify the precise causes of the February 2021 event affecting Texas and the south central United States. The proposed Cold Weather Reliability Standards discussed in this petition address recommendations arising from the 2018 cold weather event, which is, as of this petition, the latest for which analysis has been completed and recommendations have been developed. To the extent that the February 2021 event joint inquiry team recommends further Reliability Standards modifications, NERC is prepared to address those recommendations promptly through its standard development process. NERC respectfully requests that the Commission promptly approve the proposed Cold Weather Reliability Standards addressed in this

⁴⁶ The NERC Alert system is described in Section 810 of the NERC Rules of Procedure and includes three levels: Level 1 (Advisories), Level 2 (Recommendations) and Level 3 (Essential Actions). Level 2 and Level 3 Alerts require responsive action and reporting by the receiving entities. Before issuing an Alert, NERC must provide the Commission with at least five business days' notice. Following the issuance of a Level 2 or Level 3 Alert, NERC is responsible for filing a report to the Commission summarizing the actions taken and the success of such actions in correcting any vulnerability or deficiency that was the subject of the notification. *See* NERC Rules of Procedure Section 810, Information Exchange and Issuance of NERC Advisories, Recommendations and Essential Actions. The NERC Rules of Procedure are available at <https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>.

petition as an important step forward in protecting the reliability of the Bulk-Power System during cold weather conditions.

VII. REQUEST FOR EXPEDITED ACTION

NERC respectfully requests that the Commission approve the proposed Cold Weather Reliability Standards and associated elements in an expedited manner. As noted prior in this petition, the failure to properly prepare or winterize generation facilities for cold temperatures was the primary cause of the January 17, 2018 cold weather event.⁴⁷ The need for these standards is so great that in March 2021, the NERC Board of Trustees took the unprecedented step of directing that development be completed by June 2021. NERC and its stakeholders recognized the urgency of this issue and successfully met the Board's goal, resulting in NERC being able to file these standards much earlier than projected.

As discussed in Section V, NERC's proposed implementation plan provides for an 18-month implementation timeframe, which appropriately balances the urgency in the need to implement the standards against the time allowed for those who must comply to develop necessary procedures and other relevant capabilities.⁴⁸ An expedited approval of the proposed Cold Weather Reliability Standards would advance the public interest by having the vital cold weather reliability protections these standards would provide in place as soon as is reasonably possible. Further, an expedited approval would provide regulatory certainty to those entities that would seek to implement the proposed standards on their own expedited timeframes. For these reasons, NERC respectfully requests that the Commission consider expedited action on NERC's proposals.

⁴⁷ FERC/NERC Staff Report at 80.

⁴⁸ See Order No. 672, *supra* n. 7, at P 333 (“In considering whether a proposed Reliability Standard is just and reasonable, the Commission will consider also the timetable for implementation of the new requirements, including how the proposal balances any urgency in the need to implement it against the reasonableness of the time allowed for those who must comply to develop the necessary procedures, software, facilities, staffing or other relevant capability.”).

VIII. CONCLUSION

For the reasons set forth above, NERC respectfully requests that the Commission approve:

- Proposed Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5, and the associated elements, as shown in **Exhibit A**;
- the retirement of currently effective Reliability Standards EOP-011-1, IRO-010-3, and TOP-003-4; and
- The implementation plan included in **Exhibit B**.

NERC respectfully requests that the Commission consider expedited action in ruling on these proposals.

Respectfully submitted,

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June 17, 2021

Exhibit A

The Proposed Reliability Standards Addressing
Cold Weather Risks

Exhibit A-1

Proposed Reliability Standard EOP-011-2
Clean

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021
10-day final ballot	May 2021

Anticipated Actions	Date
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title:** **Emergency Preparedness and Operations**
2. **Number:** **EOP-011-2**
3. **Purpose:** To address the effects of operating emergencies by ensuring each Transmission Operator, Balancing Authority, and Generator Owner has developed plan(s) to mitigate operating Emergencies and that those plans are implemented and coordinated within the Reliability Coordinator Area as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;
 - 1.2.3. Transmission system reconfiguration;
 - 1.2.4. Redispatch of generation request;
 - 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

1.2.6. Provisions to determine reliability impacts of:

1.2.6.1. cold weather conditions; and

1.2.6.2. extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

2.1. Roles and responsibilities for activating the Operating Plan(s);

2.2. Processes to prepare for and mitigate Emergencies including:

2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;

2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;

2.2.3. Managing generating resources in its Balancing Authority Area to address:

2.2.3.1. capability and availability;

2.2.3.2. fuel supply and inventory concerns;

2.2.3.3. fuel switching capabilities; and

2.2.3.4. environmental constraints.

2.2.4. Public appeals for voluntary Load reductions;

2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;

2.2.6. Reduction of internal utility energy use;

2.2.7. Use of Interruptible Load, curtailable Load and demand response;

2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

2.2.9. Provisions to determine reliability impacts of:

- 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. extreme weather conditions.
- M2. Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3. The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1. Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1. Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2. Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3. Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3. The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4. Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4. The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5. Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and

neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*

- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*
 - 7.1.** Generating unit(s) freeze protection measures based on geographical location and plant configuration;
 - 7.2.** Annual inspection and maintenance of generating unit(s) freeze protection measures;
 - 7.3.** Generating unit(s) cold weather data, to include:
 - 7.3.1.** Generating unit(s) operating limitations in cold weather to include:
 - 7.3.1.1.** capability and availability;
 - 7.3.1.2.** fuel supply and inventory concerns;
 - 7.3.1.3.** fuel switching capabilities; and
 - 7.3.1.4.** environmental constraints.
 - 7.3.2.** Generating unit(s) minimum:
 - 7.3.2.1.** design temperature; or
 - 7.3.2.2.** historical operating temperature; or

7.3.1.3. current cold weather performance temperature determined by an engineering analysis.

- M7.** Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.
- R8.** Each Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*
- M8.** Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.

- 1.3. The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever timeframe is greater, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8. **Compliance Monitoring and Enforcement Program:**

As defined in the NERC Rules of Procedure; “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.
R2	Real-time Operations, Operations	High	N/A	The Balancing Authority developed a Reliability Coordinator-	The Balancing Authority developed an Operating Plan(s) to mitigate operating	The Balancing Authority failed to develop an

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	Planning, Long-term Planning			reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator- reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					Operator within 30 calendar days.	
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority did not notify neighboring Reliability Coordinators, Balancing Authorities	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.
R7	Operations Planning and Real-time Operations	High	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner’s cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it. OR	The Generator Owner does not have a cold weather preparedness plan. OR The Generator Owner has a cold

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					The Generator Owner’s cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.	weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.
R8	Operations Planning and Real-time Operations	Medium	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
2	TBD	Adopted by the Board of Trustees	Revised under Project 2019-06

Attachment 1-EOP-011-2 Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Exhibit A-1

Proposed Reliability Standard EOP-011-2
Redline to Last Approved

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>
<u>10-day final ballot</u>	<u>May 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Emergency Preparedness and Operations—
2. **Number:** EOP-011-~~12~~
3. **Purpose:** To address the effects of operating ~~Emergencies~~emergencies by ensuring each Transmission Operator ~~and~~, Balancing Authority, and Generator Owner has developed ~~Operating Plan~~plan(s) to mitigate operating Emergencies, and that those plans are implemented and coordinated within ~~the~~ Reliability Coordinator Area, as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:**

See Implementation Plan for ~~EOP 011-1~~Project 2019-06.

~~2.~~ **Background:**

~~EOP 011-1 consolidates requirements from three standards: EOP 001-2.1b, EOP 002-3.1, and EOP 003-2.~~

~~The standard streamlines the requirements for Emergency operations for the Bulk Electric System into a clear and concise standard that is organized by Functional Entity. In addition, the revisions clarify the critical requirements for Emergency Operations, while ensuring strong communication and coordination across the Functional Entities.~~

~~E.B.~~ **Requirements and Measures**

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:

- 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
- 1.2.2. Cancellation or recall of Transmission and generation outages;
- 1.2.3. Transmission system reconfiguration;
- 1.2.4. Redispatch of generation request;
- 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 1.2.6. Reliability Provisions to determine reliability impacts of:-
 - 1.2.6.1. cold weather conditions; and
 - ~~1.2.5.1.~~1.2.6.2. extreme weather conditions.

- M1.** Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.
- R2.** Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 2.1.** Roles and responsibilities for activating the Operating Plan(s);
 - 2.2.** Processes to prepare for and mitigate Emergencies including:
 - 2.2.1.** Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;
 - 2.2.2.** Requesting an Energy Emergency Alert, per Attachment 1;
 - 2.2.3.** Managing generating resources in its Balancing Authority Area to address:
 - 2.2.3.1.** capability and availability;
 - 2.2.3.2.** fuel supply and inventory concerns;
 - 2.2.3.3.** fuel switching capabilities; and
 - 2.2.3.4.** environmental constraints.
 - 2.2.4.** Public appeals for voluntary Load reductions;

- 2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;
- 2.2.6. Reduction of internal utility energy use;
- 2.2.7. Use of Interruptible Load, curtailable Load and demand response;
- 2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 2.2.9. Reliability Provisions to determine reliability impacts of:
 - 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. extreme weather conditions.

- M2. Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3. The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1. Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1. Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2. Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3. Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3. The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4. Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*

- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]
- 7.1. Generating unit(s) freeze protection measures based on geographical location and plant configuration;
- 7.2. Annual inspection and maintenance of generating unit(s) freeze protection measures;
- 7.3. Generating unit(s) cold weather data, to include:
- 7.3.1. Generating unit(s) operating limitations in cold weather to include:
- 7.3.1.1. capability and availability;
- 7.3.1.2. fuel supply and inventory concerns;

7.3.1.3. fuel switching capabilities; and

7.3.1.4. environmental constraints.

7.3.2. Generating unit(s) minimum:

7.3.2.1. design temperature; or

7.3.2.2. historical operating temperature; or

7.3.2.3 current cold weather performance temperature determined by an engineering analysis.

M7. Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.

R8. Each Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7. [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]

M8. Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

F.C. **Compliance**

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~As defined in the NERC Rules of Procedure,~~ “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and /or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

~~The Balancing Authority, Reliability Coordinator, and Transmission Operator shall keep data or following evidence to show compliance, as identified below, unless directed by its Compliance Enforcement Authority (CEA) retention period(s) identify the period of time an entity is required to retain specific evidence for a longer period of time as part of an investigation to demonstrate compliance.~~ For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and ~~R4~~R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.

~~If a Balancing Authority, Reliability Coordinator or Transmission Operator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.
- The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever

~~timeframe is greater, unless directed by its~~ Compliance Enforcement Authority ~~shall keep the last audit records and all requested and submitted subsequent audit records.~~ to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8.

1.4.1.3. Compliance Monitoring Assessment Processes: Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure; “~~Compliance Monitoring and Assessment Processes~~Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated ~~reliability standard~~Reliability Standard.

2.0. Additional Compliance Information

None

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	<u>N/A</u>	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	The Balancing Authority developed an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	The Balancing Authority failed to develop an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency	The Reliability Coordinator that received an Emergency

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					notification from a Transmission Operator or Balancing Authority did notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
<u>R7</u>	<u>Operations Planning and Real-time Operations</u>	<u>High</u>	<u>The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.</u>	<u>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</u> <u>OR</u> <u>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner does not have a cold weather preparedness plan.</u> <u>OR</u> <u>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</u>
<u>R8</u>	<u>Operations Planning and Real-time Operations</u>	<u>Medium</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>one applicable personnel at a single generating unit; or</u> • <u>5% or less of its total applicable personnel.</u> 	<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>two applicable personnel at a single generating unit; or</u> • <u>more than 5% or less than or equal to 10% of its total applicable personnel.</u> 	<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>three applicable personnel at a single generating unit; or</u> • <u>more than 10% or less than or equal to 15% of its total applicable personnel.</u> 	<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>four applicable personnel at a single generating unit; or</u> • <u>more than 15% of its total applicable personnel.</u>

~~G.D.~~ Regional Variances

None.

~~H.E.~~ Interpretations

None.

~~I.F.~~ Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
<u>2</u>	<u>TBD</u>	<u>Adopted by the Board of Trustees</u>	<u>Revised under Project 2019-06</u>

Attachment 1-EOP-011-~~12~~
Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.

Rationale for R1:

The EOP SDT examined the recommendation of the EOP Five Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.

The Operating Plan(s) can be one plan, or it can be multiple plans.

“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.

To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.

Rationale for R2:

~~To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~The EOP SDT retained the statement “Operator controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.~~

~~The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.~~

Rationale for R3:

~~The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.~~

Rationale for Requirement R4:

~~Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.~~

Rationale for R5

The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.

Rationale for Introduction

~~LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.~~

~~EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB-WEQ-E tag Specification v1811 R3.6.1.3, this has been modified and now the TSP has the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.~~

Rationale for (2) Notification

The EOP SDT deleted the language, “*The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended*” as duplicative to proposed IRO-014-3 Requirement R1:

- ~~R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following:~~
- ~~1.1 Communications and notifications, and the process to follow in making those notifications.~~
 - ~~1.2 Energy and capacity shortages.~~
 - ~~1.3 Control of voltage, including the coordination of reactive resources.
Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.~~
 - ~~1.5 Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.~~
 - ~~1.6 Provisions for weekly conference calls.~~

Rationale for EEA 2:

The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.

Rationale for EEA 3:

This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.

The previous language in EOP 002 3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.

Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very close to shedding Load (“imminent or in progress”). The drafting team felt that this warrants categorization at the highest level of EEA.

Exhibit A-2

Proposed Reliability Standard IRO-010-4
Clean

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR) for posting	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day initial formal comment period with ballot	April 2 – April 27, 2021
10-day final ballot	May 18 – 27, 2021

Anticipated Actions	Date
NERC Board (Board) adoption	June 11, 2021

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-4
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Operator
 - 4.6. Transmission Owner
 - 4.7. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1 Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints

- 1.3.2.** Generating unit(s) minimum:
 - 1.3.2.1.** design temperature; or
 - 1.3.2.2.** historical operating temperature; or
 - 1.3.2.3.** current cold weather performance temperature determined by an engineering analysis.
- 1.4.** A periodicity for providing data.
- 1.5.** The deadline by which the respondent is to provide the indicated data.
- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
 - 3.1.** A mutually agreeable format
 - 3.2.** A mutually agreeable process for resolving data conflicts
 - 3.3.** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

- 1.1. Compliance Enforcement Authority:** “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.
- 1.2. Evidence Retention:** The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

- 1.3. Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
					Real-time Assessments.	
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06 Cold Weather
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06

Exhibit A-2

Proposed Reliability Standard IRO-010-4
Redline to Last Approved

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR) for posting</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day initial formal comment period with ballot</u>	<u>April 2 – April 27, 2021</u>
<u>10-day final ballot</u>	<u>May 18-28, 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-~~34~~
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator~~;~~
 - 4.2. Balancing Authority~~;~~
 - 4.3. Generator Owner~~;~~
 - 4.4. Generator Operator~~;~~
 - 4.5. Transmission Operator~~;~~
 - 4.6. Transmission Owner~~;~~
 - 4.7. Distribution Provider~~;~~
5. **Effective Date:** See Implementation Plan~~;~~ for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1 Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints

1.3.2. Generating unit(s) minimum:

1.3.2.1. design temperature; or

1.3.2.2. historical operating temperature; or

1.3.2.3. current cold weather performance temperature determined by an engineering analysis.

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
- 3.1.** A mutually agreeable format
- 3.2.** A mutually agreeable process for resolving data conflicts
- 3.3.** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. –Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority”
~~As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority”~~
(CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an
Applicable Governmental Authority, in their respective roles of monitoring and or
enforcing compliance with the ~~NERC~~mandatory and enforceable Reliability Standards
in their respective jurisdictions.

~~1.2 Compliance Monitoring and Assessment Processes~~

~~As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.~~

~~1.4. — Data Retention~~

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

1.3. Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

— Additional Compliance Information

None.

Table of Compliance Elements Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include one <u>two or fewer</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include two <u>three</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three <u>four</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Real-time Assessments.	Real-time Assessments.	Real-time Assessments.
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
<u>4</u>	<u>TBD</u>	<u>Adopted by NERC Board of Trustees</u>	<u>Revisions under Project 2019-06 Cold Weather</u>

Guidelines and Technical Basis

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Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.~~

Rationale for Definitions:

~~Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.~~

Rationale for Applicability Changes:

~~Changes were made to applicability based on IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.~~

~~The Interchange Authority was removed because activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.~~

~~The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard.~~

Rationale:

Proposed Requirement R1, Part 1.1:

~~Is in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.~~

Proposed Requirement R1, Part 1.2:

~~Is in response to NOPR paragraph 78 on relay data.~~

Proposed Requirement R3, Part 3.3:

~~Is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.~~

~~Corresponding changes have been made to proposed TOP-003-3.~~

<u>3</u>	<u>October 30, 2020</u>	<u>FERC approved IRO-010-2. Docket No. RD20-4-000</u>	
<u>4</u>	<u>TBD</u>	<u>Adopted by NERC Board of Trustees</u>	<u>Revisions under Project 2019-06</u>

Exhibit A-3

Proposed Reliability Standard TOP-003-5
Clean

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021
10-day final ballot	May 18 – 27, 2021

Anticipated Actions	Date
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title: Operational Reliability Data**
2. **Number: TOP-003-5**
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s) minimum:
 - 1.3.2.1. design temperature; or
 - 1.3.2.2. historical operating temperature; or

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data

specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

- 1.3. Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Lower	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed "Proposed" from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Exhibit A-3

Proposed Reliability Standard TOP-003-5
Redline to Last Approved

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>
<u>10-day final ballot</u>	<u>May 18, 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Operational Reliability Data
2. **Number:** TOP-003-45
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s) minimum:
 - 1.3.2.1 design temperature; or

1.3.2.2. historical operating temperature; or

1.3.2.3 current cold weather performance temperature determined by an engineering analysis.

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.

R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [*Violation Risk Factor: ~~Low~~Lower*] [*Time Horizon: Operations Planning*]

2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

2.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s) minimum:

2.3.2.1 design temperature; or

2.3.2.2. historical operating temperature; or

2.3.2.3 current cold weather performance temperature determined by an engineering analysis.

~~2.2.2.4.~~ 2.3.2.4. A periodicity for providing data.

~~2.3.2.5.~~ 2.3.2.5. The deadline by which the respondent is to provide the indicated data.

M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.

R3. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-

time monitoring, and Real-time Assessments. *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance ~~Monitoring Process~~ Enforcement Authority:

~~As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.~~

~~Compliance Monitoring and Assessment Processes~~

~~As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.~~

1.2. ~~Data~~ Evidence Retention:

The following evidence retention ~~periods~~period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. ~~For~~ instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the

Balancing Authority's analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

~~If a responsible entity is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or the time period specified above, whichever is longer.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

~~**1.1. Additional Compliance Information**~~

~~None.~~

1.3. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, "Compliance Monitoring and Enforcement Program" refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

~~Table of Compliance Elements~~

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Low <u>Low</u> er	The Transmission Operator did not include one <u>two or fewer</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include two <u>three</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three <u>four</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four <u>any</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Low <u>Low</u> er	The Balancing Authority did not include one <u>two or fewer</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include two <u>three</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three <u>four</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four <u>any</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Low <u>Low</u> er	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Low <u>Low</u> er	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for Definitions:

~~Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.~~

Rationale for R1:

~~Changes to proposed Requirement R1, Part 1.1 are in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Transmission Operator to fulfill its responsibilities.~~

~~Proposed Requirement R1, Part 1.2 is in response to NOPR paragraph 78 on relay data. The language has been moved from approved PRC-001-1.~~

~~Corresponding changes have been made to Requirement R2 for the Balancing Authority and to proposed IRO-010-2, Requirement R1 for the Reliability Coordinator.~~

Rationale for R5:

~~Proposed Requirement R5, Part 5.3 is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.~~

Exhibit B

Implementation Plan

Implementation Plan

Project 2019-06 Cold Weather

Applicable Standard(s)

- EOP-011-2 – Emergency Preparedness and Operations
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Requested Retirement(s)

- EOP-011-1 – Emergency Operations
- IRO-010-3 – Reliability Coordinator Data Specification and Collection
- TOP-003-4 – Operational Reliability Data

Applicable Entities

- See subject Reliability Standards.

Background

In July 2019, FERC and NERC staff released a joint report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018*.¹ Following the publication of the report, a Standard Authorization Request² was submitted to review and address the recommendations in the report, including:

1. Generator Owner or Generator Operator develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations, which may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather;
 - b. Implementing freeze protection measures; and
 - c. Performing periodic maintenance and inspection of freeze protection measures.
2. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner or Generator Operator will provide its BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather.

¹ Link to report: https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf

² Link to SAR: https://www.nerc.com/pa/Stand/Project%20201906%20Cold%20Weather%20DL/2019-06_Cold_Weather_SAR_Clean_02192020.pdf

3. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in their data specifications that the Generator Owner or Generator Operator will provide a notification when local forecasted cold weather conditions are expected to limit BES generating unit capability or availability.
4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop their Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.

The Reliability Standard revisions proposed by this project will help enhance the reliability of the Bulk Power System during cold weather events, and mitigate the potential for generating unit unavailability due to lack of preparation for cold weather periods by providing increased visibility of cold weather related data to the Reliability Coordinators, Balancing Authorities, and Transmission Operators, and by requiring a baseline level of cold weather planning and preparation by Generator Owners.

General Considerations

This implementation plan provides that entities shall have eighteen months to become compliant with the revised Reliability Standards. This implementation plan reflects consideration that entities will need time to develop, implement, and maintain cold weather preparedness plan(s) for its generating site(s). In addition, entities may need time identifying cold weather operating temperatures through engineering studies as permitted under Reliability Standard EOP-011-2. This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities, and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Effective Dates

Reliability Standard EOP-011-2

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard IRO-010-4

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard TOP-003-5

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Dates

Reliability Standard EOP-011-1

Reliability Standard EOP-011-1 shall be retired immediately prior to the effective date of Reliability Standard EOP-011-2 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard IRO-010-3

Reliability Standard IRO-010-3 shall be retired immediately prior to the effective date of Reliability Standard IRO-010-4 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard TOP-003-4

Reliability Standard TOP-003-4 shall be retired immediately prior to the effective date of Reliability Standard TOP-003-5 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Initial Performance of Periodic Requirements

Responsible Entities shall develop, maintain, and implement the Operating Plan(s) required by Reliability Standard EOP-011-2 by the effective date of the Reliability Standard. For the cold weather preparedness plan(s) for generating unit(s) required under Requirement R7, the Responsible Entity shall perform annual inspection and maintenance of generating unit freeze protection measures under Requirement R7 Part 7.2 and conduct generating unit specific training for its maintenance and operations personnel under Requirement R8 by the effective date of the Reliability Standard.

Exhibit C

Technical Rationale

Exhibit C-1

Technical Rationale
Proposed Reliability Standard EOP-011-2

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Emergency Operations and Preparedness

Technical Rationale and Justification for
Reliability Standard EOP-011-2

April 2021

RELIABILITY | RESILIENCE | SECURITY



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Table of Contents

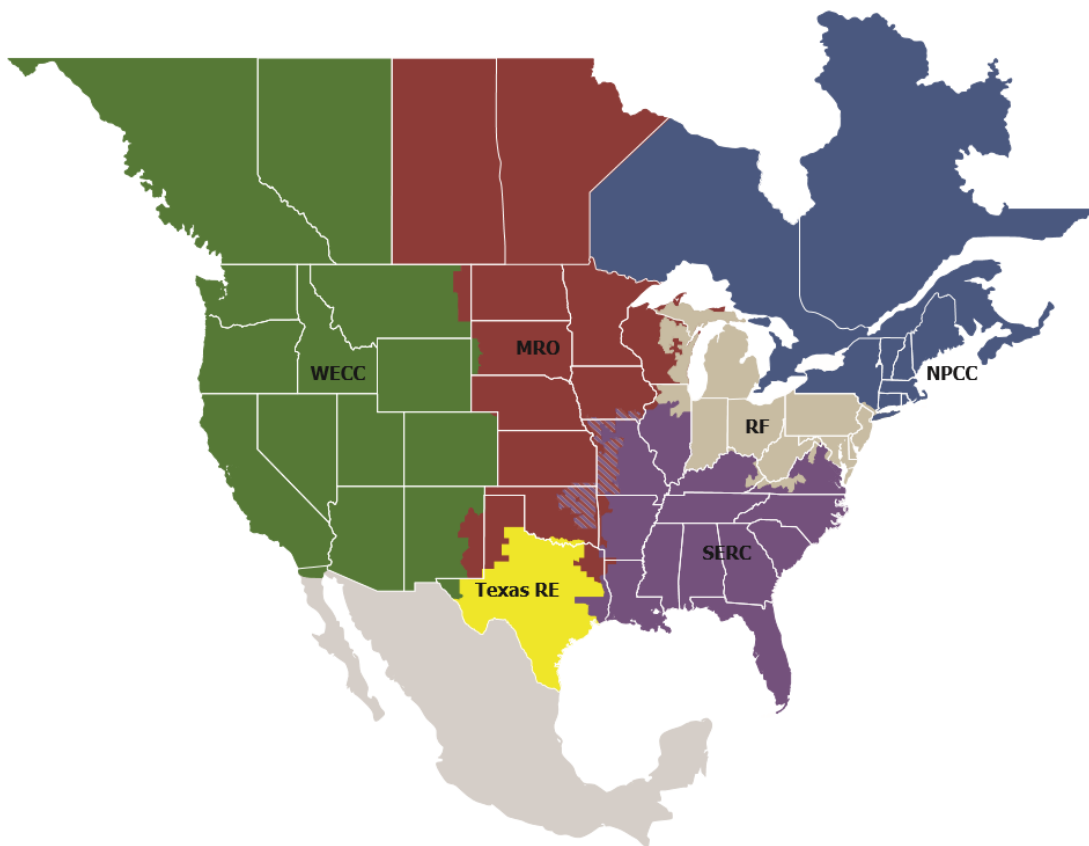
Preface.....	iii
Introduction.....	iv
Requirement R7 and R8.....	1
Appendix 1: Technical Rational for Reliability Standard EOP-011-1.....	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Introduction

This document explains the technical rationale and justification for the proposed Reliability Standard EOP-011-2. It provides stakeholders and the ERO Enterprise with an understanding of the Cold Weather requirements in the Reliability Standard. It also contains information on the intent of the Standard Drafting Team (SDT) in drafting the requirements. This Technical Rationale and Justification for EOP-011-2 is not a Reliability Standard, which is not mandatory and enforceable.

Requirement R7 and R8

Rationale for Requirement R7

The 2019 FERC and NERC Staff Report on The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 (Report) recommends modified Reliability Standards to require Generator Owners to implement “winterization activities on generating units to prepare for [cold weather].” The Generator Owner plans and procedures should include, but are not limited to, necessary and appropriate freeze protection measures, periodic maintenance and inspection of such measures, accurate ambient temperature design specifications, and generating unit limitations and expected performance in cold weather.

To address these recommendations contained in the Report, the SDT developed Requirement R7 to require each Generator Owner to implement and maintain one or more cold weather preparedness plans for its generating unit(s) subject to the standard. The standard requires the cold weather preparedness plan to contain a generating-units operating limitations during cold weather and other availability and capability information, and an annual requirement to inspect with associated maintenance of the generating unit(s).

Additionally, Requirement R7 requires the Generator Owner to develop accurate data to include the generating unit(s) minimum design temperature (i.e., faceplate capability) during cold weather. If such information is not available due to the status of the generating unit(s), the SDT developed two additional options to produce an equivalent proxy to the design specification: minimum historical operating temperature or engineering analysis to determine current minimum cold weather performance temperature.

Rationale for Requirement R8

To address the recommendation contained in the Report to require Generator Operators and Generator Owners to “[c]onduct winter-specific and plant-specific operator awareness training,” the SDT developed Requirement R8. Requirement R8 requires each Generator Operator or Generator Owner to provide generating unit-specific training to its maintenance and operations personnel responsible for implementing the cold weather preparedness plan(s) required under Requirement R7. The SDT created R8 as applicable to both the Generator Owner and the Generator Operator based on the roles and responsibilities identified in the Functional Model, whereas both entities may have personnel that are responsible to implement the cold weather preparedness plan(s) and require training.

See the Glossary terms for Generator Operator and Generator Owner.

1. Generator Operator – “The entity that operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services.”¹
2. Generator Owner – “Entity that owns and maintains generating Facility(ies).”²

¹ See NERC Glossary of Terms (page 13 of 49): https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf

² See NERC Glossary of Terms (page 13 of 49): https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf

Appendix 1: Technical Rational for Reliability Standard EOP-011-1

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.

Rationale for R1:

The EOP SDT examined the recommendation of the EOP Five-Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.

The Operating Plan(s) can be one plan, or it can be multiple plans.

“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.

To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.

Rationale for R2:

To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.

The Operating Plan(s) can be one plan, or it can be multiple plans.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

The EOP SDT retained the statement “Operator-controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.

The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.

Rationale for R3:

The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.

Rationale for Requirement R4:

Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.

Rationale for R5

The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.

Rationale for Introduction

LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.

EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB WEQ E-tag Specification v1811 R3.6.1.3, this has been modified and now the TSP has

the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.

Rationale for (2) Notification

The EOP SDT deleted the language, *“The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended”* as duplicative to proposed IRO-014-3 Requirement R1:

R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following:

Communications and notifications, and the process to follow in making those notifications.

Energy and capacity shortages.

Control of voltage, including the coordination of reactive resources.

Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.

Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.

Provisions for weekly conference calls.

Rationale for EEA 2:

The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.

Rationale for EEA 3:

This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.

The previous language in EOP-002-3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.

Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very **close to shedding Load (“imminent or in progress”)**. **The drafting team felt that this warrants categorization at the highest level of EEA.**

Exhibit C-2

Technical Rationale
Proposed Reliability Standard IRO-010-4

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Reliability Coordinator Data Specification and Collection

Technical Rationale and Justification for
Reliability Standard IRO-010-4

April 2021

RELIABILITY | RESILIENCE | SECURITY



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Table of Contents

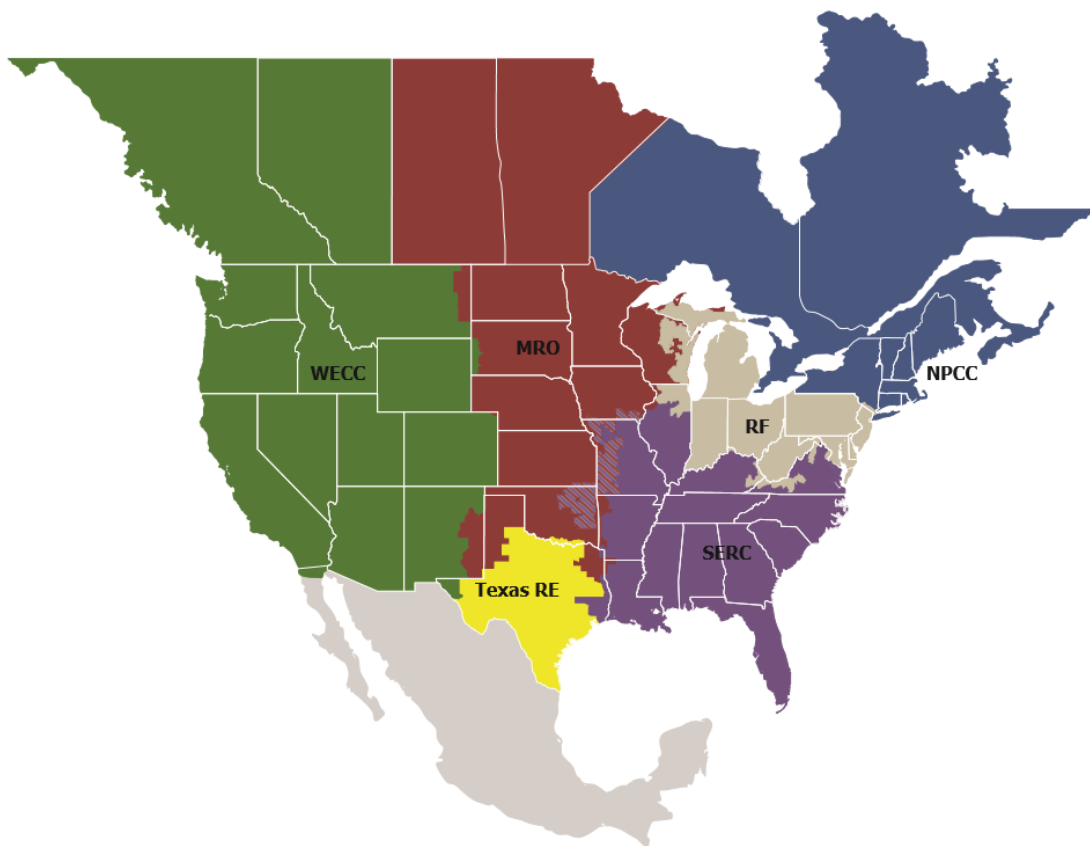
Preface.....	iii
Introduction.....	iv
Requirement R1.....	1
Appendix 1: Technical Rational for Reliability Standard IRO-010-2.....	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Introduction

This document explains the technical rationale and justification for the proposed Reliability Standard IRO-010-4. It provides stakeholders and the ERO Enterprise with an understanding of the Cold Weather requirements in the Reliability Standard. It also contains information on the intent of the Standard Drafting Team (SDT) in drafting the requirements. This Technical Rationale and Justification for IRO-010-4 is not a Reliability Standard, which is not mandatory and enforceable.

Requirement R1

Proposed Requirement R1, Part 1.3:

The Requirements contained in Requirement R1 Part 1.3 are in response to the recommendations contained in the *2019 FERC and NERC Staff Report on The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Report). The Report recommends reliability standards be implemented that require communication protocols for the Reliability Coordinator to receive generating unit ambient temperature design temperatures, capabilities, and limitations associated with cold weather conditions for use in operational analysis.

To implement the Report's recommendation, the SDT has included new data specifications for Reliability Coordinators in Requirements R1 Part 1.3. The data specifications are consistent with the data information the Generator Owner is required to collect regarding its generating unit(s) pursuant to EOP-011-2 Requirement R7. TOP-003-4 has corresponding changes.

Appendix 1: Technical Rational for Reliability Standard IRO-010-2

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes have been moved to this section.

Rationale for Definitions:

Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

Rationale for Applicability Changes:

Changes were made to applicability based on IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.

The Interchange Authority was removed because activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.

The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard.

Rationale:

Proposed Requirement R1, Part 1.1:

Is in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.

Proposed Requirement R1, Part 1.2:

Is in response to NOPR paragraph 78 on relay data.

Proposed Requirement R3, Part 3.3:

Is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks. Corresponding changes have been made to proposed TOP-003-3.

Exhibit C-3

Technical Rationale
Proposed Reliability Standard TOP-003-5

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Operational Reliability Data

Technical Rationale and Justification for
Reliability Standard TOP-003-5

April 2021

RELIABILITY | RESILIENCE | SECURITY



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Table of Contents

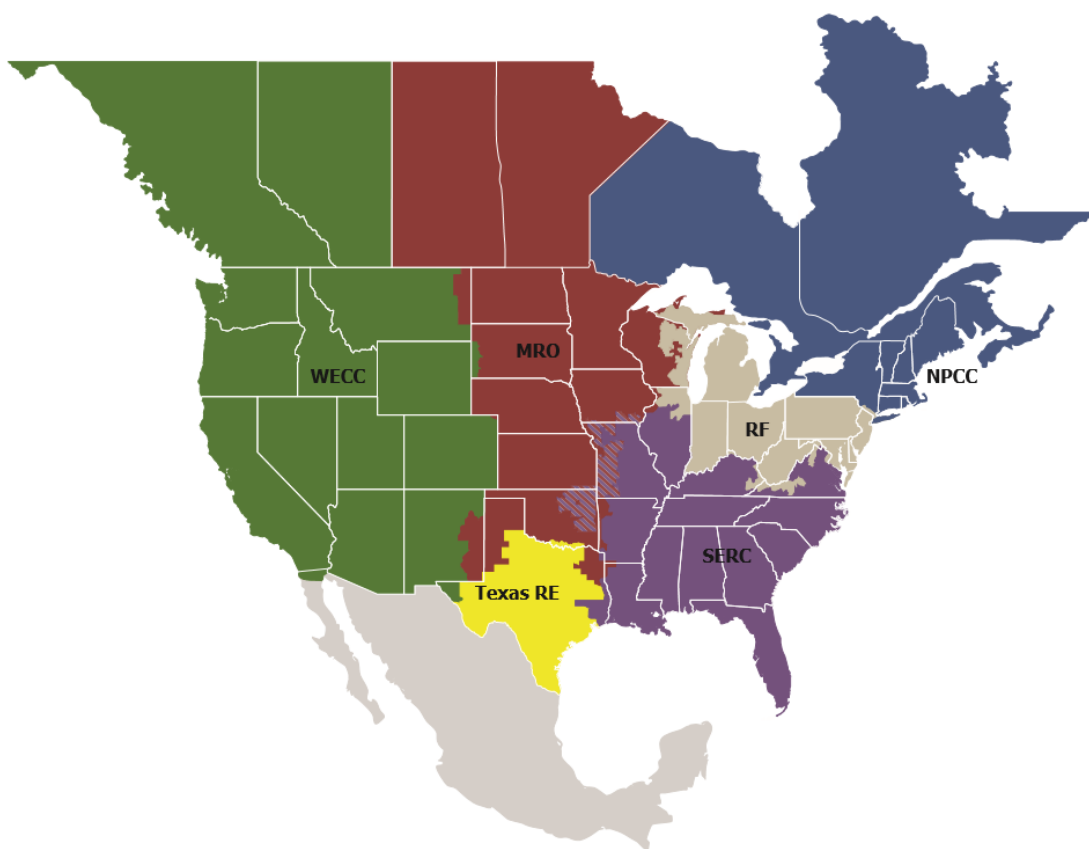
Preface.....	iii
Introduction.....	iv
Requirement R1.....	1
Appendix 1: Technical Rational for Reliability Standard TOP-003-5.....	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Introduction

This document explains the technical rationale and justification for the proposed Reliability Standard TOP-003-5. It provides stakeholders and the ERO Enterprise with an understanding of the Cold Weather requirements in the Reliability Standard. It also contains information on the intent of the Standard Drafting Team (SDT) in drafting the requirements. This Technical Rationale and Justification for TOP-003-5 is not a Reliability Standard, which is not mandatory and enforceable.

Requirement R1

Rationale for R1.3 and R2.3.

The Requirements contained in Requirements R1 Part 1.3 and Requirement R2 Part 2.3 are in response to the recommendations contained in the *2019 FERC and NERC Staff Report on The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Report). The Report recommends reliability standards be implemented that require communication protocols for the Balancing Authorities to receive generating unit ambient temperature design temperatures, capabilities, and limitations associated with cold weather conditions for use in operational analysis and determination of contingency reserves. The SDT determined that both the Balancing Authority and Transmission Operator are appropriate entities to receive this information.

To implement the Report's recommendations, the SDT has included new data specifications for Transmission Operators and Balancing Authorities in Requirements R1 Part 1.3 and Requirement R2 Part 2.3, respectively. The data specifications are consistent with the data information the Generator Owner is required to collect regarding its generating unit(s) pursuant to EOP-011-2 Requirement R7 and the Balancing Authorities must include in its Operating Plans pursuant to EOP-011-2 Requirement R2 Part 2.2.3. IRO-010-3 has corresponding changes.

Appendix 1: Technical Rational for Reliability Standard TOP-003-5

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.

Rationale for Definitions:

Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

Rationale for R1:

Changes to proposed Requirement R1, Part 1.1 are in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Transmission Operator to fulfill its responsibilities. Proposed Requirement R1, Part 1.2 is in response to NOPR paragraph 78 on relay data. The language has been moved from approved PRC-001-1. Corresponding changes have been made to Requirement R2 for the Balancing Authority and to proposed IRO-010-2, Requirement R1 for the Reliability Coordinator.

Rationale for R5:

Proposed Requirement R5, Part 5.3 is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.

Exhibit D

Order No. 672 Criteria

EXHIBIT D

Order No. 672 Criteria

In Order No. 672,¹ the Commission identified a number of criteria it will use to analyze Reliability Standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The discussion below identifies these factors and explains how the proposed Reliability Standards have met or exceeded the criteria.

1. Proposed Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve that goal.²

The proposed Reliability Standards (proposed Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5) would advance the reliability of the Bulk-Power System by: (i) requiring generators to implement plans for cold weather preparedness; and (ii) enhancing the ability of the Balancing Authority, Transmission Operator, and Reliability Coordinator to plan and operate the grid reliably through the exchange of information related to the generator's ability to operate during cold weather conditions. NERC developed the proposed standards to address recommendations from FERC and NERC Staff's report regarding the January 17, 2018 cold

¹ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, 114 FERC ¶ 61,104, *order on reh'g*, Order No. 672-A, 114 FERC ¶ 61,328 (2006) [hereinafter Order No. 672].

² *See* Order No. 672, *supra* note 1, at P 321 (“The proposed Reliability Standard must address a reliability concern that falls within the requirements of section 215 of the FPA. That is, it must provide for the reliable operation of Bulk-Power System facilities. It may not extend beyond reliable operation of such facilities or apply to other facilities. Such facilities include all those necessary for operating an interconnected electric energy transmission network, or any portion of that network, including control systems. The proposed Reliability Standard may apply to any design of planned additions or modifications of such facilities that is necessary to provide for reliable operation. It may also apply to Cybersecurity protection.”).

See Order No. 672, *supra* note 1, at P 324 (“The proposed Reliability Standard must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve this goal. Although any person may propose a topic for a Reliability Standard to the ERO, in the ERO's process, the specific proposed Reliability Standard should be developed initially by persons within the electric power industry and community with a high level of technical expertise and be based on sound technical and engineering criteria. It should be based on actual data and lessons learned from past operating incidents, where appropriate. The process for ERO approval of a proposed Reliability Standard should be fair and open to all interested persons.”).

weather event affecting the south central United States.³ The proposed Cold Weather Reliability Standards are designed to achieve a specific reliability goal and contain a technically sound means to achieve that goal.

2. Proposed Reliability Standards must be applicable only to users, owners, and operators of the bulk power system, and must be clear and unambiguous as to what is required and who is required to comply.⁴

The proposed Reliability Standards are clear and unambiguous as to what is required and who is required to comply, in accordance with Order No. 672. The new requirements in proposed Reliability Standard EOP-011-2 would apply to Generator Owners (R7 and R8) and Generator Operators (R8). The applicability of the revised requirements in proposed Reliability Standards IRO-010-4 and TOP-003-5 would remain unchanged. The proposed Reliability Standards clearly articulate the actions that applicable entities must take to comply with the standards.

3. A proposed Reliability Standard must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.⁵

The Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) for the proposed Reliability Standards comport with NERC and Commission guidelines related to their assignment, as discussed further in Exhibit E. The assignment of the severity level for each VSL is consistent with the corresponding requirement, and the VSLs should ensure uniformity and consistency in the determination of penalties. The VSLs do not use any ambiguous terminology,

³ See FERC and NERC Staff, *The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Jul. 2019), https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf [hereinafter “FERC/NERC Staff Report”].

⁴ See Order No. 672, *supra* note 1, at P 322 (“The proposed Reliability Standard may impose a requirement on any user, owner, or operator of such facilities, but not on others.”).

See Order No. 672, *supra* note 1, at P 325 (“The proposed Reliability Standard should be clear and unambiguous regarding what is required and who is required to comply. Users, owners, and operators of the Bulk Power System must know what they are required to do to maintain reliability.”).

⁵ See Order No. 672, *supra* note 1, at P 326 (“The possible consequences, including range of possible penalties, for violating a proposed Reliability Standard should be clear and understandable by those who must comply.”).

thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. For these reasons, the proposed Reliability Standards include clear and understandable consequences in accordance with Order No. 672.

4. A proposed Reliability Standard must identify clear and objective criteria or measures for compliance, so that it can be enforced in a consistent and non-preferential manner.⁶

The proposed Reliability Standards contain measures that support each requirement by clearly identifying what is required and how the requirement will be enforced. These measures help provide clarity regarding how the requirements would be enforced and help ensure that the requirements would be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.

5. Proposed Reliability Standards should achieve a reliability goal effectively and efficiently, but do not necessarily have to reflect “best practices” without regard to implementation cost or historical regional infrastructure design.⁷

The proposed Reliability Standards achieve their reliability goals effectively and efficiently in accordance with Order No. 672. The proposed Reliability Standards would achieve the reliability goal of improving preparedness for cold weather while allowing for flexibility in the development and implementation of generator cold weather preparedness plans.

6. Proposed Reliability Standards cannot be “lowest common denominator,” i.e., cannot reflect a compromise that does not adequately protect Bulk-Power System reliability. Proposed Reliability Standards can consider costs to implement for smaller entities, but not at consequences of less than excellence in operating system reliability.⁸

⁶ See Order No. 672, *supra* note 1, at P 327 (“There should be a clear criterion or measure of whether an entity is in compliance with a proposed Reliability Standard. It should contain or be accompanied by an objective measure of compliance so that it can be enforced and so that enforcement can be applied in a consistent and non-preferential manner.”).

⁷ See Order No. 672, *supra* note 1, at P 328 (“The proposed Reliability Standard does not necessarily have to reflect the optimal method, or ‘best practice,’ for achieving its reliability goal without regard to implementation cost or historical regional infrastructure design. It should however achieve its reliability goal effectively and efficiently.”).

⁸ See Order No. 672, *supra* note 1, at P 329 (“The proposed Reliability Standard must not simply reflect a compromise in the ERO’s Reliability Standard development process based on the least effective North American practice—the so-called ‘lowest common denominator’—if such practice does not adequately protect Bulk-Power

The proposed Reliability Standards do not reflect a “lowest common denominator” approach. The proposed Reliability Standards would enhance reliability in cold weather conditions by requiring Generator Owners to implement cold weather preparedness plans and by requiring Reliability Coordinators, Transmission Operators, and Balancing Authorities to include in their documented data specifications information relating to the generator’s ability to operate in cold weather.

7. **Proposed Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one geographic area or regional model. It should take into account regional variations in the organization and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.⁹**

The proposed Reliability Standards would continue to apply consistently throughout North America and do not favor one geographic area or regional model. The proposed Reliability Standards would provide sufficient flexibility to accommodate regional/geographic variations, including climate, generation type, market issues, state rules, and other considerations.

System reliability. Although the Commission will give due weight to the technical expertise of the ERO, we will not hesitate to remand a proposed Reliability Standard if we are convinced it is not adequate to protect reliability.”).

See Order No. 672, *supra* note 1, at P 330 (“A proposed Reliability Standard may take into account the size of the entity that must comply with the Reliability Standard and the cost to those entities of implementing the proposed Reliability Standard. However, the ERO should not propose a ‘lowest common denominator’ Reliability Standard that would achieve less than excellence in operating system reliability solely to protect against reasonable expenses for supporting this vital national infrastructure. For example, a small owner or operator of the Bulk-Power System must bear the cost of complying with each Reliability Standard that applies to it.”).

⁹ *See* Order No. 672, *supra* note 1, at P 331 (“A proposed Reliability Standard should be designed to apply throughout the interconnected North American Bulk-Power System, to the maximum extent this is achievable with a single Reliability Standard. The proposed Reliability Standard should not be based on a single geographic or regional model but should take into account geographic variations in grid characteristics, terrain, weather, and other such factors; it should also take into account regional variations in the organizational and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.”).

8. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid beyond any restriction necessary for reliability.¹⁰

The proposed Reliability Standards would have no undue negative effect on competition and would not unreasonably restrict the available transmission capacity or limit the use of the BPS in a preferential manner. The proposed standards would require the same performance by each of the applicable entities.

9. The implementation time for the proposed Reliability Standard is reasonable.¹¹

The proposed effective date for the proposed Reliability Standards is just and reasonable and appropriately balances the urgency in the need to implement the standards against the reasonableness of the time allowed for those who must comply to develop necessary procedures or other relevant capability. The proposed implementation plan provides that the proposed Reliability Standards would become effective on the first day of the first calendar quarter that is eighteen (18) months after applicable regulatory approval. The currently effective versions of the standards would be retired immediately prior to the effective date of the revised Reliability Standards. This implementation timeline reflects consideration that entities may need time to develop, implement, and maintain cold weather preparedness plans for generating sites, to include information on cold weather operating temperatures that may need to be developed through engineering analysis. The implementation timeline also reflects consideration that entities will

¹⁰ See Order No. 672, *supra* note 1, at P 332 (“As directed by section 215 of the FPA, the Commission itself will give special attention to the effect of a proposed Reliability Standard on competition. The ERO should attempt to develop a proposed Reliability Standard that has no undue negative effect on competition. Among other possible considerations, a proposed Reliability Standard should not unreasonably restrict available transmission capability on the Bulk-Power System beyond any restriction necessary for reliability and should not limit use of the Bulk-Power System in an unduly preferential manner. It should not create an undue advantage for one competitor over another.”).

¹¹ See Order No. 672, *supra* note 1, at P 333 (“In considering whether a proposed Reliability Standard is just and reasonable, the Commission will consider also the timetable for implementation of the new requirements, including how the proposal balances any urgency in the need to implement it against the reasonableness of the time allowed for those who must comply to develop the necessary procedures, software, facilities, staffing or other relevant capability.”).

need time to develop and distribute revised data specifications to affected entities, and for receiving entities to develop the necessary capabilities in order to comply with the revised data specifications. The proposed implementation plan is attached as **Exhibit B** to this petition.

10. The Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.¹²

The proposed Reliability Standards were developed in accordance with NERC's Commission-approved, ANSI-accredited processes for developing and approving Reliability Standards. **Exhibit F** includes a summary of the Reliability Standard development proceedings, and details the processes followed to develop the proposed Reliability Standards. These processes included, among other things, comment periods, pre-ballot review periods, and balloting periods. Additionally, all meetings of the standard drafting team were properly noticed and open to the public.

11. NERC must explain any balancing of vital public interests in the development of proposed Reliability Standards.¹³

NERC has identified no competing public interests regarding the request for approval of this proposed Reliability Standards. No comments were received that indicated that one or more of the proposed Reliability Standards conflicts with other vital public interests.

¹² See Order No. 672, *supra* note 1, at P 334 (“Further, in considering whether a proposed Reliability Standard meets the legal standard of review, we will entertain comments about whether the ERO implemented its Commission-approved Reliability Standard development process for the development of the particular proposed Reliability Standard in a proper manner, especially whether the process was open and fair. However, we caution that we will not be sympathetic to arguments by interested parties that choose, for whatever reason, not to participate in the ERO’s Reliability Standard development process if it is conducted in good faith in accordance with the procedures approved by the Commission.”).

¹³ See Order No. 672, *supra* note 1, at P 335 (“Finally, we understand that at times development of a proposed Reliability Standard may require that a particular reliability goal must be balanced against other vital public interests, such as environmental, social and other goals. We expect the ERO to explain any such balancing in its application for approval of a proposed Reliability Standard.”).

12. Proposed Reliability Standards must consider any other appropriate factors.¹⁴

No other negative factors relevant to whether the proposed Reliability Standards are just and reasonable were identified.

¹⁴ See Order No. 672, *supra* note 1, at P 323 (“In considering whether a proposed Reliability Standard is just and reasonable, we will consider the following general factors, as well as other factors that are appropriate for the particular Reliability Standard proposed.”).

Exhibit E

Analysis of Violation Risk Factors and Violation Severity Levels

Violation Risk Factor and Violation Severity Level Justification

Project 2019-06 Cold Weather

This document provides the standard drafting team's (SDT's) justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5. Each requirement is assigned a VRF and a VSL. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the Electric Reliability Organizations (ERO) Sanction Guidelines. The SDT applied the following NERC criteria and FERC Guidelines when developing the VRFs and VSLs for the requirements.

NERC Criteria for Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to Bulk Electric System (BES) instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to BES instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the BES, or the ability to effectively monitor and control the BES. However, violation of a medium risk requirement is unlikely to lead to BES instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to BES instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor and control the BES; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES.

FERC Guidelines for Violation Risk Factors

Guideline (1) – Consistency with the Conclusions of the Final Blackout Report

FERC seeks to ensure that VRFs assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System. In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief.

Guideline (2) – Consistency within a Reliability Standard

FERC expects a rational connection between the sub-Requirement VRF assignments and the main Requirement VRF assignment.

Guideline (3) – Consistency among Reliability Standards

FERC expects the assignment of VRFs corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline (4) – Consistency with NERC’s Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular VRF level conforms to NERC’s definition of that risk level.

Guideline (5) – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

NERC Criteria for Violation Severity Levels

VSLs define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one, two, or three VSLs.

VSLs should be based on NERC’s overarching criteria shown in the table below:

Lower VSL	Moderate VSL	High VSL	Severe VSL
The performance or product measured almost meets the full intent of the requirement.	The performance or product measured meets the majority of the intent of the requirement.	The performance or product measured does not meet the majority of the intent of the requirement, but does meet some of the intent.	The performance or product measured does not substantively meet the intent of the requirement.

FERC Order of Violation Severity Levels

The FERC VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in the standard meet the FERC Guidelines for assessing VSLs:

Guideline (1) – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline (2) – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline (3) – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline (4) – Violation Severity Level Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations

Unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

EOP-011-2

VRF Justification for EOP-011-2, Requirement R1

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R1

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R2

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R2

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R3

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R3

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R4

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R4

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R5

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R5

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R6

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R6

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VRF Justification for EOP-011-2, Requirement R8

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R8

The justification for this new requirement is provided on the following page.

R#	VRF for EOP-011-2, Requirement R7	Justifications
R7	High	<ol style="list-style-type: none"> Generator Owners must implement and maintain one or more cold weather preparedness plans for its generating facilities during cold weather conditions to avoid unnecessary trips, derates or failures to start FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R7				
R#	Lower	Moderate	High	Severe
R7	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	<p>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</p> <p>OR</p> <p>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</p>	<p>The Generator Owner does not have a cold weather preparedness plan.</p> <p>OR</p> <p>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</p>

VSL Justification for EOP-011-2 Requirement R7

<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R7 is a new requirement and there were no prior levels of non-compliance. Requirement R7 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner’s responsibility to develop, maintain and implement a cold weather preparedness plan. Each VSL considers what or how many conditions or Parts of R7 have been met by the Generator Owner related to the cold weather preparedness plan.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R7.</p>

R#	VRF for EOP-011-2, Requirement R8	Justifications
R8	Medium	<ol style="list-style-type: none"> 1. Generator Owners or Generator Operator must provide generating unit-specific training to its maintenance and operations personnel. 2. FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R8				
R#	Lower	Moderate	High	Severe
R8	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

VSL Justification for EOP-011-2 Requirement R8	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R8 is a new requirement and there were no prior levels of non-compliance. Requirement R8 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner or Generator Operator's responsibility to provide generating unit-specific training to its maintenance and operations personnel. Each VSL considers what or how many personnel or percentage of personnel training has been completed in R8.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R8 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R8.</p>

IRO-010-4

VRF Justification for IRO-010-4, Requirement R1

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R1

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for IRO-010-4, Requirement R2

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R2

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VRF Justification for IRO-010-4, Requirement R3

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R3

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSLs for IRO-010-4, Requirement R1				
R#	Lower	Moderate	High	Severe
R1	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSLs for IRO-010-4, Requirement R1				
R#	Lower	Moderate	High	Severe
				OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSL Justification for IRO-010-4 Requirement R1	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Requirement R1 is an existing requirement with a new subpart developed, which Reliability Coordinator maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent	The VSL assignments describe the Reliability Coordinator responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers what or how many conditions or Parts of R1 have been met by the Reliability Coordinator related to the cold weather preparedness plan.

VSL Justification for IRO-010-4 Requirement R1

<p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

TOP-003-5

VRF Justification for TOP-003-5, Requirement R1

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R1

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for TOP-003-05 Requirement R2

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R2

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for TOP-003-5 Requirement R3

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R3

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VRF Justification for TOP-003-5 Requirement R4

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R4

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSLs for TOP-003-5, Requirement R1				
R#	Lower	Moderate	High	Severe
R1	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSL Justification for TOP-003-5 Requirement R1	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R1 is an existing requirement with a new subpart developed, which the Transmission Operator maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Transmission Operator responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers subparts based on completion.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for Requirement R1 will result in a single violation of this requirement that is independent of all other requirements of TOP-003-5 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

VSLs for TOP-003-5, Requirement R2				
R#	Lower	Moderate	High	Severe
R2	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.

VSL Justification for TOP-003-5 Requirement R2	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Requirement R2 is an existing requirement with a new subpart developed, which the Balancing Authority maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.
FERC VSL G2 Violation Severity Level Assignments Should Ensure	The VSL assignments describe the Balancing Authority responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers subparts based on completion.

VSL Justification for TOP-003-5 Requirement R2

<p>Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for Requirement R1 will result in a single violation of this requirement that is independent of all other requirements of TOP-003-5 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

Exhibit F

Summary of Development History and Complete Record of Development

Summary of Development History

The following is a summary of the development record for proposed Reliability Standards EOP-001-2, IRO-010-4, and TOP-003-5.

I. Overview of the Standard Drafting Team

When evaluating a proposed Reliability Standard, the Commission is expected to give “due weight” to the technical expertise of the ERO.¹ The technical expertise of the ERO is derived from the standard drafting team (“SDT”) selected to lead each project in accordance with Section 4.3 of the NERC Standard Processes Manual.² For this project, the SDT consisted of industry experts, all with a diverse set of experiences. A roster of the Project 2019-06 Cold Weather SDT members is included in **Exhibit G**.

II. Standard Development History

A. Standard Authorization Request Development

On October 2, 2019, the Standards Committee authorized posting a Standards Authorization Request (“SAR”) developed in response to the 2019 FERC and NERC Staff report, *The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*,³ for a 30-day formal comment period from October 4, 2019 through November 5, 2019 and authorized the solicitation of SDT members.⁴ Based on comments received, the SAR was posted for two additional comment periods from February 19 through March 19, 2020⁵ (formal) and April 22 to May 21, 2020 (informal).⁶ The Standards Committee authorized soliciting additional nominations

¹ Section 215(d)(2) of the Federal Power Act; 16 U.S.C. § 824(d)(2) (2018).

² The NERC *Standard Processes Manual* is available at https://www.nerc.com/FilingsOrders/us/RuleOfProcedureDL/SPM_Clean_Mar2019.pdf.

³ NERC, *Meeting Minutes – Standards Committee Meeting* (October 2, 2019), https://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/SC%20October%20Meeting%20Minutes_Approved_102319.pdf.

⁴ See Exhibit F, Complete Record of Development, at item 2.

⁵ *Id.* at item 11.

⁶ *Id.* at item 18.

for the SDT for a 15 day nomination period from June 18, 2020 through July 2, 2020.⁷ The Standards Committee accepted the SAR on September 24, 2020.

B. First Posting - Comment Period, Initial Ballot, and Non-binding Poll

On January 20, 2021, the Standards Committee authorized initial posting of proposed Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5, the associated Implementation Plan and other associated documents for a 45-day formal comment period from January 27, 2021 through March 12, 2021, with a parallel initial ballot and non-binding poll on the Violation Risk Factors (“VRFs”) and Violation Severity Levels (“VSLs”) held during the last 10 days of the comment period from March 3, 2021 through March 12, 2021.⁸ The initial ballot and non-binding poll results for the proposed Reliability Standards are as follows:

- Proposed Reliability Standard EOP-011-2 received 49.39 percent approval, reaching quorum at 90 percent of the ballot pool. The non-binding poll for the associated VRFs and VSLs received 45.45 percent supportive opinions, reaching quorum at 87.54 percent of the ballot pool.⁹
- Proposed Reliability Standard IRO-010-4 received 66.22 percent approval, reaching quorum at 89.78 percent of the ballot pool. The non-binding poll for the associated VRFs and VSLs received 63.68 percent supportive opinions, reaching quorum at 87.54 percent of the ballot pool.¹⁰
- Proposed Reliability Standard TOP-003-5 received 64.35 percent approval, reaching quorum at 90.1 percent of the ballot pool. The non-binding poll for the associated

⁷ *Id.* at item 22.

⁸ *Id.* at item 33.

⁹ *Id.* at items 38, 41.

¹⁰ *Id.* at items 39, 42.

VRFs and VSLs received 58.46 percent supportive opinions, reaching quorum at 87.85 percent of the ballot pool.¹¹

There were 104 sets of responses, including comments from approximately 235 different individuals and approximately 150 companies, representing all 10 industry segments.¹²

C. Second Posting - Comment Period, Additional Ballot, and Non-binding Poll

On March 22, 2021, the NERC Board of Trustees, recognizing that “the continued reliability of the Bulk-Power System depends on the prompt development of Reliability Standards to address cold weather preparedness,” directed that development of the proposed Cold Weather Reliability Standards be completed by June 2021.¹³ Subsequently, the NERC Standards Committee approved a resolution under Section 16 of the NERC Standard Processes Manual to shorten any additional formal comment periods to 25 days.¹⁴

Proposed Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5, the associated Implementation Plan and other associated documents were posted for a 25-day formal comment period from April 2, 2021 through April 26, 2021, with a parallel additional ballot and non-binding poll held during the last 10 days of the comment period from April 16, 2021 through April 26, 2021.¹⁵ The additional ballot and non-binding poll results for the proposed Reliability Standards are as follows:

¹¹ *Id.* at items 40, 43.

¹² *Id.* at item 35.

¹³ NERC Board of Trustees, March 22, 2021 Action without a Meeting Executed Resolution 2019-06 Cold Weather, <https://www.nerc.com/gov/bot/Pages/Agenda-Highlights-and-Minutes-.aspx>.

¹⁴ *See* NERC, Standard Processes Manual, Appendix 3A to the NERC Rules of Procedure, at Section 16, Waiver; NERC Standards Committee, April 1, 2021 Action without a Meeting, Standard Processes Manual Waiver Request Project 2019-06 Cold Weather, <https://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/SC%20Action%20without%20a%20Meeting%20-%20April%201,%202021.pdf>.

¹⁵ *Id.* at item 60.

- Proposed Reliability Standard EOP-001-2 received 77.1 percent approval, reaching quorum at 87.74 percent of the ballot pool. The non-binding poll for the associated VRFs and VSLs received 72.54 percent supportive opinions, reaching quorum at 84.08 percent of the ballot pool.¹⁶
- Proposed Reliability Standard IRO-010-4 received 85.42 percent approval, reaching quorum at 86.58 percent of the ballot pool. The non-binding poll for the associated VRFs and VSLs received 84.66 percent supportive opinions, reaching quorum at 84.08 percent of the ballot pool.¹⁷
- Proposed Reliability Standard TOP-003-5 received 85.2 percent approval, reaching quorum at 86.26 percent of the ballot pool. The non-binding poll for the associated VRFs and VSLs received 84.21 percent supportive opinions, reaching quorum at 84.38 percent of the ballot pool.¹⁸

There were 89 sets of responses, including comments from approximately 210 different individuals and approximately 137 companies, representing all 10 industry segments.¹⁹

D. Final Ballot

Proposed Reliability Standards EOP-001-2, IRO-010-4, and TOP-003-5 were posted for a 10-day final ballot period from May 18, 2021 through May 27, 2021.²⁰ The ballot for the proposed Reliability Standards and associated documents are as follows:

- Proposed Reliability Standard EOP-011-2 reached quorum at 90.65 percent of the ballot pool, receiving affirmative support from 78.26 percent of the voters.²¹

¹⁶ *Id.* at items 65, 68.

¹⁷ *Id.* at items 66, 69.

¹⁸ *Id.* at items 67, 70.

¹⁹ *Id.* at item 62.

²⁰ *Id.* at item 82.

²¹ *Id.* at item 83.

- Proposed Reliability Standard IRO-010-4 reached quorum at 89.46 percent of the ballot pool, receiving affirmative support from 87.3 percent of the voters.²²
- Proposed Reliability Standard TOP-003-5 reached quorum at 89.14 percent of the ballot pool, receiving affirmative support from 87.52 percent of the voters.²³

E. Board of Trustees Adoption

The NERC Board of Trustees adopted proposed Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5 on June 11, 2021.²⁴

²² *Id.* at item 84.

²³ *Id.* at item 85.

²⁴ NERC, *Board of Trustees Agenda Package*, Agenda Item 1. (Project 2019-06 Cold Weather), https://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Minutes%202013/Board_Open_Meeting_July_11_2021_ATTENDEE_Agenda_Package.pdf.

Complete Record of Development

Project 2019-06 Cold Weather

Related Files

Status

The final ballots concluded **8 p.m. Eastern, Thursday, May 27, 2021** for the following:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

The voting results can be accessed via the links below. The standards will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

On March 22, 2021, the Board took action without a meeting to direct the completion of proposed Reliability Standards under Project 2019-06 Cold Weather by June 2021.

In accordance with Section 8.0 of the Standards Committee (SC) Charter, an email ballot was sent to the SC on March 29, 2021, requesting action by April 1, 2021, to consider the waiver request. The SC was asked to approve the following:

Approve waiver of Section 4.12 of the Standard Processes Manual (SPM) for Project 2019-06 Cold Weather, to reduce the length of the additional formal comment and ballot period(s) from 45 days to as few as 25 days, with ballot(s) conducted during the last 10 days of the comment period.

The SC voting concluded and the motion to approve the wavier passed.

Background

In July 2019, the FERC and NERC staff report titled *The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Report) was released. Following the report, Southwest Power Pool, Inc. (SPP) submitted a SAR proposing a new standard development project to review and address the recommendations in the Report. The industry need for this SAR according to SPP is to enhance the reliability of the BES during cold weather event.

Purpose/Industry Need

To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for extreme cold weather conditions.

Standard(s) Affected: EOP-011, IRO-010, and TOP-003 Standards

Subscribe to this project's observer mailing list

Select "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box.

Draft	Actions	Dates	Results	Consideration of Comments
<p>Final Draft</p> <p>EOP-011-2 (71) Clean (72) Redline to Last Posted (73) Redline to Last Approved</p> <p>IRO-010-4 (74) Clean (75) Redline to Last Posted (76) Redline to Last Approved</p> <p>TOP-003-5 (77) Clean (78) Redline to Last Posted (79) Redline to Last Approved</p> <p>(80) Implementation Plan</p> <p>Supporting Materials</p> <p>(81) VRF/VSL Justificaton</p>	<p>Final Ballots</p> <p>(82) Info</p> <p>Vote</p>	<p>05/18/21 - 05/27/21</p>	<p>Ballot Results</p> <p>(83) EOP-011-2</p> <p>(84) IRO-010-4</p> <p>(85) TOP-003-5</p>	
<p>Draft 2</p> <p>EOP-011-2 (44) Clean (45) Redline to Last Posted (46) Redline to Last Approved</p> <p>IRO-010-4 (47) Clean (48) Redline to Last Posted (49) Redline to Last Approved</p> <p>TOP-003-5</p>	<p>Additional Ballots and Non-binding Polls</p> <p>(63) Updated Info</p>	<p>04/16/21 - 04/26/21</p>	<p>Ballot Results</p> <p>(65) EOP-011-2</p> <p>(66) IRO-010-4</p> <p>(67) TOP-003-5</p>	

<p>(50) Clean (51) Redline to Last Posted (52) Redline to Last Approved</p> <p>(53) Implementation Plan</p> <p>Supporting Materials</p> <p>(54) Unofficial Comment Form (Word)</p> <p>(55) VRF/VSL Justification</p> <p>Technical Rationale</p> <p>(56) EOP-011-2</p> <p>(57) IRO-010-4</p> <p>(58) TOP-003-5</p> <p>(59) EOP-011-2 Implementation Guidance</p>	<p>(64) Info</p> <p>Vote</p>		<p>Non-binding Poll Results</p> <p>(68) EOP-011-2</p> <p>(69) IRO-010-4</p> <p>(70) TOP-003-5</p>	
	<p>Comment Period</p> <p>(60) Info</p> <p>Submit Comments</p>	<p>04/02/21 - 04/26/21</p>	<p>(61) Comments Received</p>	<p>(62) Consideration of Comments</p>
<p>Draft 1</p> <p>EOP-011-2</p> <p>(24) Clean (25) Redline</p> <p>IRO-010-4</p> <p>(26) Clean (27) Redline</p> <p>TOP-003-5</p> <p>(28) Clean (29) Redline</p> <p>(30) Implementation Plan</p> <p>Supporting Materials</p> <p>(31) Unofficial Comment Form</p> <p>(Word)</p> <p>(32) VRF/VSL Justification</p>	<p>Initial Ballots and Non-binding Polls</p> <p>(36) Updated Info</p> <p>(37) Info</p> <p>Vote</p>	<p>03/03/21 – 03/12/21</p>	<p>Ballot Results</p> <p>(38) EOP-011-2</p> <p>(39) IRO-010-4</p> <p>(40) TOP-003-5</p> <p>Non-binding Poll Results</p> <p>(41) EOP-011-2</p> <p>(42) IRO-010-4</p> <p>(43) TOP-003-5</p>	
	<p>Join Ballot Pools</p> <p>(There is a separate ballot and non-binding poll for each of the standards, so it is necessary to join each ballot pool in order to submit votes on all of the standards and their associated VRFs and VSLs)</p>	<p>01/27/21 – 02/25/21</p>		
	<p>Comment Period</p> <p>(33) Info</p> <p>Submit Comments</p>	<p>01/27/21 – 03/12/21</p>	<p>(34) Comments Received</p>	<p>(35) Consideration of Comments</p>
<p>(23) Standard Authorization Request (SAR)</p>	<p>The Standards Committee accepted the SAR on September 24, 2020</p>			

<p>Drafting Team Nominations</p> <p>(21) Unofficial Nomination Form (Word)</p>	<p>Nomination Period</p> <p>(22) Info</p> <p>Submit Nominations</p>	<p>06/18/20 - 07/02/20</p>		
<p>Standard Authorization Request</p> <p>(14) Clean (15) Redline to October 2019 posting (16) Redline to last posting</p> <p>Supporting Materials</p> <p>(17) Unofficial Comment Form (Word)</p>	<p>Comment Period</p> <p>(18) Info</p> <p>Submit Comments</p>	<p>04/22/20 - 05/21/20</p>	<p>(19) Comments Received</p>	<p>(20) Consideration of Comments</p>
<p>Standard Authorization Request</p> <p>(8) Clean (9) Redline</p> <p>Supporting Materials</p> <p>(10) Unofficial Comment Form (Word)</p>	<p>Comment Period</p> <p>(11) Info</p> <p>Submit Comments</p>	<p>02/19/20 - 03/19/20</p>	<p>(12) Comments Received</p>	<p>(13) Consideration of Comments</p>
<p>(3) Standard Authorization Request</p> <p>Supporting Materials</p> <p>(4) Unofficial Comment Form (Word)</p>	<p>Comment Period</p> <p>(5) Info</p> <p>Submit Comments</p>	<p>10/04/19 - 11/05/19</p>	<p>(6) Comments Received</p>	<p>(7) Consideration of Comments</p>
<p>Drafting Team Nominations</p> <p>Supporting Materials</p> <p>(1) Unofficial Nomination Form (Word)</p>	<p>Nomination Period</p> <p>(2) Info</p> <p>Submit Nominations</p>	<p>10/04/19 - 11/05/19</p>		

Unofficial Nomination Form

Project 2019-06 Cold Weather Standard Authorization Request Drafting Team

Do not use this form for submitting nominations. Use the [electronic form](#) to submit nominations for Project **2019-06 Cold Weather** Standard Authorization Request (SAR) drafting team members by **8 p.m. Eastern, Tuesday, November 5, 2019**. This unofficial version is provided to assist nominees in compiling the information necessary to submit the electronic form.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email), or at 404-446-2589.

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in face-to-face meetings (held at the Atlanta, GA NERC offices) and conference calls.

Previous drafting or review team experience is beneficial, but not required. A brief description of the desired qualifications, expected commitment, and other pertinent information is included below.

Background

In July 2019, the FERC and NERC staff report titled The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 was released. Following the report, Southwest Power Pool, Inc. (SPP) submitted a SAR proposing a new standard development project be initiated to review and address the recommendations provided from the FERC and NERC staff report. The stated industry need for this SAR is to enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for extreme cold weather conditions.

This project will review and determine which BAL and IRO standards need modification to address the recommendations from the FERC and NERC staff report.

Standard affected: BAL and IRO Standards

Drafting Team activities include participation in technical conferences, stakeholder communications and outreach events, periodic drafting team meetings and conference calls. Approximately one face-to-face meeting per quarter can be expected (on average three full working days each meeting) with conference calls scheduled as needed to meet the agreed-upon timeline the drafting team sets forth. NERC is seeking individuals who possess experience with cold weather preparation, such as, through performing or developing processes to address the following tasks:

- Implementing freeze protection measures and technologies;
- Performing periodic adequate maintenance and inspection of freeze protection measures and technologies;

- Ensuring gas-fueled generating units’ Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply; and
- Conducting winter-specific and plant-specific operator awareness training;
- Develops a procedure for determining the operating temperatures for generating unit availability for extreme cold weather performance;
- Communicates with the appropriate entities on the operating temperatures for generating unit availability for extreme cold weather performance and when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units, and fuel assurance for the appropriate next day operating horizon.

Name:	
Organization:	
Address:	
Telephone:	
Email:	
Please briefly describe your experience and qualifications to serve on the requested SAR Drafting Team (Bio):	
If you are currently a member of any NERC drafting team, please list each team here: <input type="checkbox"/> Not currently on any active SAR or standard drafting team. <input type="checkbox"/> Currently a member of the following SAR or standard drafting team(s):	
If you previously worked on any NERC drafting team please identify the team(s): <input type="checkbox"/> No prior NERC SAR or standard drafting team. <input type="checkbox"/> Prior experience on the following team(s):	

Select each NERC Region in which you have experience relevant to the Project for which you are volunteering:

<input type="checkbox"/> MRO	<input type="checkbox"/> SERC	<input type="checkbox"/> NA – Not Applicable
<input type="checkbox"/> NPCC	<input type="checkbox"/> Texas RE	
<input type="checkbox"/> RF	<input type="checkbox"/> WECC	

Select each Industry Segment that you represent:

<input type="checkbox"/>	1 – Transmission Owners
<input type="checkbox"/>	2 – RTOs, ISOs
<input type="checkbox"/>	3 – Load-serving Entities
<input type="checkbox"/>	4 – Transmission-dependent Utilities
<input type="checkbox"/>	5 – Electric Generators
<input type="checkbox"/>	6 – Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/>	7 – Large Electricity End Users
<input type="checkbox"/>	8 – Small Electricity End Users
<input type="checkbox"/>	9 – Federal, State, and Provincial Regulatory or other Government Entities
<input type="checkbox"/>	10 – Regional Reliability Organizations and Regional Entities
<input type="checkbox"/>	NA – Not Applicable

Select each Function¹ in which you have current or prior expertise:

- | | |
|---|--|
| <input type="checkbox"/> Balancing Authority | <input type="checkbox"/> Transmission Operator |
| <input type="checkbox"/> Compliance Enforcement Authority | <input type="checkbox"/> Transmission Owner |
| <input type="checkbox"/> Distribution Provider | <input type="checkbox"/> Transmission Planner |
| <input type="checkbox"/> Generator Operator | <input type="checkbox"/> Transmission Service Provider |
| <input type="checkbox"/> Generator Owner | <input type="checkbox"/> Purchasing-selling Entity |
| <input type="checkbox"/> Interchange Authority | <input type="checkbox"/> Reliability Coordinator |
| <input type="checkbox"/> Load-serving Entity | <input type="checkbox"/> Reliability Assurer |
| <input type="checkbox"/> Market Operator | <input type="checkbox"/> Resource Planner |
| <input type="checkbox"/> Planning Coordinator | |

Provide the names and contact information for two references who could attest to your technical qualifications and your ability to work well in a group:

Name:		Telephone:	
Organization:		Email:	
Name:		Telephone:	
Organization:		Email:	

Provide the name and contact information of your immediate supervisor or a member of your management who can confirm your organization's willingness to support your active participation.

Name:		Telephone:	
Title:		Email:	

¹ These functions are defined in the NERC [Functional Model](#), which is available on the NERC web site.

Standards Announcement

Project 2019-06 Cold Weather

Nomination Period Open through November 5, 2019

[Now Available](#)

Nominations are being sought for Standard Authorization Request drafting team members through **8 p.m. Eastern, Tuesday, November 5, 2019.**

Use the [electronic form](#) to submit a nomination. Contact [Wendy Muller](#) regarding issues with the system. An unofficial Word version of the nomination form is posted on the [Drafting Team Vacancies](#) page and the [project page](#).

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in face-to-face meetings (in Atlanta, GA) and conference calls.

NERC is seeking individuals who possess experience with cold weather preparation, such as, through performing or developing processes to address the following tasks:

- Implementing freeze protection measures and technologies;
- Performing periodic adequate maintenance and inspection of freeze protection measures and technologies;
- Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply; and
- Conducting winter-specific and plant-specific operator awareness training;
- Develops a procedure for determining the operating temperatures for generating unit availability for extreme cold weather performance;
- Communicates with the appropriate entities on the operating temperatures for generating unit availability for extreme cold weather performance and when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units, and fuel assurance for the appropriate next day operating horizon.

NERC is also seeking individuals who have facilitation skills or legal/technical writing backgrounds as well as those who have experience with developing standards inside or outside the NERC development process (e.g., IEEE, NAESB, ANSI, etc.). Such experience should be highlighted in the information submitted, if applicable.

Previous drafting or periodic review team experience is beneficial, but not required.

Next Steps

The Standards Committee is expected to appoint members to the team December 2019. Nominees will be notified shortly after they have been selected.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Applications" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, [Jordan Mallory](#) (via email) or at (404) 446-2589.

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Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information			
SAR Title:	Extreme Cold Weather Preparedness		
Date Submitted:	September 20, 2019		
SAR Requester			
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer		
Organization:	Southwest Power Pool, Inc.		
Telephone:	(501) 614-3206	Email:	mdesselle@spp.org
SAR Type (Check as many as apply)			
<input checked="" type="checkbox"/>	New Standard	<input type="checkbox"/>	Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/>	Revision to Existing Standard	<input type="checkbox"/>	Variance development or revision
<input type="checkbox"/>	Add, Modify or Retire a Glossary Term	<input type="checkbox"/>	Other (Please specify)
<input type="checkbox"/>	Withdraw/retire an Existing Standard		
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input checked="" type="checkbox"/>	Regulatory Initiation	<input type="checkbox"/>	NERC Standing Committee Identified
<input type="checkbox"/>	Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/>	Enhanced Periodic Review Initiated
<input type="checkbox"/>	Reliability Standard Development Plan	<input checked="" type="checkbox"/>	Industry Stakeholder Identified
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for extreme cold weather conditions.			
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):			
To ensure optimal reliability by preparing generation for extreme cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.			
Project Scope (Define the parameters of the proposed project):			
The project scope will address Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; and will include the development of			

Requested information

a new or revised NERC Reliability Standard to consider such activities as winterization activities on generating units, winter-specific and plant-specific operator awareness training, and processes to ensure situational awareness for the registered functions.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards to promote reliability of the BES during extreme cold weather.

1. Generator Owner/Generator Operator develops winterization plans, procedures, and winter-specific and plant-specific operator awareness training. Additional elements to consider may include:
 - a. Generating unit availability;
 - b. Parameters around operating temperatures;
 - c. Implementing freeze protection measures and technologies;
 - d. Performing periodic adequate maintenance and inspection of freeze protection measures and technologies; and
 - e. Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.
2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance.
3. Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units for the appropriate next day operating horizon.
4. Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected availability and contingency reserves for the appropriate next day operating horizon.

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

Requested information
Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):
Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.
Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):
Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during extreme cold weather events.
To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):
Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator
Do you know of any consensus building activities ² in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.
The 2019 FERC and NERC Staff Report: <i>The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i> , July 2019 was publicly noticed and shared with regulators and industry.
Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

² Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information

The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities and Reliability Coordinators, that may result from this project should be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2 and TOP-003-3 may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2) and Balancing Authority (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:

2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019

Polar Vortex Review, September 2014

Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011

Reliability Principles

Does this proposed standard development project support at least one of the following Reliability Principles ([Reliability Interface Principles](#))? Please check all those that apply.

<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Reliability Principles	
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
None	

For Use by NERC Only

SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Unofficial Comment Form

Project 2019-06 Cold Weather Standard Authorization Request

Do not use this form for submitting comments. Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments on **Project 2019-06 Cold Weather Standard Authorization Request (SAR)**. Comments must be submitted by **8 p.m. Eastern, Tuesday, November 5, 2019**.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email), or at 404-446-2589.

Background Information

In July 2019, the FERC and NERC staff report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018* (Report) was released. Following the report, Southwest Power Pool, Inc. (SPP) submitted a SAR proposing a new standard development project to review and address the recommendations in the Report. The industry need for this SAR according to SPP is to enhance the reliability of the BES during cold weather events.

Questions

1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.

Yes

No

Comments:

2. Provide any additional comments for the SAR drafting team to consider, if desired.

Comments:

Standards Announcement

Project 2019-06 Cold Weather

Formal Comment Period Open through November 5, 2019

[Now Available](#)

A formal comment period for the **Project 2019-06 Cold Weather Standard Authorization Request** is open through **8 p.m. Eastern, Tuesday, November 5, 2019**.

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. Contact [Wendy Muller](#) regarding issues with the SBS. An unofficial Word version of the comment form is posted on the [project page](#).

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The drafting team will review all responses received during the comment period and determine the next steps of the project.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Applications" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, [Jordan Mallory](#) (via email) or at (404) 446-2589.

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Comment Report

Project Name: 2019-06 Cold Weather | Standard Authorization Request
Comment Period Start Date: 10/4/2019
Comment Period End Date: 11/5/2019
Associated Ballots:

There were 42 sets of responses, including comments from approximately 95 different people from approximately 76 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

- 1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.**
- 2. Provide any additional comments for the SAR drafting team to consider, if desired.**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Westar Energy	Douglas Webb	1,3,5,6	MRO,SPP RE	Westar-KCPL	Doug Webb	Westar	1,3,5,6	MRO
					Doug Webb	KCP&L	1,3,5,6	MRO
Public Utility District No. 1 of Chelan County	Jeff Kimbell	1,3,5,6		CHPD	Davis Jelusich	Public Utility District No. 1 of Chelan County	6	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Amber Skillern	East Kentucky Power Cooperative	1	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF

FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Adrienne Collins	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					William D. Shultz	Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no NGrid	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC

David Burke	Orange & Rockland Utilities	3	NPCC
Michele Tondalo	UI	1	NPCC
Helen Lainis	IESO	2	NPCC
Sean Cavote	PSEG	4	NPCC
Kathleen Goodman	ISO-NE	2	NPCC
David Kiguel	Independent	NA - Not Applicable	NPCC
Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
Nick Kowalczyk	Orange and Rockland	1	NPCC
Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Shivaz Chopra	New York Power Authority	5	NPCC
Mike Forte	Con Ed - Consolidated Edison	4	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC

Ashmeet Kaur	Con Ed - Consolidated Edison	5	NPCC
Caroline Dupuis	Hydro Quebec	1	NPCC
Chantal Mazza	Hydro Quebec	2	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
Laura McLeod	NB Power Corporation	5	NPCC
Randy MacDonald	NB Power Corporation	2	NPCC
Gregory Campoli	New York Independent System Operator	2	NPCC
Quintin Lee	Eversource Energy	1	NPCC

1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer No

Document Name

Comment

This standard may be necessary for specific generation types in climates where sudden severe winter weather may be a threat, but for many generators in northern climates this standard will be a burden. NERC has put out guidance on winter weather preparedness, and this should be sufficient.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

AEP takes cold weather preparedness very seriously, and has developed and implemented procedures to ensure unit reliability for cold weather. In addition, NERC's own Reliability Guideline "Generating Unit Winter Weather Readiness", has been in effect for some time now. In its own words, this document provides a "framework for developing an effective winter weather readiness program for generating units throughout North America" and guidance "on maintaining individual unit reliability and preventing future cold weather related events." We believe entities need the flexibility of engineering judgement to design and implement their own procedures to prepare for cold weather outside of prescriptive obligations. Original unit types, design, age, and geographic locations all drive what unique preparatory steps should be taken, making prescriptive obligations undesirable and perhaps even inappropriate. As generation types continue to evolve, winter weather preparation is taken into account more than ever before.

In addition, it should be noted that RTOs often provide their own guidance such as PJM's as found in [PJM Manual 14D](#) attachment N: Cold Weather Preparation Guideline and Checklist. This is one of several guidance documents that is already available and emphasize reviewing lessons learned after each event and implementations of defenses to prevent recurrence. Once this is in place it creates a living effort that focuses improvements in areas of specific need that directly translates to continual improvement of the process that is in place. ERCOT already has a suitable mechanism in place, which has proven itself in practice. In addition, we are now seeing that REs are heading in a similar direction as well.

In addition, EOP-011 already addresses weather preparedness in an appropriate manner. Functional Entities, such as the TOP and BA, have checklists and attestations required for Generator weatherization. Improvements to weather preparedness have been significantly improved since 2011, with increased awareness and action plans driven by NERC recommendations.

In summary, NERC guidelines, RTO guidance and checklists, and existing NERC requirements, all collectively provide an effective framework for cold weather preparedness.

Likes 0

Dislikes 0

Response

Jim Nail - City of Independence, Power and Light Department - 1,3,5

Answer

No

Document Name

Comment

Requirements already exist to inform others concerning the status of Facilities. RC/BA/TOP have the authority to include any status/data they deem necessary in their Facility Data requests. Whether a GO/GOP maintains their Facilities ready for dispatch is properly a Market function rather than a Reliability function. Declaring a Facility as available and then failing to bring it on line could be dealt with using Market penalties rather than imposing a new continent wide Standard. For many entities, the documentation of cold weather preparations and maintenance would be an additional administrative burden without an appreciable increase in Reliability.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

No

Document Name

Comment

The information in the SAR does not suggest any exemptions or qualifiers are being considered. Reclamation recommends limiting the applicability of a future NERC standard on cold weather preparedness to entities located in geographic areas that don't normally see harsh winter conditions and excluding hydro generators from applicability. As the SAR is presently written, the future standard will result in an administrative burden that offers no increase in reliability for facilities that normally operate in a cold winter environment.

Reclamation agrees with the proposal for Generator Owners and Generator Operators to develop winterization plans and procedures. The SAR appears to propose winterization preparedness requirements that are not prescriptive, which will allow facilities that need certain cold weather preparedness methods to implement those methods while allowing other facilities to implement different appropriate methods. If the proposed standard does not include the above exemptions, it is important to allow different entities with different equipment to develop winterization procedures that are appropriate for their needs.

Likes 0

Dislikes 0

Response**Jeff Kimbell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name CHPD****Answer**

No

Document Name**Comment**

The SPP SAR addresses issues experienced in the Southern portion of the Mid-Continent Regional Transmission Organization. The SAR therefore seeks to address a regional event on national basis, with implications for all of North America.

Many generators operate in areas of regular cold weather and have operated reliably for many years, based on their design for this environment, as well as existing operations planning and procedures. Events in the The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 report show the potential unpreparedness of some utilities that do not operate in this environment. While the SAR addresses those that may not be prepared for winter weather, this is not the case for most utilities in North America. Any standard should focus on those not in cold climates, or limit any additional compliance obligations to those who do operate in cold weather to a simple response of preparedness rather than multiple documentation and training requirements specific to cold weather. Our maintenance and operating procedures, practices and the design of our plants are for reliable operation in cold environments. Practices to operate in cold conditions are embedded in existing documentation, rather than specific procedures or documents that would meet this very specific, prescriptive list. Our designs are for cold environments. Many of the problems identified in the report will not happen at northern facilities because the systems are designed around them.

Additionally, multiple past cold weather Events have included natural gas supply availability as an issue. This is not applicable to large hydro plants on a major river such as the Columbia.

The list of requirements to be included in the standard provide little to no additional value to those GOPs that operate in cold weather areas and would create a significant regulatory burden. A more appropriate solution would be to limit the applicability of the standard to specific geographic regions where cold weather is an anomaly and not include regions where this weather is in the normal and planned operating range.

Specific comments for the list contained in the SAR are provided below.

1. *Generator Owner/Generator Operator develops winterization plans, procedures, and winter-specific and plant-specific operator awareness training. Additional elements to consider may include:* These are unnecessary for GO and GOP that operate in regularly cold regions and simply create additional evidence burdens.
 - a. *Generating unit availability;* Normally reported, and not a significant cold weather dependent issue with hydro generation on a major river, such as the Columbia.
 - b. *Parameters around operating temperatures;* Parameters don't change, as we are designed and operate for cold weather as a matter of course.
 - c. *Implementing freeze protection measures and technologies;* These are in place in cold regions, but not specifically identified. Identification and implementation would be an additional burden.
 - d. *Performing periodic adequate maintenance and inspection of freeze protection measures and technologies;* This is part of normal processes and maintenance: What is adequate for a plant that operates in a cold region is minimal and in place, or it would routinely not be operable. Evidence documentation would be an unnecessary burden with no improvement to reliability.
 - e. *Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.* Our generation is 100% hydro and this is not applicable.

2. *Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance.* The capacity of our generation type (hydro) does not change based on cold weather conditions, unlike other generation types such as gas and wind that have been affected by cold weather.
3. *Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units for the appropriate next day operating horizon.* This is unnecessary, as availability is already reported to the BA. Cold weather does not change that for those who operate in cold climates.
4. *Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected availability and contingency reserves for the appropriate next day operating horizon.* This is already performed as a matter of course for our system and would not benefit from additional mandatory requirements.

Likes 0

Dislikes 0

Response

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

No

Document Name

Comment

City Utilities is not opposed to creating a new Reliability Standard or modifying an existing one to ensure resource availability or capability for the BES if necessary. However, we believe the scope of the SAR is too narrow and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during various ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a Standard to only address the cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5,6

Answer

No

Document Name

Comment

No. I don't feel this is a reliability issue. This is Market issue. If a Generator cannot start up and has been selected by BA to run; then there are financial penalties to encourage keeping the unit available to run when called on.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer

No

Document Name

Comment

GRE recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. GRE also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

While GRE is opposed to creating a new Reliability Standard; we would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, GRE believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.

Likes 0

Dislikes 0

Response

Jerry Horner - Basin Electric Power Cooperative - 1,3,5,6

Answer

No

Document Name

Comment

Basin supports comments generated by MRO NSRF, as follows:

The NSRF recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. The NSRF also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

The NSRF is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, the NSRF believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses

the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

1. Provide any additional comments for the SAR drafting team to consider, if desired.

Comments: If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should

clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

No

Document Name

Comment

This issue seems to affect southern U.S. entities and does not appear to be a continent-wide issue. Alliant Energy recommends more technical information be posted on this topic before deciding on a course of action to take such as a white paper that clearly defines the true issues that need correction by the GOs/GOPs during extreme cold weather events.

Rather than a new standard, Alliant Energy would support consideration of a modification of existing standards to ensure resource availability or capability for the BES. However, we believe the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. Development of a new Reliability Standard that only addresses the extreme cold weather issue will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes 0

Dislikes 0

Response	
Daniel Gacek - Exelon - 1,3,5,6	
Answer	No
Document Name	
Comment	
<p>The section labeled “project scope” is acceptable. However the following section “Detailed Description” is both too restrictive and too vague, see additional comments below.</p> <p>On Behalf of Exelon: Segments 1, 3, 5, 6</p>	
Likes	0
Dislikes	0

Response	
Joseph DePoorter - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>MGE recommends that no new Standard be developed at this time as this seems to be a southern US entity issue and not continent-wide issue.</p> <p>We are opposed to creating a new Reliability Standard but would be willing to modify an existing one to ensure resource availability or capability for the BES, if necessary. However, we believe the scope of the SAR is too narrow and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during various ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a Standard to only address the cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.</p>	
Likes	0
Dislikes	0

Response	
Theresa Allard - Minnkota Power Cooperative Inc. - 1	
Answer	No
Document Name	

Comment

Minnkota believes that no new Standard needs to be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. Minnkota also requests more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the specific issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events, including metrics based on geographic location and generator type.

Minnkota is opposed to creating a new Reliability Standard; however, Minnkota would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary.

Likes 0

Dislikes 0

Response**Jamie Monette - Allele - Minnesota Power, Inc. - 1**

Answer

No

Document Name

Comment

For Generating Units that are designed for cold weather operation, this would create an unnecessary administrative burden. Minnesota Power supports Edison Electric Institute's comment, which supports the North American Generator Forum (NAGF)'s recommendations:

- The development of a quantifiable definition for "Extreme Cold Weather"
- The addition of language within the SAR that ensure regional differences will be considered when addressing this issue.

Likes 0

Dislikes 0

Response**Thomas Breene - WEC Energy Group, Inc. - 3,4,5,6**

Answer

No

Document Name

Comment

WEC Energy Group does not agree with this SAR.

The GO/GOP topics covered in 1. a, b, c and d of this SAR are already included in existing reliability guidelines. The SAR materials and links refer to issues in climates typically not exposed to cold weather patterns. The need to focus on winterization procedures and freeze protection in these regions should be emphasized.

The SAR attempts to bring the market function into the reliability function during cold weather and this should not be supported with a standard.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

No

Document Name

Comment

The North America Generator Forum (NAGF) does not agree with the proposed scope of the SAR for Cold Weather Preparation as submitted by SPP. Generators as a whole take weather preparation, whether winter or summer, and reliability, very seriously. Under normal winter weather conditions, generators do not experience operating issues on a consistent basis. However, under extreme conditions, all BES elements, not just those associated with generation, could experience unpredictable operational issues. The NAGF believes that the proposed SAR does not address the core issue(s) and will create more administrative work and financial expense for GO/GOP registered entities with no reliability benefit. The NAGF supports ensuring that existing requirements for the PC, RC, and BA address communication of generator operational information, including when they cannot perform as requested, during all types of extreme weather events.

The NAGF membership believes the deliverables of the SAR are presently met through existing Tariffs, Operating Agreements, Interconnection Agreements, ISO market rules, BA Surveys, and other Standards such as TOP-003. Under the requirements of TOP-003-3, the TOP and BA must maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses. The GO / GOP must satisfy the obligations of documented specifications to assist in Real-time monitoring and assessments. If the TOP and BA do not have the information needed to perform Planning Analyses for cold weather events, the data should be requested as part of TOP-003-3. There may be an opportunity to further refine the required data by revising TOP-003-3.

Although not representative of all NERC registered generators, many of the NAGF membership companies already have Cold Weather Preparation procedures in place and have invested in winterizing their facilities. They utilize and reference NERC's Reliability Guideline "Generating Unit Winter Weather Readiness" and ISO market rules, and believe that flexibility is needed based on design, geography and market requirements in order to determine appropriate weather preparation. Continent wide, prescriptive requirements are not appropriate because of the differences in technology and typical winter conditions across the ERO.

Organized markets provide financial incentives for GO/GOPs to invest in winterization improvements. However, such investments do not guarantee that a generation unit will start when required or will not be derated during an extreme cold weather event. Extreme cold weather-related outages typically involve previously unknown vulnerabilities, especially when plants experience unprecedented combinations of temperature, wind speed and precipitation. Transmission systems suffer unpredictable failures under such circumstances, and the same applies for generation plants.

Therefore, the focus of this SAR should be to:

- Enhance communication of generator operational capabilities for the planning and real-time time horizon so that the RC, BA, and TOPs can more accurately forecast BES generator capability and availability during extreme weather events.
- Support incentives for GO/GOPs to continually improve generation facilities for all types of extreme weather events.
- Support incentives for putting additional generation plants online in advance of extreme weather events (keeping units running is far more secure than starting-up in the middle of a major winter storm).

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer

No

Document Name

Comment

Black Hills Corporation (BHC) agrees with most of the SAR, but does not agree with the proposed scope for “Operator Awareness Training”. Due to the fact that our Generation Resources/Facilities are all located in the central to Northern area of North America, our generation facilities are designed already for “cold weather” and as such, our generation facilities already have in place plans/procedures and as part of these annual reviews, each facility reviews prior items from past year(s) and proceed accordingly for their annual winter preparations. Our Generators Plant Operators already have an awareness of cold weather, including extreme cold, & its potential impacts to our facilities and the reliability of the BES, that another mandatory training placed upon them if not a productive or cost effective use of their time.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 5,6

Answer

No

Document Name

Comment

I don't feel this is a reliability issue. This is Market issue. If a Generator cannot start up and has been selected by BA to run; then there are financial penalties to encourage keeping the unit available to run when called on.

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer

No

Document Name

Comment

WAPA recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. WAPA also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

WAPA is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, WAPA believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 1,3,6

Answer

No

Document Name

Comment

Ameren does not support the proposed SAR for Cold Weather Preparation as submitted by SPP. The Midcontinent Independent System Operator (MISO) and the other ISOs serve as Balancing Authorities (BA) and Reliability Coordinators (RC) and have been leading several initiatives to address cold weather preparation. To avoid the duplication of efforts, Ameren would like to push for more of a regional approach, and allow the ISOs to continue leading extreme weather preparations.

The vast majority of generation outages and derates caused by cold weather happened in the southern region, where cold weather susceptible components are not adequately protected. As a matter of normal reliable operating procedure, generators in the mid and northern regions fully enclose their critical components and utilize heat tracing technologies.

Another issue was having precautions for wind barriers, measures Ameren is already doing. MISO has already created cold weather steps for wind in preparation for winter. Ameren would prefer that the RTOs and GO/GOPs work out winterization plans outside the formal standard process.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC**Answer** No**Document Name****Comment**

The Taunton Municipal Lighting Plant believes that the BAs and RCs are well-equipped to address winter preparedness on their own without the need to create a mandatory Reliability Standard. BAs and RCs in North America that regularly experience cold weather are well aware of the concerns and limitations of their GOPs, and part of this comes from the BAs and RCs creating their own operating procedures that require some level of winterization/winter preparedness. By creating a mandatory Reliability Standard for this scope, NERC will be placing additional burden on the GOPs who already have extensive reporting requirements, and the fear is that this requirement would only add an additional, cumbersome compliance task to GOPs without a significant increase in reliability.

Likes 0

Dislikes 0

Response**Tara Lightner - Sunflower Electric Power Corporation - 1 - MRO****Answer** No**Document Name****Comment**

The NSRF recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. The NSRF also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

The NSRF is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, the NSRF believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes 0

Dislikes 0

Response**Tony Skourtas - Los Angeles Department of Water and Power - 1,3,5,6****Answer** No

Document Name	
Comment	
<p>LDWP does not agree with the scope of this SAR. Extreme cold weather has little to no impact on the reliability of LDWP's generating stations, including the Intermountain Power Plant (IPP) generating station in Utah. Historically, IPP encounters subzero temperatures regularly throughout the winter months, and no reliability issues have been encountered.</p> <p>The only issue that does occur during these extreme cold weather events is the potential to disrupt IPP's fuel supply. IPP personnel deal with frozen coal in the coal cars when they arrive on site for unloading. They also manage frozen coal moving up the conveyor belts into the generating unit. Both of these issues could cause a disruption to the generating units. The turbine generator and the transformers historically have not been adversely effected by these cold weather events.</p>	
Likes	0
Dislikes	0
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	No
Document Name	
Comment	
<p>Entities located in the northern United States experience and prepare for cold weather conditions every year. These entities design their facilities to operate during cold weather (unlike entities in the south, which design facilities to manage heat during the summer). Moreover northern entities already have practices in place to prepare for winter conditions each year, and have had such practices for as much as 100 years. For northern entities, this Standard would appear to add a paperwork burden—formally documenting, tracking, monitoring, and evidencing implementation of policies and procedures that have functioned for decades—that offers no reliability benefit. Indeed the burden to prepare and manage the necessary documentation may even detract from cold weather reliability for northern entities. First because resources will need to be assigned to document compliance, potentially reducing the availability of resources to perform other work (including winterization). And second because to minimize the compliance risk and documentation challenge, northern entities may simplify, standardize, or eliminate some of the proven winterization activities they perform today.</p>	
Likes	0
Dislikes	0
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
None.	

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

ReliabilityFirst provides the following as points to be considered in the Cold Weather SAR.

1. Although the main focus of the Standard is extreme cold weather, this is a perfect opportunity for other extreme weather conditions to be addressed (hot, cold, draught, hurricane, etc.)
2. Addition or modification of Glossary terms may be necessary such as what is considered “extreme cold” or “extreme weather”.
3. Transmission Owners/Operators should be included in applicability to ensure extreme cold weather preparations for switchyards/substations.
4. Purpose should include preparing switchyards/substations for extreme cold weather performance (Ensuring operation of breaker compressors/heaters, weather proofing of breaker cabinets/electrical boxes against water infiltration, preventing icing of Kirk key interlocking system, preventing freezing of disconnect/ground switch operating mechanisms, etc.).

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer

Yes

Document Name

Comment

Nuclear units are subject to annual reviews from their On-Site NRC Inspectors for both winter and summer seasonal readiness per NRC Attachment 71111.01 “Adverse Weather Protection”. A cold-weather standard would represent dual regulation (i.e. both NRC and NERC would be auditing cold weather preparation plans). Consider exempting all units regulated by the NRC from this standard (removed from scope) similar to what is being done for the CIP Standards.

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC**Answer** Yes**Document Name****Comment**

None

Likes 0

Dislikes 0

Response**Bette White - AES - Indianapolis Power and Light Co. - 3****Answer** Yes**Document Name****Comment**

IPL agrees with the basic scope of the proposed scope of the Cold Weather SAR.

Likes 0

Dislikes 0

Response**Rodney Warner - PNM Resources - Public Service Company of New Mexico - 1 - WECC****Answer** Yes**Document Name****Comment**

Concern was expressed by the committee the "Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply." This information is publically available. Should not be a requirement for the GO/GOP to report to the RC and BA.

Recommend that GO/GOP provide changes to firm gas supply that would effect planned generation to BA and RC as soon as possible. BA and RC will use this information for real time Operational Planning assesments and Real Time Assesments.

Likes 0

Dislikes 0

Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
<p>EEl supports the SAR scope as proposed but suggests consideration be given to the following recommendations made by the NAGF:</p> <ul style="list-style-type: none"> • Flexibility based on design, geography, and other unique characteristics of each generator in order to determine appropriate weather preparations. • Development of a quantifiable definition for “Extreme Cold Weather” that considers regional differences. 	
Likes	0
Dislikes	0
Response	
Bobbi Welch - Midcontinent ISO, Inc. - 2 - MRO,SERC,RF	
Answer	Yes
Document Name	
Comment	
<p>MISO supports the development of a NERC Reliability Standard to ensure preparedness for extreme cold weather conditions and believes that the proposed SAR does a good job capturing the spirit and intent of the findings and recommendations contained in the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>. In addition, we offer the following items for consideration.</p> <p>Currently the SAR is silent regarding accuracy of generating unit performance with respect to ambient temperature. As the FERC and NERC Staff Report mentions “accuracy” several times, how can accuracy be incorporated into the scope of the Standard? MISO recommends the Generator Owner/Generator Operator periodically review generating unit performance and update its plans, procedures and training for operating generating units based on changes (equipment modifications, operating experience, etc.) and share this information with their Balancing Authorities.</p> <p>In addition to the standards outlined in the SAR (IRO-010-2 and TOP-003-3), MISO recommends EOP-011 be reviewed for impacts as a result of this proposed project. For example, EOP-011 requires some of these aspects already. This standard requires Balancing Authorities to develop, maintain and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area, including “Reliability impacts of extreme weather conditions.” In addition, Reliability Coordinators are required to review the Operating Plan(s) submitted by Balancing Authorities for compatibility, inter-dependency and coordination to avoid risk to Wide Area reliability.</p> <p>Under Reliability Principles, we recommend that boxes 6 and 7 also be checked to:</p> <p>Recognize the Generator Owner/Generator Operator training aspects proposed under the scope of this project; i.e. “Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.”</p>	

Recognize the Reliability Coordinator wide-area assessment and monitoring aspects associated with this project; i.e. "The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis."

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no NGrid

Answer Yes

Document Name

Comment

Although we agree with the industry need for better preparation in extreme weather conditions and better situation awareness in both planning and operations, extreme cold is relative to where you are in North America. We suggest that the SAR should be modified to be more general, i.e extreme weather preparedness (removal of the word cold weather).

Likes 0

Dislikes 0

Response

Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL

Answer Yes

Document Name

Comment

Westar Energy and Kansas City Power & Light endorse Edison Electric Institute's (EEI) response to Question 1.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

While Southern Company support efforts to improve BES reliability during extreme cold weather, the scope of the SAR, as written, should be focused on actions that will improve generating unit availability and capability during all weather events; furthermore, the SAR should not introduce redundant requirements or revise existing standard requirements that already account for weather conditions, including extreme cold weather.

1. Consistent with the Cold Weather Event recommendations, the SAR should only be applicable to GO/GOP activities related to winterization efforts and associated communication to the RC and/or BA.
 - Design does not necessarily ensure generating unit capability, as each winter event is unique. Generating unit capability is ensured by proper maintenance, operation, and when necessary, preparation for inclement weather. “Parameters around operating temperatures” implies temperature design limits have been reviewed for each generating facility and that units will operate during extreme weather above a certain temperature. Actual operation is different than design, and each winter event will have unique characteristics, making it nearly impossible to guarantee operation above a certain pre-defined temperature. Additionally, the plant site dynamics will vary for each winter event, including whether adjacent units are running or offline prior to and during the winter event. The SAR, as written, could drive GOs/GOPs to declaring their units’ availability uncertain below 32 degrees in order to ensure compliance with this new standard. This would provide little value to BES reliability. Therefore, Southern recommends that the SAR Drafting Team abandon the concept of defining a design temperature for each generating facility, that may not be relevant from event to event, and instead include a requirement for Generator Owners to develop and implement winterization plans prior to the onset of winter weather.
 - Additionally, the SAR is not specific on the type of firm transportation (FT) for natural gas supply obtained and what details would be required to be communicated to the BA and/or RC. In the SAR, bullet 1.e. is unnecessary and should be factored into 1.a. in the assessment of generating unit availability by the GO/GOP. Where-as primary FT guarantees point to point delivery, examples such as released capacity may not be secure under peak winter demand situations, even though it is classified as FT. The SAR also fails to outline expectations around Delivered gas, where the supplier utilizes their FT for delivery. Finally, the SAR makes no mention of other fuel commodities such as fuel oil inventory levels for oil-fired CTs.

2. No new standard requirements should be placed on the RC and/or BA, or where there is already a requirement for the GO/GOP to provide availability and capability information. There are several existing NERC standards that address generating resource availability and capability that address all kinds of conditions, including cold weather events, and a new or revised standard addressing availability and capability during one specific type of weather event is duplicative and unnecessary.

- FAC-008 – Requires Generator Owner to consider ambient conditions in establishing Facility Ratings.
- IRO-008 – Requires Reliability Coordinators to perform Operational Planning Analyses (next-day) and Real-time Assessments (every 30 minutes) to determine potential SOL and IROL exceedances; RCs are authorized to request information from Generator Owners necessary for conducting these analyses and assessments by way of NERC Standard IRO-010.
- IRO-010 – Authorizes the Reliability Coordinator to request and collect information necessary for performing Operational Planning Analyses, Real-time monitoring and Real-time Assessments.
- MOD-025 – Requires the Generator Owner to verify real and reactive capability and allows for the Transmission Planner to request an adjustment for different conditions.
- TOP-002 – Requires the Balancing Authority to have an Operating Plan (next-day) that specifically addresses expected generation resource availability (commitment and dispatch), reserve requirements and deliverability capability.
- TOP-003 – Authorizes the Balancing Authority to request and collect information necessary for performing Operational Planning Analyses, Real-time monitoring and Real-time Assessments.

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Line Dufour - Hydro-Quebec Production - 5 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0

Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE has the following comments regarding the scope of the SAR:</p> <ul style="list-style-type: none"> • The SAR includes “Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis” as a deliverable in new or revised Reliability Standards. However, per TOP-002-4 Balancing Authorities are not required to perform an Operational Planning Analysis and are only required to create Operating Plan(s) for the next day. • The Purpose or Goal states “To ensure optimal reliability by preparing generation for extreme cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.” However, the SAR does not include provision of associated parameters for generating unit availability for extreme cold weather performance to Transmission Planners (TPs) and Planning Coordinators (PCs). In order to prepare for extreme cold weather events, the impact of the events should be studied in the in the planning horizon as well rather than just identifying issues in next-day studies when it may be too late to develop solutions for the issues. • The SAR discusses provision of “associated parameters for generating unit availability for extreme cold weather performance” to the RC, but does not address how the RC would use the data. The RC would need to Due to the vague language used in the definitions of OPA and RTA, it may be necessary to prescribe use of this data for the RCs OPA and RTA. • The SAR discusses provision of “associated parameters for generating unit availability for extreme cold weather performance” to the RC, but does not include provision of data to the TOP. Since the TOP is required to perform the same analysis (OPA, RTA) as the RC, this data should be provided to the TOP as well and the TOP should be required to consider the data in its analysis. • There are no parameters for what is considered “extreme” cold weather performance. Texas RE recommends the SAR provide guidance on simply cold weather performance. There is no mention of renewables fuel supply or protection measures. Certainly the BA, RC, and TOP should have information from the GO/GOPs that expect icing on blades or feathering of turbines at wind speed X. For consistency the technical basis document should provide discreet examples for GO/GOPs to provide to allow for consistency in application of the Standard. 	

- Natural gas is the only fuel mentioned as a potential fuel availability issue in the SAR, and the GO/GOP may not have the information necessary to inform the RC and BA about fuel supply. Gas availability may very well be beyond the control of the generating entity. Evaluation of freezing coal would also need to be considered for completeness.

Likes 0

Dislikes 0

Response

2. Provide any additional comments for the SAR drafting team to consider, if desired.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Document Name

Comment

Entities in northern North America should not be subject to the proposed Standard for the reasons discussed in question 1, above. We offer three options for achieving this.

1) One approach to design of a Reliability Standard with Regional Variance might be to identify, using historical data of the United States National Weather Service or a similar organization, regions where freezing temperatures may be expected at some time in each three to five years. A map that clearly marks such regions should be included as an Attachment to the Standard.

2) A second approach is to identify two regions as suggested above, but have different requirements in the Standard for each region. Entities of the southern region would be required to document, track, monitor, and evidence implementation of cold weather policies and procedures as envisioned in the SAR. Entities of the northern region would be required simply to have a document that states their winterization plans without having to meet specific sub-requirements as to content, implementation, tracking, or monitoring (they may be presumed already to do so by virtue of long experience in cold weather).

3) A third approach might be to include a 'trigger mechanism' within the Standard. Such a trigger mechanism would control when the Standard would apply to an entity, i.e., if the entity suffered loss of availability of BES generation or transmission due to cold weather, that entity then would be required to document, track, and evidence implement of cold weather policies and procedures. A sunset clause would be appropriate, to the effect that after successfully maintaining availability for the next two or three cold weather events, the need to document, track, and evidence implementation of winterization would no longer be required until a future loss of availability occurs. Such a mechanism provides appropriate carrot and stick incentives. If an entity winterizes successfully by whatever means, it would not be subject to compliance monitoring, audits, and risk. If an entity does not, it can remove the compliance risk by demonstrating successful winterization over the next two or three cold weather events (which might be 2-3 years for a northern entity and decades for a southern entity).

4) Both options could be combined.

Likes 0

Dislikes 0

Response

Tony Skourtas - Los Angeles Department of Water and Power - 1,3,5,6

Answer

Document Name

Comment

Perhaps this project could use a geographic approach in restricting applicability to areas in which reliability could be impacted by extreme cold weather.

Likes 0

Dislikes 0

Response

Tara Lightner - Sunflower Electric Power Corporation - 1 - MRO

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold) and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

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- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 1,3,6

Answer

Document Name

Comment

In addition, the North America Generator Forum (NAGF) does not support the proposed SAR for Cold Weather Authorization either. They too agree that most Generator Owners already have Cold Weather Preparation procedures and implementation in place. Cold weather-related outages typically involve previously unknown vulnerabilities.

With MISO already looking at what FERC is putting out and addressing it, Ameren would prefer not to recreate the wheel, which is also what NAGF enforces in their comments. For instance, revising existing standards to address gaps in planning for “Extreme Weather Events” and developing a measurable definition for “Extreme Cold Weather.”

Likes 0

Dislikes 0

Response

Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

Document Name

Comment

Thank you for the opportunity to comment. Cost Impacts are an important aspect to be studied. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2 - MRO,SERC,RF

Answer

Document Name

Comment

Some suggested modifications to language in the SAR are provided below:

1. Generator Owner/Generator Operator develops, ***maintains and implements*** winterization plans, procedures, and winter-specific and plant-specific operator awareness training, ***including consideration of the following*** elements: a. Generating unit ***output and*** availability; b. ***Operating*** parameters around ***ambient*** temperatures; c. Implementing freeze protection measures and technologies; d. Performing periodic adequate

maintenance and inspection of freeze protection measures and technologies; and e. Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.

2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit **output and** availability for extreme cold weather performance.

3. Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected **output and** availability of the generating units for the appropriate next day operating horizon.

4. Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected **output and** availability **of** contingency reserves for the appropriate next day operating horizon.

For bullet #4, MISO recommends the word "and" be replaced with the word "of" to indicate the requirement is to assess the forecasted sufficiency of reserves for the next day operating horizon as opposed to revisiting the annual determination of the Most Severe Single Contingency (MSSC).

Likes 0

Dislikes 0

Response

Jonathan Robbins - Seminole Electric Cooperative, Inc. - 1,3,4,5,6

Answer

Document Name

Comment

- The resulting standard could become onerous for GO's to comply with
 - Will evidence and communication regarding routine maintenance of plant heat trace system and components be required?
 - Would winter specific and plant specific awareness training create the need for a whole certification program to NERC?
- Could this be simplified by requiring the GO to provide their minimum operating temperature or by the standard only be applicable to locations that experience extreme cold weather?

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

{C}- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.

{C}- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;

- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be "common sense" items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 5,6

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

Xcel Energy believes that the SAR could be easility addressed by modifying already existing standards. For instance, weather conditions considered "extreme" and their effects likely have regional variability depending on historical events and might be best addressed by Regional data specifications. Regional data specifications are addressed in existing Standard IRO-010-2 R1-R3. Further, data specifications for Operational Planning assessments are addressed in existing Standard TOP-003-3. Fuel supply and relaiability impacts of extreme weather conditions are addressed by EOP-011 R2.2.3.2 and 2.2.9 respectively.

We suggest that variability between extreme weather conditions between regions and their effects on Generators, Generator Operators, Balancing Authorities and Reliability Coordinators an approach similar to EOP-010-1 should be considered. A Standard where the individual RCs develop, maintain and implement an Extreme Cold Weather Preparedness Operating Plan that coordinates Operating Procedures or Operating Processes within its Reliability Coordinator Area and each GOP, GO and BA and other affected entities develop, maintain and implement an Extreme Cold Weather Preparedness Plan Operating Procedure or Operating Process to mitigate the effects of Extreme Cold Weather events on the reliable operation of its respective system.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF recommends the following prior to implementing any new weather-related Reliability Standard for Generator Owner / Operators:

1. Prior to developing a new standard, revise existing standards to address gaps in planning for “Extreme Weather Events”
 - i. Reliability Assessments, TPL-001, IRO-010 and TOP-003 can all be strengthened to ensure the RC and BA request and receive information from GO / GOP to plan for various “Extreme Weather Events”.
2. Develop a measurable definition for “Extreme Cold Weather”. This likely would need to be based on regional assessments and account for changing weather patterns rather than just averages.
3. Develop cause codes for GADs that address outages, start-up failures and curtailments attributed directly to extreme cold weather. This would allow for meaningful data collection that could be useful in future mitigation.
4. Encourage BA / TOP / RC to develop criteria to dispatch units with extended start-up periods early to allow for pre-warming.
 - i. Instead of cycling natural gas Combined Cycle units, dispatch units at a lower load so that they are warm and available when needed.
5. Encourage TOP / TP / BA to schedule planned outage seasons with regard to changing weather patterns.
6. If a cold weather standard is eventually developed do not use ambiguous language (“Parameters around operating temperatures”), treat equipment failures as NERC violations (“adequate” measures), or expect GO/GOPs to communicate information they do not possess (“notification of firm transportation capacity for natural gas supply”).
7. Support research on the weaknesses of IEEE-515 and misapplication of this standard by heat tracing and insulation contractors, particularly as regards quantifying the effects of failing to properly account for uninsulated valve bonnets, actuators and pipe supports, and spiraling insulation instead of bunching it at valves, traps and other devices.
8. The NAGF is interested in working with the FERC and NERC to assist those entities identified in the *South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 Report* and industry to strengthen generation cold weather plans/processes where needed.

Likes 0

Dislikes 0

Response

Line Dufour - Hydro-Quebec Production - 5 - NPCC

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE suggests including applicable planning entities as well as the TOP.

Likes 0

Dislikes 0

Response

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

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- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they do not have this information or are provided false information, then that should be in scope today for the ERO.
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FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response

Joseph DePoorter - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under various ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources in their area under various ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under various ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incentivize the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are “non-utility” companies who are operating in RTO markets solely for revenue. This will most likely be very controversial with them and take years to develop and implement. To get industry approval the end result could be a Standard with weak requirements that does little to address the issue. This could

create more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring on all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to continually create a project to address the next event based on other factors.

This SAR has its positive and negative aspects which is based on the FERC and NERC report. Many northern GOs do not and did not have an issue with the cold (or hot) weather event. A Standard developed for a GO to assure that a unit will always start will be a magical instrument. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This would include; derates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems, icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities, frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants, lack of water due to frozen water/EPA restrictions/etc. for hydro plants. As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information not just training or installing freeze protection measures.

A Standard should not incent an entity to perform as the state they can as this is a market issue. This SAR is developing Resource Adequacy which does not need to a Reliability Standard. The maintenance items within the FERC and NERC report should be common sense items that a GO would perform, in order to perform as required. If there are a set of GOs who do not perform due to some type of (low) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1,3,5,6

Answer

Document Name

Comment

The shortcoming of the proposed SAR scope is it tries to address a regional problem, i.e., failure of generation during cold weather in traditionally warm-weather locales, with an international solution. The Standard should be performance-based, describing the outcome desired, and not prescriptive of actions which may or may not result in the outcome desired. If the overall goal of the Standard is to ensure better winter generation performance, then the Requirements should apply more to those generators that have failed to perform in cold weather. Similar to other Standards, exemptions should apply for those generators that have not experienced operational interruptions due to cold weather, with increasing requirements for those that have had the worst operation and would benefit the most from increased oversight. As performance improves, the need for oversight lessens and this lessening is built into the Standard. The SAR should clearly communicate the intent is improvement in generation performance in areas that have been lacking.

The concept that there is a single "ambient temperature limit" that applies to a generator unit is not universally accurate. Different temperature limits may apply for HVAC systems, water systems, etc. however these limiting design temperatures are routinely extended by use of mitigating actions. Especially in regions that routinely experience cold weather, mitigating operations such as the application of heaters, re-routing of warmed condenser water, flushing/drainage of systems, alternate or standby operation of parallel components are taken during extreme conditions. In addition, these components are typically located in enclosed buildings protected from the weather making the determination of a single ambient design temperature moot. The laborious determination of each nominal minimum operating temperature for the tens of systems and thousands of components

within a generating station, when seasonal preparation actions and contemporary operator actions routinely mitigate the impact of both hot and cold weather operation, do nothing to prove the operational capability of the generating unit. The most reliable indication of low-temperature capability is the actual minimum temperature recorded at which the generating unit has successfully operated at not the application of an "ambient temperature limit".

The "Additional elements to consider may include" recommendations should be located in technical guidance and not included as auditable requirements. For example, if the general location of a motor control center in a building keeps the MCC warm enough without a heater, then specifying in a Standard that MCCs should have heaters adds nothing to the BES reliability. By including detailed requirements that must be considered and dispositioned for every component creates a situation in which large lists of components are maintained to prove to auditors that mitigating features have been considered, with attendant burdens in storage, retrieval, and maintenance, with no gain in operating capability. Again, the Standard should focus on the performance required, not the means to achieve it.

The "Detailed description" section includes, "Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance " What does "associated parameters for generating unit availability" mean?

The proposed Standard development/revisions should take maximum advantage of existing Standards and any new Standard should be general enough to reflect the wide variation in generator unit types, geographical and meteorological conditions, and historical generator experience in coping with cold weather.

Items such as "training" need not be a separate training module in already burdened training schedules (especially for nuclear generating units). That is, the technical basis or reference sections of winterizing procedures, "Just in Time" training and briefings as cold weather preparations begin, should be sufficient. The Standard should not conflict with or repeat requirements already embodied in ISO operating manuals with which GOs must comply.

For those generators which routinely operate in cold weather the Standard is not required. Any new requirements should be geared to improving the operation of generators which do not.

Likes 0

Dislikes 0

Response

Rodney Warner - PNM Resources - Public Service Company of New Mexico - 1 - WECC

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Document Name**Comment**

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather.

MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather.

NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak.

IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather.

IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start, which could require the investment of a large sum of money for winterizing their generator, seems unrealistic.

The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include:

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

Every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be "common sense" items that a GO/GOP would perform, in order to operate as required.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time.

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The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
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Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5,6

Answer

Document Name

Comment

NO.

Likes 0

Dislikes 0

Response

Bette White - AES - Indianapolis Power and Light Co. - 3

Answer

Document Name

Comment

IPL does not agree with all the Detailed Description provided in the SAR to support the scope. IPL takes exception to the following items for the stated reasons:

1. If generating unit availability is measured differently than it currently is, this could impose undue burden on utilities due to potential additional studies and reporting activities.
2. Documented operating temperature parameters pose a significant burden on established generating stations that did not likely have documented operating parameters defined when they were built. For older plants, would historical operational data be sufficient? Or would time consuming, expensive studies be required?
3. Weather conditions vary significantly throughout the US based on location and geography. If operating temperature parameters are specified, they need to include consideration of regional weather patterns, altitude, etc.
4. Adding the word “technologies” into the proposed verbiage introduces the potential for conscriptive, and potentially expensive, preparation/remediation measures. Simply stating “Implementing effective freeze protection measures.” would cover traditional means as well as any emerging technologies that might spring up as a result of this new standard.
5. Introducing the thought of “firm gas transportation” into the language implies utilities must have firm transport contracts. This infringes on a company’s decision on how to utilize the Market processes and will likely provide undo excessive costs. It also focuses solely on natural gas a fuel rather than being more generic and preparing for shortages or issues with all fuel supply. However, fuel supply concerns are already a part of EOP-011 and should remain in one standard only.
6. Communications for generating unit availability between the GO/GOPs and BAs/RCs already take place through normal and emergency operations. If these are included in a Cold Weather specific emergency, great care should be taken to ensure the requirements don’t conflict with or further restrict what is already in other standards.
7. There is the potential for significant cost impacts should additional studies or technologies be required of entities to meet the language of the new standard. Until the language is further defined, these costs are difficult to calculate, but the potential should be considered as verbiage is crafted.

Likes 0

Dislikes 0

Response

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

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Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response

Jeff Kimbell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name CHPD

Answer

Document Name

Comment

This SAR addresses an important concern in some regions, but is so general that it will negatively impact the bulk of generators that already reliably operate in routinely cold weather regions and generation types that are not impacted fully in the same ways as the types concerned in the Events that have been analyzed over the last ten years. We design and operate our plants for cold weather. Additional regulatory requirements will divert resources from valuable work in maintaining these systems to compliance paperwork that will not improve plant or system reliability.

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

BPA suggests that the Drafting Team include a good representation of cold weather GO/GOPs, specifically, generators that are experienced with cold weather preparation and who are in a better position to assess the new documentation burden that will come with a new standard.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

Document Name

Comment

Reclamation recommends the SAR be reviewed by FERC or a FERC representative to ensure it encompasses the full scope of what FERC envisions for regulating cold weather preparedness. This will help to fully scope the project and avoid the churn of immediate modifications to newly approved or revised standards under this project.

Reclamation also recommends the drafting team for this project include representatives from Canadian and northern U.S. entities and hydro generators to ensure unreasonable burdens are not created while regulating a problem that only impacts a subset of entities and generators.

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Document Name

Comment

If the equipment's operational temperatures were properly specified during designs and procurements then most of issues discussed in the report should not have occurred. The cold weather related issues are more design and geographical related than of compliance.

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Document Name

Comment

ReliabilityFirst notes that the "Recommendations" section (Appendix G) of the 2019 FERC and NERC Staff Report - The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 has a number of Recommendations as well which should be included in the SAR (some of these may already be covered SAR). They include the following:

#6: Transmission Operators, Balancing Authorities, and Generator Owner/Operators should consider developing mechanisms to verify that units that have fuel switching capabilities can periodically demonstrate those capabilities. (I would think this should really be directed to the GO/GOPs)

#7: Balancing Authorities, Transmission Operators and Generator Owners/Operators should take the steps necessary to ensure that black start units can be utilized during adverse weather and emergency conditions. (Blackstart Resources should always get special attention).

#14: Generator Owner/Operators should ensure that adequate maintenance and inspection of freeze protection elements be conducted on a timely and repetitive basis.

#15: Each Generator Owner/Operator should inspect and maintain its generating units' heat tracing equipment.

#16: Each Generator Owner/Operator should inspect and maintain its units' thermal insulation.

#17: Each Generator Owner/Operator should plan on the erection of adequate wind breaks and enclosures, where needed.

#18: Each Generator Owner/Operator should develop and annually conduct winter-specific and plant-specific operator awareness and maintenance training.

#19: Each Generator Owner/Operator should take steps to ensure that winterization supplies and equipment are in place before the winter season, that adequate staffing is in place for cold weather events, and that preventative action in anticipation of such events is taken in a timely manner.

#20: Transmission Operators should ensure that transmission facilities are capable of performing during cold weather conditions.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 3,5

Answer

Document Name

Comment

The proposed SAR needs to more clearly identify whether these reports and preparations are only mandatory for BES assets. If the document refers to the preparation of NG and Coal facilities to be encompassing of power generation, preparations then need to specify responsibilities related to BES renewables.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer

Document Name

Comment

We should target requirements for winter preparedness to those who are the problem. Creating additional administrative burdens for entities who are in northern climates and have generation that is designed to operate in severe winter weather is not in the best interest of the ratepayers.

Likes 0

Dislikes 0

Response

Consideration of Comments

Project Name: 2019-06 Cold Weather | Standard Authorization Request

Comment Period Start Date: 10/4/2019

Comment Period End Date: 11/5/2019

There were 42 sets of responses, including comments from approximately 95 different people from approximately 76 companies representing 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact Vice President of Engineering and Standards [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. [Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.](#)
2. [Provide any additional comments for the SAR drafting team to consider, if desired.](#)

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Westar Energy	Douglas Webb	1,3,5,6	MRO,SPP RE	Westar-KCPL	Doug Webb	Westar	1,3,5,6	MRO
					Doug Webb	KCP&L	1,3,5,6	MRO
Public Utility District No. 1 of Chelan County	Jeff Kimbell	1,3,5,6		CHPD	Davis Jelusich	Public Utility District No. 1 of Chelan County	6	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Amber Skillern	East Kentucky Power Cooperative	1	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Adrienne Collins	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					William D. Shultz	Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern	6	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						Company Generation		
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no NGrid	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Helen Lainis	IESO	2	NPCC
					Sean Cavote	PSEG	4	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Kathleen Goodman	ISO-NE	2	NPCC
					David Kiguel	Independent	NA - Not Applicable	NPCC
					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Shivaz Chopra	New York Power Authority	5	NPCC
					Mike Forte	Con Ed - Consolidated Edison	4	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Ashmeet Kaur	Con Ed - Consolidated Edison	5	NPCC
					Caroline Dupuis	Hydro Quebec	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					Laura McLeod	NB Power Corporation	5	NPCC
					Randy MacDonald	NB Power Corporation	2	NPCC
					Gregory Campoli	New York Independent System Operator	2	NPCC
					Quintin Lee	Eversource Energy	1	NPCC

1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer No

Document Name

Comment

This standard may be necessary for specific generation types in climates where sudden severe winter weather may be a threat, but for many generators in northern climates this standard will be a burden. NERC has put out guidance on winter weather preparedness, and this should be sufficient.

Likes 0

Dislikes 0

Response: Thank you for your comment. In addition, the SAR DT revised the SAR to provide flexibility among the geographical regions. Regarding the winter weather preparedness guidance, it is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

AEP takes cold weather preparedness very seriously, and has developed and implemented procedures to ensure unit reliability for cold weather. In addition, NERC’s own Reliability Guideline “Generating Unit Winter Weather Readiness”, has been in effect for some time now. In its own words, this document provides a “framework for developing an effective winter weather readiness program for generating units throughout North America” and guidance “on maintaining individual unit reliability and preventing future cold weather related events.” We believe entities need the flexibility of engineering judgement to design and implement their own procedures to prepare for cold weather outside of prescriptive obligations. Original unit types, design, age, and geographic locations all drive what unique preparatory steps should be taken, making prescriptive obligations undesirable and perhaps even inappropriate. As generation types continue to evolve, winter weather preparation is taken into account more than ever before.

In addition, it should be noted that RTOs often provide their own guidance such as PJM’s as found in [PJM Manual 14D](#) attachment N: Cold Weather Preparation Guideline and Checklist. This is one of several guidance documents that is already available and emphasize reviewing lessons learned after each event and implementations of defenses to prevent recurrence. Once this is in place it creates an living effort that focuses improvements in areas of specific need that directly translates to continual improvement of the process that is in place. ERCOT already has a suitable mechanism in place, which has proven itself in practice. In addition, we are now seeing that REs are heading in a similar direction as well.

In addition, EOP-011 already addresses weather preparedness in an appropriate manner. Functional Entities, such as the TOP and BA, have checklists and attestations required for Generator weatherization. Improvements to weather preparedness have been significantly improved since 2011, with increased awareness and action plans driven by NERC recommendations.

In summary, NERC guidelines, RTO guidance and checklists, and existing NERC requirements, all collectively provide an effective framework for cold weather preparedness.

Likes	0
Dislikes	0

Response: Thank you for your comment. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions. In addition, the SAR DT revised the SAR to provide flexibility among the geographical regions. The SAR DT reviewed other standards and deemed additional modifications may be required based on the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

Regarding the winter weather preparedness guidance, it is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Jim Nail - City of Independence, Power and Light Department - 1,3,5

Answer

No

Document Name

Comment

Requirements already exist to inform others concerning the status of Facilities. RC/BA/TOP have the authority to include any status/data they deem necessary in their Facility Data requests. Whether a GO/GOP maintains their Facilities ready for dispatch is properly a Market function rather than a Reliability function. Declaring a Facility as available and then failing to bring it on line could be dealt with using Market penalties rather than imposing a new continent wide Standard. For many entities, the documentation of cold weather preparations and maintenance would be an additional administrative burden without an appreciable increase in Reliability.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although economics and reliability go hand in hand, the focus of the SAR is reliability issues related to cold weather preparedness. Market issues are beyond the authority of the SAR drafting team. The SAR DT reviewed other

standards and deemed additional modifications may be required based on the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer No

Document Name

Comment

The information in the SAR does not suggest any exemptions or qualifiers are being considered. Reclamation recommends limiting the applicability of a future NERC standard on cold weather preparedness to entities located in geographic areas that don't normally see harsh winter conditions and excluding hydro generators from applicability. As the SAR is presently written, the future standard will result in an administrative burden that offers no increase in reliability for facilities that normally operate in a cold winter environment.

Reclamation agrees with the proposal for Generator Owners and Generator Operators to develop winterization plans and procedures. The SAR appears to propose winterization preparedness requirements that are not prescriptive, which will allow facilities that need certain cold weather preparedness methods to implement those methods while allowing other facilities to implement different appropriate methods. If the proposed standard does not include the above exemptions, it is important to allow different entities with different equipment to develop winterization procedures that are appropriate for their needs.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Jeff Kimbell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name CHPD

Answer No

Document Name

Comment

The SPP SAR addresses issues experienced in the Southern portion of the Mid-Continent Regional Transmission Organization. The SAR therefore seeks to address a regional event on national basis, with implications for all of North America.

Many generators operate in areas of regular cold weather and have operated reliably for many years, based on their design for this environment, as well as existing operations planning and procedures. Events in the The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 report show the potential unpreparedness of some utilities that do not operate in this environment. While the SAR addresses those that may not be prepared for winter weather, this is not the case for most utilities in North America. Any standard should focus on those not in cold climates, or limit any additional compliance obligations to those who do operate in cold weather to a simple response of preparedness rather than multiple documentation and training requirements specific to cold weather. Our maintenance and operating procedures, practices and the design of our plants are for reliable operation in cold environments. Practices to operate in cold conditions are embedded in existing documentation, rather than specific procedures or documents that would meet this very specific, prescriptive list. Our designs are for cold environments. Many of the problems identified in the report will not happen at northern facilities because the systems are designed around them.

Additionally, multiple past cold weather Events have included natural gas supply availability as an issue. This is not applicable to large hydro plants on a major river such as the Columbia.

The list of requirements to be included in the standard provide little to no additional value to those GOPs that operate in cold weather areas and would create a significant regulatory burden. A more appropriate solution would be to limit the applicability of the standard to specific geographic regions where cold weather is an anomaly and not include regions where this weather is in the normal and planned operating range.

Specific comments for the list contained in the SAR are provided below.

1. *Generator Owner/Generator Operator develops winterization plans, procedures, and winter-specific and plant-specific operator awareness training. Additional elements to consider may include:* These are unnecessary for GO and GOP that operate in regularly cold regions and simply create additional evidence burdens.
 - a. *Generating unit availability;* Normally reported, and not a significant cold weather dependent issue with hydro generation on a major river, such as the Columbia.

b. *Parameters around operating temperatures;* Parameters don't change, as we are designed and operate for cold weather as a matter of course.

c. *Implementing freeze protection measures and technologies;* These are in place in cold regions, but not specifically identified. Identification and implementation would be an additional burden.

d. *Performing periodic adequate maintenance and inspection of freeze protection measures and technologies;* This is part of normal processes and maintenance: What is adequate for a plant that operates in a cold region is minimal and in place, or it would routinely not be operable. Evidence documentation would be an unnecessary burden with no improvement to reliability.

e. *Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.* Our generation is 100% hydro and this is not applicable.

2. *Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance.* The capacity of our generation type (hydro) does not change based on cold weather conditions, unlike other generation types such as gas and wind that have been affected by cold weather.
3. *Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units for the appropriate next day operating horizon.* This is unnecessary, as availability is already reported to the BA. Cold weather does not change that for those who operate in cold climates.
4. *Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected availability and contingency reserves for the appropriate next day operating horizon.* This is already performed as a matter of course for our system and would not benefit from additional mandatory requirements.

Likes	0
Dislikes	0

Response: Thank you for your comments. Although it is understood that plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer	No
Document Name	

Comment

City Utilities is not opposed to creating a new Reliability Standard or modifying an existing one to ensure resource availability or capability for the BES if necessary. However, we believe the scope of the SAR is too narrow and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during various ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a Standard to only address the cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.

Likes 0	
Dislikes 0	

Response: Thank you for your comment. The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff

recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Marty Hostler - Northern California Power Agency - 5,6

Answer No

Document Name

Comment

No. I don't feel this is a reliability issue. This is Market issue. If a Generator cannot start up and has been selected by BA to run; then there are financial penalties to encourage keeping the unit available to run when called on.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although economics and reliability go hand in hand, the focus of the SAR is a reliability issues related to cold weather preparedness. Market issues are beyond the authority of the SAR drafting team. The SAR DT reviewed other standards and deemed additional modifications are required based on the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer No

Document Name

Comment

GRE recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. GRE also recommends more technical information be posted on this topic before deciding on a course of action to

take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

While GRE is opposed to creating a new Reliability Standard; we would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, GRE believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT encourages you to review the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

The SAR drafting team chose to keep the SAR focus to cold weather preparedness, which is consistent with the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* Recommendation one.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Jerry Horner - Basin Electric Power Cooperative - 1,3,5,6

Answer No

Document Name

Comment

Basin supports comments generated by MRO NSRF, as follows:

The NSRF recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. The NSRF also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

The NSRF is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, the NSRF believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

1. Provide any additional comments for the SAR drafting team to consider, if desired.

Comments: If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.

- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes	0
Dislikes	0

Response: Thank you for your comment. (1) The SAR drafting team encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. (2) The SAR drafting team determined to keep the SAR focus to cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation one. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. (3) The SAR drafting team revised the SAR to provide flexibility among the geographical regions. (4) Although plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. In addition, those standards listed above do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. These recommendations will be notated for the SDT when formed. (5) The SAR DT agrees that resource adequacy is not intended to become a requirement and has modified the SAR accordingly.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer	No
Document Name	

Comment

This issue seems to affect southern U.S. entities and does not appear to be a continent-wide issue. Alliant Energy recommends more technical information be posted on this topic before deciding on a course of action to take such as a white paper that clearly defines the true issues that need correction by the GOs/GOPs during extreme cold weather events.

Rather than a new standard, Alliant Energy would support consideration of a modification of existing standards to ensure resource availability or capability for the BES. However, we believe the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. Development of a new Reliability Standard

that only addresses the extreme cold weather issue will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT encourages you to review the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Daniel Gacek - Exelon - 1,3,5,6

Answer

No

Document Name

Comment

The section labeled "project scope" is acceptable. However the following section "Detailed Description" is both too restrictive and too vague, see additional comments below.

On Behalf of Exelon: Segments 1, 3, 5, 6	
Likes	0
Dislikes	0
Response: Thank you for your comment. Please see the SAR DT responses in Question 2.	
Joseph DePoorter - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>MGE recommends that no new Standard be developed at this time as this seems to be a southern US entity issue and not continent-wide issue.</p> <p>We are opposed to creating a new Reliability Standard but would be willing to modify an existing one to ensure resource availability or capability for the BES, if necessary. However, we believe the scope of the SAR is too narrow and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during various ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a Standard to only address the cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.</p>	
Likes	0
Dislikes	0
Response: Thank you for your comment. The SAR DT encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.	

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer No

Document Name

Comment

Minnkota believes that no new Standard needs to be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. Minnkota also requests more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the specific issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events, including metrics based on geographic location and generator type.

Minnkota is opposed to creating a new Reliability Standard; however, Minnkota would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	No
Document Name	
Comment	
<p>For Generating Units that are designed for cold weather operation, this would create an unnecessary administrative burden. Minnesota Power supports Edison Electric Institute’s comment, which supports the North American Generator Forum (glossary)’s recommendations:</p> <ul style="list-style-type: none"> • The development of a quantifiable definition for “Extreme Cold Weather” • The addition of language within the SAR that ensure regional differences will be considered when addressing this issue. 	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment. The SAR drafting team discussed at length ‘Extreme Cold Weather’ and how it could be considered a subset of cold weather. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestions for the SDT to consider as they draft proposed revisions.</p>	
Thomas Breene - WEC Energy Group, Inc. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>WEC Energy Group does nor agree with this SAR.</p>	

The GO/GOP topics covered in 1. a, b, c and d of this SAR are already included in existing reliability guidelines. The SAR materials and links refer to issues in climates typically not exposed to cold weather patterns. The need to focus on winterization procedures and freeze protection in these regions should be emphasized.

The SAR attempts to bring the market function into the reliability function during cold weather and this should not be supported with a standard.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although economics and reliability go hand in hand, the focus of the SAR is reliability issues related to cold weather preparedness. Market issues are beyond the authority of the SAR drafting team. The SAR DT reviewed other standards and deemed additional modifications may be required based on the FERC/NERC Report.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Wayne Sipperly - North American Generator Forum - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

No

Document Name

Comment

The North America Generator Forum (NAGF) does not agree with the proposed scope of the SAR for Cold Weather Preparation as submitted by SPP. Generators as a whole take weather preparation, whether winter or summer, and reliability, very seriously. Under normal winter weather conditions, generators do not experience operating issues on a consistent basis. However, under extreme conditions, all BES elements, not just those associated with generation, could experience unpredictable operational issues. The NAGF believes that the proposed SAR does not address the core issue(s) and will create more administrative work and financial expense for GO/GOP registered entities with no reliability benefit. The NAGF supports ensuring that existing requirements for the PC, RC, and BA address communication of generator operational information, including when they cannot perform as requested, during all types of extreme weather events.

The NAGF membership believes the deliverables of the SAR are presently met through existing Tariffs, Operating Agreements, Interconnection Agreements, ISO market rules, BA Surveys, and other Standards such as TOP-003. Under the requirements of TOP-003-3, the TOP and BA must maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses. The GO / GOP must satisfy the obligations of documented specifications to assist in Real-time monitoring and assessments. If the TOP and BA do not have the information needed to perform Planning Analyses for cold weather events, the data should be requested as part of TOP-003-3. There may be an opportunity to further refine the required data by revising TOP-003-3.

Although not representative of all NERC registered generators, many of the NAGF membership companies already have Cold Weather Preparation procedures in place and have invested in winterizing their facilities. They utilize and reference NERC's Reliability Guideline "Generating Unit Winter Weather Readiness" and ISO market rules, and believe that flexibility is needed based on design, geography and market requirements in order to determine appropriate weather preparation. Continent wide, prescriptive requirements are not appropriate because of the differences in technology and typical winter conditions across the ERO.

Organized markets provide financial incentives for GO/GOPs to invest in winterization improvements. However, such investments do not guarantee that a generation unit will start when required or will not be derated during an extreme cold weather event. Extreme cold weather-related outages typically involve previously unknown vulnerabilities, especially when plants experience unprecedented combinations of temperature, wind speed and precipitation. Transmission systems suffer unpredictable failures under such circumstances, and the same applies for generation plants.

Therefore, the focus of this SAR should be to:

- Enhance communication of generator operational capabilities for the planning and real-time time horizon so that the RC, BA, and TOPs can more accurately forecast BES generator capability and availability during extreme weather events.
- Support incentives for GO/GOPs to continually improve generation facilities for all types of extreme weather events.
- Support incentives for putting additional generation plants online in advance of extreme weather events (keeping units running is far more secure than starting-up in the middle of a major winter storm).

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during these conditions. The SAR DT will notate the standards referenced in your comment for SDT consideration when developing modifications to the appropriate standards, if warranted.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer	No
Document Name	
Comment	
<p>Black Hills Corporation (BHC) agrees with most of the SAR, but does not agree with the proposed scope for “Operator Awareness Training”. Due to the fact that our Generation Resources/Facilities are all located in the central to Northern area of North America, our generation facilities are designed already for “cold weather” and as such, our generation facilities already have in place plans/procedures and as part of these annual reviews, each facility reviews prior items from past year(s) and proceed accordingly for their annual winter preparations. Our Generators Plant Operators already have an awareness of cold weather, including extreme cold, & its potential impacts to our facilities and the reliability of the BES, that another mandatory training placed upon them if not a productive or cost effective use of their time.</p>	
Likes	0
Dislikes	0
<p>Response: Thank you for your comment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Formal and regular winter readiness/operator awareness training typically does not exist or is rarely practiced. In addition, the SAR DT encourages you to review page 86 of the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i> report. This confirms that training is part of recommendation 1.</p>	
Dennis Sismaet - Northern California Power Agency - 5,6	
Answer	No
Document Name	
Comment	

I don't feel this is a reliability issue. This is Market issue. If a Generator cannot start up and has been selected by BA to run; then there are financial penalties to encourage keeping the unit available to run when called on.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions.

sean erickson - Western Area Power Administration - 1,6

Answer

No

Document Name

Comment

WAPA recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. WAPA also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

WAPA is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, WAPA believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes	0
Dislikes	0
<p>Response: Thank you for your comment. The SAR DT encourages you to review the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>.</p> <p>The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.</p> <p>The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.</p>	
<p>David Jendras - Ameren - Ameren Services - 1,3,6</p>	
Answer	No
Document Name	
<p>Comment</p> <p>Ameren does not support the proposed SAR for Cold Weather Preparation as submitted by SPP. The Midcontinent Independent System Operator (MISO) and the other ISOs serve as Balancing Authorities (BA) and Reliability Coordinators (RC) and have been leading several initiatives to address cold weather preparation. To avoid the duplication of efforts, Ameren would like to push for more of a regional approach, and allow the ISOs to continue leading extreme weather preparations.</p>	

The vast majority of generation outages and derates caused by cold weather happened in the southern region, where cold weather susceptible components are not adequately protected. As a matter of normal reliable operating procedure, generators in the mid and northern regions fully enclose their critical components and utilize heat tracing technologies.

Another issue was having precautions for wind barriers, measures Ameren is already doing. MISO has already created cold weather steps for wind in preparation for winter. Ameren would prefer that the RTOs and GO/GOPs work out winterization plans outside the formal standard process.

Likes 0

Dislikes 0

Response: Thank you for your comment. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC

Answer

No

Document Name

Comment

The Taunton Municipal Lighting Plant believes that the BAs and RCs are well-equipped to address winter preparedness on their own without the need to create a mandatory Reliability Standard. BAs and RCs in North America that regularly experience cold weather are well aware of the concerns and limitations of their GOPs, and part of this comes from the BAs and RCs creating their own operating procedures that require some level of winterization/winter preparedness. By creating a mandatory Reliability Standard for this scope,

NERC will be placing additional burden on the GOPs who already have extensive reporting requirements, and the fear is that this requirement would only add an additional, cumbersome compliance task to GOPs without a significant increase in reliability.

Likes 0

Dislikes 0

Response: Thank you for your comment. It is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. The SAR addresses recommendation 1 and may be developed at the same time RTO/ISOs are addressing other recommendations that deal with regional mitigation.

The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Tara Lightner - Sunflower Electric Power Corporation - 1 - MRO

Answer No

Document Name

Comment

The NSRF recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. The NSRF also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

The NSRF is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, the NSRF believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes	0
Dislikes	0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Tony Skourtas - Los Angeles Department of Water and Power - 1,3,5,6

Answer	No
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Document Name	
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Comment

LDWP does not agree with the scope of this SAR. Extreme cold weather has little to no impact on the reliability of LDWP’s generating stations, including the Intermountain Power Plant (IPP) generating station in Utah. Historically, IPP encounters subzero temperatures regularly throughout the winter months, and no reliability issues have been encountered.

The only issue that does occur during these extreme cold weather events is the potential to disrupt IPP’s fuel supply. IPP personnel deal with frozen coal in the coal cars when they arrive on site for unloading. They also manage frozen coal moving up the conveyor belts into the generating unit. Both of these issues could cause a disruption to the generating units. The turbine generator and the transformers historically have not been adversely effected by these cold weather events.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR drafting team will notate your comment regarding coal, turbine generations, and transformers to the SDT when formed.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

No

Document Name

Comment

Entities located in the northern United States experience and prepare for cold weather conditions every year. These entities design their facilities to operate during cold weather (unlike entities in the south, which design facilities to manage heat during the summer). Moreover northern entities already have practices in place to prepare for winter conditions each year, and have had such practices for as much as 100 years. For northern entities, this Standard would appear to add a paperwork burden—formally documenting, tracking, monitoring, and evidencing implementation of policies and procedures that have functioned for decades—that offers no reliability benefit. Indeed the burden to prepare and manage the necessary documentation may even detract from cold weather reliability for northern entities. First because resources will need to be assigned to document compliance, potentially reducing the availability of resources to perform other work (including winterization). And second because to minimize the compliance risk and documentation challenge, northern entities may simplify, standardize, or eliminate some of the proven winterization activities they perform today.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your comment for the SDT to take this into account when the drafting phase begins. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring. Also, it was determined during analysis of the 2018 South Central Cold Weather event, that some GO/GOPs still do not have winterization plans as recommended as a result of the 2011 Southwest Cold Weather Event.

The SAR drafting team revised the SAR to provide flexibility among the geographical regions.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

None.

Likes 0

Dislikes 0

Response: The SAR drafting team thanks you for your support.

Anthony Jablonski - ReliabilityFirst - 10

Answer Yes

Document Name

Comment

ReliabilityFirst provides the following as points to be considered in the Cold Weather SAR.

1. Although the main focus of the Standard is extreme cold weather, this is a perfect opportunity for other extreme weather conditions to be addressed (hot, cold, draught, hurricane, etc.)
2. Addition or modification of Glossary terms may be necessary such as what is considered “extreme cold” or “extreme weather”.
3. Transmission Owners/Operators should be included in applicability to ensure extreme cold weather preparations for switchyards/substations.
4. Purpose should include preparing switchyards/substations for extreme cold weather performance (Ensuring operation of breaker compressors/heaters, weather proofing of breaker cabinets/electrical boxes against water infiltration, preventing icing of Kirk key interlocking system, preventing freezing of disconnect/ground switch operating mechanisms, etc.).

Likes 0

Dislikes 0

Response: Thank you for your comments. (1) The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time. (2) The SAR drafting team removed the word ‘extreme’ from the SAR; therefore, a glossary term may not be needed.

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer Yes

Document Name

Comment

Nuclear units are subject to annual reviews from their On-Site NRC Inspectors for both winter and summer seasonal readiness per NRC Attachment 71111.01 “Adverse Weather Protection”. A cold-weather standard would represent dual regulation (i.e. both NRC and NERC would be auditing cold weather preparation plans). Consider exempting all units regulated by the NRC from this standard (removed from scope) similar to what is being done for the CIP Standards.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion regarding nuclear units for the SDT to consider as they draft proposed revisions.

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

None

Likes 0

Dislikes 0

Response: The drafting team appreciates your response and support.

Bette White - AES - Indianapolis Power and Light Co. - 3

Answer Yes

Document Name

Comment

IPL agrees with the basic scope of the proposed scope of the Cold Weather SAR.	
Likes	0
Dislikes	0
Response: The drafting team appreciates your response and support.	
Rodney Warner - PNM Resources - Public Service Company of New Mexico - 1 - WECC	
Answer	Yes
Document Name	
Comment	
<p>Concern was expressed by the committee the "Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply." This information is publically available. Should not be a requirement for the GO/GOP to report to the RC and BA.</p> <p>Recommend that GO/GOP provide changes to firm gas supply that would effect planned generation to BA and RC as soon as possible. BA and RC will use this information for real time Operational Planning assesments and Real Time Assesments.</p>	
Likes	0
Dislikes	0
Response: Thank you for your comments. Some Regional Reliability Organizations under their market rules already require that GO/GOPs formally identify and report fuel transportation issues, contract commitments, resource capability, capacity and dual-fuel availability. The SAR has been revised to clarify that communication between functional entities will occur when generating unit availability is expected to be affected by all ambient weather conditions. In addition, references to 'firm gas' have been removed from the SAR.	

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
<p>EEI supports the SAR scope as proposed but suggests consideration be given to the following recommendations made by the NAGF:</p> <ul style="list-style-type: none"> • Flexibility based on design, geography, and other unique characteristics of each generator in order to determine appropriate weather preparations. • Development of a quantifiable definition for “Extreme Cold Weather” that considers regional differences. 	
Likes	0
Dislikes	0
<p>Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions. In addition, The SAR drafting team removed the word ‘extreme’ from the SAR since each geographical area may have different interpretations of what they consider extreme; therefore, a glossary term may not be needed.</p>	
Bobbi Welch - Midcontinent ISO, Inc. - 2 - MRO,SERC,RF	
Answer	Yes
Document Name	
Comment	
<p>MISO supports the development of a NERC Reliability Standard to ensure preparedness for extreme cold weather conditions and believes that the proposed SAR does a good job capturing the spirit and intent of the findings and recommendations contained in the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>; In addition, we offer the following items for consideration.</p>	

Currently the SAR is silent regarding accuracy of generating unit performance with respect to ambient temperature. As the FERC and NERC Staff Report mentions “accuracy” several times, how can accuracy be incorporated into the scope of the Standard? MISO recommends the Generator Owner/Generator Operator periodically review generating unit performance and update its plans, procedures and training for operating generating units based on changes (equipment modifications, operating experience, etc.) and share this information with their Balancing Authorities.

In addition to the standards outlined in the SAR (IRO-010-2 and TOP-003-3), MISO recommends EOP-011 be reviewed for impacts as a result of this proposed project. For example, EOP-011 requires some of these aspects already. This standard requires Balancing Authorities to develop, maintain and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area, including “Reliability impacts of extreme weather conditions.” In addition, Reliability Coordinators are required to review the Operating Plan(s) submitted by Balancing Authorities for compatibility, inter-dependency and coordination to avoid risk to Wide Area reliability.

Under Reliability Principles, we recommend that boxes 6 and 7 also be checked to:

Recognize the Generator Owner/Generator Operator training aspects proposed under the scope of this project; i.e. “Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.”

Recognize the Reliability Coordinator wide-area assessment and monitoring aspects associated with this project; i.e. “The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.”

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your recommendations for the SDT consideration once formed. Although it is known that some Regional Reliability Organizations already address generating unit performance as part of their market operations and may require actual testing as part of their cold weather preparation, the drafting team will consider including these areas in the standard and review the possible impacts of EOP-011.

The SAR DT does not agree with principle #6 and #7 being checked as those focus more on System Operator Certification and Cyber Security.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no NGrid	
Answer	Yes
Document Name	
Comment	
<p>Although we agree with the industry need for better preparation in extreme weather conditions and better situation awareness in both planning and operations, extreme cold is relative to where you are in North America. We suggest that the SAR should be modified to be more general, i.e extreme weather preparedness (removal of the word cold weather).</p>	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions.</p> <p>Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.</p>	
Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL	
Answer	Yes
Document Name	
Comment	

Westar Energy and Kansas City Power & Light endorse Edison Electric Institute's (EEl) response to Question 1.

Likes 0

Dislikes 0

Response: Please see response to EEl.

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

While Southern Company support efforts to improve BES reliability during extreme cold weather, the scope of the SAR, as written, should be focused on actions that will improve generating unit availability and capability during all weather events; furthermore, the SAR should not introduce redundant requirements or revise existing standard requirements that already account for weather conditions, including extreme cold weather.

1. Consistent with the Cold Weather Event recommendations, the SAR should only be applicable to GO/GOP activities related to winterization efforts and associated communication to the RC and/or BA.
 - Design does not necessarily ensure generating unit capability, as each winter event is unique. Generating unit capability is ensured by proper maintenance, operation, and when necessary, preparation for inclement weather. "Parameters around operating temperatures" implies temperature design limits have been reviewed for each generating facility and that units will operate during extreme weather above a certain temperature. Actual operation is different than design, and each winter event will have unique characteristics, making it nearly impossible to guarantee operation above a certain pre-defined temperature. Additionally, the plant site dynamics will vary for each winter event, including whether adjacent units are running or offline prior to and during the winter event. The SAR, as written, could drive GOs/GOPs to declaring their units' availability uncertain below 32 degrees in order to ensure compliance with this new standard. This would provide little value to BES reliability. Therefore, Southern recommends that the SAR Drafting Team abandon the concept of defining a design temperature

for each generating facility, that may not be relevant from event to event, and instead include a requirement for Generator Owners to develop and implement winterization plans prior to the onset of winter weather.

- Additionally, the SAR is not specific on the type of firm transportation (FT) for natural gas supply obtained and what details would be required to be communicated to the BA and/or RC. In the SAR, bullet 1.e. is unnecessary and should be factored into 1.a. in the assessment of generating unit availability by the GO/GOP. Where-as primary FT guarantees point to point delivery, examples such as released capacity may not be secure under peak winter demand situations, even though it is classified as FT. The SAR also fails to outline expectations around Delivered gas, where the supplier utilizes their FT for delivery. Finally, the SAR makes no mention of other fuel commodities such as fuel oil inventory levels for oil-fired CTs.

2. No new standard requirements should be placed on the RC and/or BA, or where there is already a requirement for the GO/GOP to provide availability and capability information. There are several existing NERC standards that address generating resource availability and capability that address all kinds of conditions, including cold weather events, and a new or revised standard addressing availability and capability during one specific type of weather event is duplicative and unnecessary.

- FAC-008 – Requires Generator Owner to consider ambient conditions in establishing Facility Ratings.
- IRO-008 – Requires Reliability Coordinators to perform Operational Planning Analyses (next-day) and Real-time Assessments (every 30 minutes) to determine potential SOL and IROL exceedances; RCs are authorized to request information form Generator Owners necessary for conducting these analyses and assessments by way of NERC Standard IRO-010.
- IRO-010 – Authorizes the Reliability Coordinator to request and collect information necessary for performing Operational Planning Analyses, Real-time monitoring and Real-time Assessments.
- MOD-025 – Requires the Generator Owner to verify real and reactive capability and allows for the Transmission Planner to request an adjustment for different conditions.
- TOP-002 – Requires the Balancing Authority to have an Operating Plan (next-day) that specifically addresses expected generation resource availability (commitment and dispatch), reserve requirements and deliverability capability.
- TOP-003 – Authorizes the Balancing Authority to request and collect information necessary for performing Operational Planning Analyses, Real-time monitoring and Real-time Assessments.

Likes	0
Dislikes	0

Response: Thank you for your comment. (1) The SAR drafting team encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. (2) The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time. (3) The SAR drafting team revised the SAR to provide flexibility among the geographical regions. (4) Although plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. In addition, the standards referenced in your comments do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. These recommendations will be notated for the standards drafting team when formed. (5) The SAR DT agrees that resource adequacy is not intended to become a requirement and has modified the SAR accordingly. (6) Some Regional Reliability Organizations under their market rules already require that GO/GOPs formally identify and report fuel transportation issues, contract commitments, resource capability, capacity and dual-fuel availability. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. (7) After evaluating 1.e, the SAR DT also agreed that bullet 1.e was not necessary. To address assessment of generating unit availability and expectations around delivered gas, the SAR drafting team determined that 1.d and 1.a should be modified to address these areas. Also, natural gas availability and delivery was the main focus of the South Central Cold Weather Event report recommendations and not fuel oil inventory. Additionally, the SAR drafting team removed the word 'technologies' from the SAR. Lastly, the SAR drafting team will notate your other recommendations for the SDT when formed.

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response: The SAR drafting team thanks you for your support.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response: The SAR drafting team thanks you for your support.	
Line Dufour - Hydro-Quebec Production - 5 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response: The SAR drafting team thanks you for your support.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response: The SAR drafting team thanks you for your support.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response: The SAR drafting team thanks you for your support.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	

Comment

Texas RE has the following comments regarding the scope of the SAR:

- The SAR includes “Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis” as a deliverable in new or revised Reliability Standards. However, per TOP-002-4 Balancing Authorities are not required to perform an Operational Planning Analysis and are only required to create Operating Plan(s) for the next day.
- The Purpose or Goal states “To ensure optimal reliability by preparing generation for extreme cold weather performance and ensure situational awareness in both **planning** and operations by applicable registered entities.” However, the SAR does not include provision of associated parameters for generating unit availability for extreme cold weather performance to Transmission Planners (TPs) and Planning Coordinators (PCs). In order to prepare for extreme cold weather events, the impact of the events should be studied in the in the planning horizon as well rather than just identifying issues in next-day studies when it may be too late to develop solutions for the issues.
- The SAR discusses provision of “associated parameters for generating unit availability for extreme cold weather performance” to the RC, but does not address how the RC would use the data. The RC would need to Due to the vague language used in the definitions of OPA and RTA, it may be necessary to prescribe use of this data for the RCs OPA and RTA.
- The SAR discusses provision of “associated parameters for generating unit availability for extreme cold weather performance” to the RC, but does not include provision of data to the TOP. Since the TOP is required to perform the same analysis (OPA, RTA) as the RC, this data should be provided to the TOP as well and the TOP should be required to consider the data in its analysis.
- There are no parameters for what is considered “extreme” cold weather performance. Texas RE recommends the SAR provide guidance on simply cold weather performance. There is no mention of renewables fuel supply or protection measures. Certainly the BA, RC, and TOP should have information from the GO/GOPs that expect icing on blades or feathering of turbines at wind speed X. For consistency the technical basis document should provide discreet examples for GO/GOPs to provide to allow for consistency in application of the Standard.

- Natural gas is the only fuel mentioned as a potential fuel availability issue in the SAR, and the GO/GOP may not have the information necessary to inform the RC and BA about fuel supply. Gas availability may very well be beyond the control of the generating entity. Evaluation of freezing coal would also need to be considered for completeness.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate all of your recommendations for the SDT when formed. In addition, after evaluating 1.e, the SAR DT also agreed that bullet 1.e was not necessary. To address assessment of generating unit availability and expectations around delivered gas, the SAR drafting team determined that 1.d and 1.a should be modified to address these areas. Also, natural gas availability and delivery was the main focus of the South Central Cold Weather Event report recommendations and not fuel oil inventory. Additionally, the SAR drafting team removed the word ‘technologies’ from the SAR. Lastly, the SAR drafting team will notate your other recommendations for the SDT when formed. Lastly, the SAR has been modified to clarify the ‘associated parameters...’

2. Provide any additional comments for the SAR drafting team to consider, if desired.	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	
Document Name	
Comment	
<p>Entities in northern North America should not be subject to the proposed Standard for the reasons discussed in question 1, above. We offer three options for achieving this.</p> <p>1) One approach to design of a Reliability Standard with Regional Variance might be to identify, using historical data of the United States National Weather Service or a similar organization, regions where freezing temperatures may be expected at some time in each three to five years. A map that clearly marks such regions should be included as an Attachment to the Standard.</p> <p>2) A second approach is to identify two regions as suggested above, but have different requirements in the Standard for each region. Entities of the southern region would be required to document, track, monitor, and evidence implementation of cold weather policies and procedures as envisioned in the SAR. Entities of the northern region would be required simply to have a document that states their winterization plans without having to meet specific sub-requirements as to content, implementation, tracking, or monitoring (they may be presumed already to do so by virtue of long experience in cold weather).</p> <p>3) A third approach might be to include a ‘trigger mechanism’ within the Standard. Such a trigger mechanism would control when the Standard would apply to an entity, i.e., if the entity suffered loss of availability of BES generation or transmission due to cold weather, that entity then would be required to document, track, and evidence implement of cold weather policies and procedures. A sunset clause would be appropriate, to the effect that after successfully maintaining availability for the next two or three cold weather events, the need to document, track, and evidence implementation of winterization would no longer be required until a future loss of availability occurs. Such a mechanism provides appropriate carrot and stick incentives. If an entity winterizes successfully by whatever means, it would not be subject to compliance monitoring, audits, and risk. If an entity does not, it can remove the compliance risk by demonstrating</p>	

successful winterization over the next two or three cold weather events (which might be 2-3 years for a northern entity and decades for a southern entity).

4) Both options could be combined.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.

Tony Skourtas - Los Angeles Department of Water and Power - 1,3,5,6

Answer

Document Name

Comment

Perhaps this project could use a geographic approach in restricting applicability to areas in which reliability could be impacted by extreme cold weather.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Tara Lightner - Sunflower Electric Power Corporation - 1 - MRO

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are “non-utility” companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold) and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order

to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. (1) The SAR drafting team encourages you to review the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*. (2) The SAR drafting team determined to keep the SAR focus to cold weather preparedness, which is consistent with the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* Recommendation one. (3) The SAR drafting team revised the SAR to provide flexibility among the geographical regions. (4) Although plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. In addition, those standards referenced in your comments do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. These recommendations will be notated for the standards drafting team when formed. (5) The SAR DT agrees that resource adequacy is not intended to become a requirement and has modified the SAR accordingly.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

David Jendras - Ameren - Ameren Services - 1,3,6

Answer	
Document Name	
Comment	
<p>In addition, the North America Generator Forum (NAGF) does not support the proposed SAR for Cold Weather Authorization either. They too agree that most Generator Owners already have Cold Weather Preparation procedures and implementation in place. Cold weather-related outages typically involve previously unknown vulnerabilities.</p> <p>With MISO already looking at what FERC is putting out and addressing it, Ameren would prefer not to recreate the wheel, which is also what NAGF enforces in their comments. For instance, revising existing standards to address gaps in planning for “Extreme Weather Events” and developing a measurable definition for “Extreme Cold Weather.”</p>	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment. (1) It is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. (2) It was determined during analysis of the 2018 South Central Cold Weather event, that some GO/GOPs still do not have winterization plans as recommended as a result of the 2011 Southwest Cold Weather Event. (3) The SAR drafting team removed the word ‘extreme’ from the SAR; therefore, a glossary term may not be needed. (4) Lastly, the SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.</p>	
Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL	
Answer	

Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response:	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	
Document Name	
Comment	
Thank you for the opportunity to comment. Cost Impacts are an important aspect to be studied. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.	
Likes 0	
Dislikes 0	
Response: The drafting team appreciates your response and cost impacts will be considered through the modification phase.	
Bobbi Welch - Midcontinent ISO, Inc. - 2 - MRO,SERC,RF	
Answer	
Document Name	
Comment	

Some suggested modifications to language in the SAR are provided below:

1. Generator Owner/Generator Operator develops, ***maintains and implements*** winterization plans, procedures, and winter-specific and plant-specific operator awareness training, ***including consideration of the following*** elements: a. Generating unit ***output and*** availability; b. ***Operating*** parameters around ***ambient*** temperatures; c. Implementing freeze protection measures and technologies; d. Performing periodic adequate maintenance and inspection of freeze protection measures and technologies; and e. Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.
2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit ***output and*** availability for extreme cold weather performance.
3. Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected ***output and*** availability of the generating units for the appropriate next day operating horizon.
4. Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected ***output and*** availability ***of*** contingency reserves for the appropriate next day operating horizon.

For bullet #4, MISO recommends the word “and” be replaced with the word “of” to indicate the requirement is to assess the forecasted sufficiency of reserves for the next day operating horizon as opposed to revisiting the annual determination of the Most Severe Single Contingency (MSSC).

Likes 0

Dislikes 0

Response: Thank you for your comments. The SAR has been modified based on overall comments received. Please review the modified SAR.

Jonathan Robbins - Seminole Electric Cooperative, Inc. - 1,3,4,5,6	
Answer	
Document Name	
Comment	
<ul style="list-style-type: none"> • The resulting standard could become onerous for GO's to comply with <ul style="list-style-type: none"> ○ Will evidence and communication regarding routine maintenance of plant heat trace system and components be required? ○ Would winter specific and plant specific awareness training create the need for a whole certification program to NERC? • Could this be simplified by requiring the GO to provide their minimum operating temperature or by the standard only be applicable to locations that experience extreme cold weather? 	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.	
sean erickson - Western Area Power Administration - 1,6	
Answer	
Document Name	
Comment	
<p>If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:</p>	

{C}- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.

{C}- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those

who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes	0
Dislikes	0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR drafting team will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Dennis Sismaet - Northern California Power Agency - 5,6

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response:

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

Xcel Energy believes that the SAR could be easility addressed by modifying already existing standards. For instance, weather conditions considered "extreme" and their effects likely have regional variability depending on historical events and might be best addressed by Regional data specifications. Regional data specifications are addressed in existing Standard IRO-010-2 R1-R3. Further, data specifications for Operational Planning assessments are addressed in existing Standard TOP-003-3. Fuel supply and reliablity impacts of extreme weather conditions are addressed by EOP-011 R2.2.3.2 and 2.2.9 respectively.

We suggust that variability between extreme weather conditions between regions and their effects on Generators, Generator Operators, Balancing Authorities and Reliability Coordinators an approach similar to EOP-010-1 should be considered. A Standard where the individual RCs develop, maintain and implement an Extreme Cold Weather Preparedness Operating Plan that coordinates Operating Procedures or Operating Processes within its Reliability Coordinator Area and each GOP, GO and BA and other affected entities develop, maintain and implement an Extreme Cold Weather Preparedness Plan Operating Procedure or Operating Process to mitigate the effects of Extreme Cold Weather events on the reliable operation of its respective system.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team will notate your recommendations for the SDT to consider when formed.

Wayne Sipperly - North American Generator Forum - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF recommends the following prior to implementing any new weather-related Reliability Standard for Generator Owner / Operators:

1. Prior to developing a new standard, revise existing standards to address gaps in planning for "Extreme Weather Events"

- i. Reliability Assessments, TPL-001, IRO-010 and TOP-003 can all be strengthened to ensure the RC and BA request and receive information from GO / GOP to plan for various “Extreme Weather Events”.
- 2. Develop a measurable definition for “Extreme Cold Weather”. This likely would need to be based on regional assessments and account for changing weather patterns rather than just averages.
- 3. Develop cause codes for GADs that address outages, start-up failures and curtailments attributed directly to extreme cold weather. This would allow for meaningful data collection that could be useful in future mitigation.
- 4. Encourage BA / TOP / RC to develop criteria to dispatch units with extended start-up periods early to allow for pre-warming.
 - i. Instead of cycling natural gas Combined Cycle units, dispatch units at a lower load so that they are warm and available when needed.
- 5. Encourage TOP / TP / BA to schedule planned outage seasons with regard to changing weather patterns.
- 6. If a cold weather standard is eventually developed do not use ambiguous language (“Parameters around operating temperatures”), treat equipment failures as NERC violations (“adequate” measures), or expect GO/GOPs to communicate information they do not possess (“notification of firm transportation capacity for natural gas supply”).
- 7. Support research on the weaknesses of IEEE-515 and misapplication of this standard by heat tracing and insulation contractors, particularly as regards quantifying the effects of failing to properly account for uninsulated valve bonnets, actuators and pipe supports, and spiraling insulation instead of bunching it at valves, traps and other devices.
- 8. The NAGF is interested in working with the FERC and NERC to assist those entities identified in the *South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 Report* and industry to strengthen generation cold weather plans/processes where needed.

Likes 0

Dislikes 0

Response: Thank you for your comments. The SAR drafting team modified the SAR to address the concern around ‘parameters around operating...’

The SAR drafting team discussed at length ‘Extreme Cold Weather’ and how it could be considered a subset of cold weather. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestions for the SDT to consider as they draft proposed revisions.

The SAR drafting team removed ‘firm capacity’ from the SAR.

Line Dufour - Hydro-Quebec Production - 5 - NPCC

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response: The SAR drafting team appreciates your response and support.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE suggests including applicable planning entities as well as the TOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT chose to keep the scope of work consistent with the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* recommendation one, which addressees, Generators, BAs, and RCs.

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

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If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that affect resource capability and availability, which are becoming more frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are “non-utility” companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

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- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR drafting team will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Lastly, the SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Joseph DePoorter - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

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If the ERO enforces these expectations, then it should either incentivize the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are “non-utility” companies who are operating in RTO markets solely for revenue. This will most likely be very controversial with them and take years to develop and implement. To get industry approval the end result could be a Standard with weak requirements that does little to address the issue. This could create more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring on all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to continually create a project to address the next event based on other factors.

This SAR has its positive and negative aspects which is based on the FERC and NERC report. Many northern GOs do not and did not have an issue with the cold (or hot) weather event. A Standard developed for a GO to assure that a unit will always start will be a magical instrument. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This would include; derates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems, icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities, frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants, lack of water due to frozen water/EPA restrictions/etc. for hydro plants. As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information not just training or installing freeze protection measures.

A Standard should not incent an entity to perform as the state they can as this is a market issue. This SAR is developing Resource Adequacy which does not need to a Reliability Standard. The maintenance items within the FERC and NERC report should be common

sense items that a GO would perform, in order to perform as required. If there are a set of GOs who do not perform due to some type of (low) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incentive generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR drafting team will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Daniel Gacek - Exelon - 1,3,5,6

Answer

Document Name

Comment

The shortcoming of the proposed SAR scope is it tries to address a regional problem, i.e., failure of generation during cold weather in traditionally warm-weather locales, with an international solution. The Standard should be performance-based, describing the outcome desired, and not prescriptive of actions which may or may not result in the outcome desired. If the overall goal of the Standard is to ensure better winter generation performance, then the Requirements should apply more to those generators that have failed to perform in cold weather. Similar to other Standards, exemptions should apply for those generators that have not experienced operational interruptions due to cold weather, with increasing requirements for those that have had the worst operation and would benefit the most from increased oversight. As performance improves, the need for oversight lessens and this lessening is built into the Standard. The SAR should clearly communicate the intent is improvement in generation performance in areas that have been lacking.

The concept that there is a single “ambient temperature limit” that applies to a generator unit is not universally accurate. Different temperature limits may apply for HVAC systems, water systems, etc. however these limiting design temperatures are routinely extended by use of mitigating actions. Especially in regions that routinely experience cold weather, mitigating operations such as the application of heaters, re-routing of warmed condenser water, flushing/draining of systems, alternate or standby operation of parallel components are taken during extreme conditions. In addition, these components are typically located in enclosed buildings protected from the weather making the determination of a single ambient design temperature moot. The laborious determination of each nominal minimum operating temperature for the tens of systems and thousands of components within a generating station, when seasonal preparation actions and contemporary operator actions routinely mitigate the impact of both hot and cold weather operation, do nothing to prove the operational capability of the generating unit. The most reliable indication of low-temperature capability is the actual minimum temperature recorded at which the generating unit has successfully operated at not the application of an "ambient temperature limit".

The “Additional elements to consider may include” recommendations should be located in technical guidance and not included as auditable requirements. For example, if the general location of a motor control center in a building keeps the MCC warm enough without a heater, then specifying in a Standard that MCCs should have heaters adds nothing to the BES reliability. By including detailed requirements that must be considered and dispositioned for every component creates a situation in which large lists of components are maintained to prove to auditors that mitigating features have been considered, with attendant burdens in storage, retrieval, and maintenance, with no gain in operating capability. Again, the Standard should focus on the performance required, not the means to achieve it.

The “Detailed description” section includes, “Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance “ What does “associated parameters for generating unit availability” mean?

The proposed Standard development/revisions should take maximum advantage of existing Standards and any new Standard should be general enough to reflect the wide variation in generator unit types, geographical and meteorological conditions, and historical generator experience in coping with cold weather.

Items such as “training” need not be a separate training module in already burdened training schedules (especially for nuclear generating units). That is, the technical basis or reference sections of winterizing procedures, “Just in Time” training and briefings as cold weather preparations begin, should be sufficient. The Standard should not conflict with or repeat requirements already embodied in ISO operating manuals with which GOs must comply.

For those generators which routinely operate in cold weather the Standard is not required. Any new requirements should be geared to improving the operation of generators which do not.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR has been modified based on the 'associated parameters'. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.

Rodney Warner - PNM Resources - Public Service Company of New Mexico - 1 - WECC

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response:

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Document Name

Comment

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IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather.

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If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start, which could require the investment of a large sum of money for winterizing their generator, seems unrealistic.

The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include:

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
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Likes 0

Dislikes 0

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The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of

operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time.

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Likes 0

Dislikes 0

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Marty Hostler - Northern California Power Agency - 5,6

Answer

Document Name

Comment

NO.

Likes	0
Dislikes	0
Response:	
Bette White - AES - Indianapolis Power and Light Co. - 3	
Answer	
Document Name	
Comment	
<p>IPL does not agree with all the Detailed Description provided in the SAR to support the scope. IPL takes exception to the following items for the stated reasons:</p> <ol style="list-style-type: none"> 1. If generating unit availability is measured differently than it currently is, this could impose undue burden on utilities due to potential additional studies and reporting activities. 2. Documented operating temperature parameters pose a significant burden on established generating stations that did not likely have documented operating parameters defined when they were built. For older plants, would historical operational data be sufficient? Or would time consuming, expensive studies be required? 3. Weather conditions vary significantly throughout the US based on location and geography. If operating temperature parameters are specified, they need to include consideration of regional weather patterns, altitude, etc. 4. Adding the word “technologies” into the proposed verbiage introduces the potential for conscriptive, and potentially expensive, preparation/remediation measures. Simply stating “Implementing effective freeze protection measures.” would cover traditional means as well as any emerging technologies that might spring up as a result of this new standard. 5. Introducing the thought of “firm gas transportation” into the language implies utilities must have firm transport contracts. This infringes on a company’s decision on how to utilize the Market processes and will likely provide undo excessive costs. It also focuses 	

solely on natural gas a fuel rather than being more generic and preparing for shortages or issues with all fuel supply. However, fuel supply concerns are already a part of EOP-011 and should remain in one standard only.

6. Communications for generating unit availability between the GO/GOPs and BAs/RCs already take place through normal and emergency operations. If these are included in a Cold Weather specific emergency, great care should be taken to ensure the requirements don't conflict with or further restrict what is already in other standards.

7. There is the potential for significant cost impacts should additional studies or technologies be required of entities to meet the language of the new standard. Until the language is further defined, these costs are difficult to calculate, but the potential should be considered as verbiage is crafted.

Likes 0

Dislikes 0

Response: Thank you for your comment. After evaluating 1.e, the SAR DT also agreed that bullet 1.e was not necessary. To address assessment of generating unit availability and expectations around delivered gas, the SAR drafting team determined that 1.d and 1.a should be modified to address these areas. Also, natural gas availability and delivery was the main focus of the South Central Cold Weather Event report recommendations and not fuel oil inventory. Additionally, the SAR drafting team removed the word 'technologies' from the SAR. Lastly, the SAR drafting team will notate your other recommendations for the SDT when formed.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

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Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment	
None	
Likes	0
Dislikes	0
Response:	
Jeff Kimbell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name CHPD	
Answer	
Document Name	
Comment	
<p>This SAR addresses an important concern in some regions, but is so general that it will negatively impact the bulk of generators that already reliably operate in routinely cold weather regions and generation types that are not impacted fully in the same ways as the types concerned in the Events that have been analyzed over the last ten years. We design and operate our plants for cold weather. Additional regulatory requirements will divert resources from valuable work in maintaining these systems to compliance paperwork that will not improve plant or system reliability.</p>	
Likes	0
Dislikes	0
Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	

Document Name	
Comment	
<p>BPA suggests that the Drafting Team include a good representation of cold weather GO/GOPs, specifically, generators that are experienced with cold weather preparation and who are in a better position to assess the new documentation burden that will come with a new standard.</p>	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment.</p>	
<p>Richard Jackson - U.S. Bureau of Reclamation - 1,5</p>	
Answer	
Document Name	
Comment	
<p>Reclamation recommends the SAR be reviewed by FERC or a FERC representative to ensure it encompasses the full scope of what FERC envisions for regulating cold weather preparedness. This will help to fully scope the project and avoid the churn of immediate modifications to newly approved or revised standards under this project.</p> <p>Reclamation also recommends the drafting team for this project include representatives from Canadian and northern U.S. entities and hydro generators to ensure unreasonable burdens are not created while regulating a problem that only impacts a subset of entities and generators.</p>	
Likes 0	
Dislikes 0	

Response: Thank you for your comment. FERC staff is engaged with this SAR drafting team. Active observers are welcome and encouraged to participate in the drafting process of this SAR and/or subsequent Standard.

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response:

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Document Name

Comment

If the equipment's operational temperatures were properly specified during designs and procurements then most of issues discussed in the report should not have occurred. The cold weather related issues are more design and geographical related than of compliance.

Likes 0

Dislikes 0

Response: The SAR drafting team appreciates your response. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.

Anthony Jablonski - ReliabilityFirst - 10	
Answer	
Document Name	
Comment	
<p>ReliabilityFirst notes that the “Recommendations” section (Appendix G) of the 2019 FERC and NERC Staff Report - The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 has a number of Recommendations as well which should be included in the SAR (some of these may already be covered SAR). They include the following:</p> <p>#6: Transmission Operators, Balancing Authorities, and Generator Owner/Operators should consider developing mechanisms to verify that units that have fuel switching capabilities can periodically demonstrate those capabilities. (I would think this should really be directed to the GO/GOPs)</p> <p>#7: Balancing Authorities, Transmission Operators and Generator Owners/Operators should take the steps necessary to ensure that black start units can be utilized during adverse weather and emergency conditions. (Blackstart Resources should always get special attention).</p> <p>#14: Generator Owner/Operators should ensure that adequate maintenance and inspection of freeze protection elements be conducted on a timely and repetitive basis.</p> <p>#15: Each Generator Owner/Operator should inspect and maintain its generating units’ heat tracing equipment.</p> <p>#16: Each Generator Owner/Operator should inspect and maintain its units’ thermal insulation.</p> <p>#17: Each Generator Owner/Operator should plan on the erection of adequate wind breaks and enclosures, where needed.</p> <p>#18: Each Generator Owner/Operator should develop and annually conduct winter-specific and plant-specific operator awareness and maintenance training.</p>	

#19: Each Generator Owner/Operator should take steps to ensure that winterization supplies and equipment are in place before the winter season, that adequate staffing is in place for cold weather events, and that preventative action in anticipation of such events is taken in a timely manner.

#20: Transmission Operators should ensure that transmission facilities are capable of performing during cold weather conditions.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your recommendations for the SDT to consider when formed. The SAR DT chose to focus the SAR on Recommendation #1 of the FERC/NERC report, which focuses on Generators, BAs, and RCs.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response:

Thomas Foltz - AEP - 3,5

Answer

Document Name

Comment

The proposed SAR needs to more clearly identify whether these reports and preparations are only mandatory for BES assets. If the document refers to the preparation of NG and Coal facilities to be encompassing of power generation, preparations then need to specify responsibilities related to BES renewables.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your recommendation for the SDT to consider when formed. The SAR DTs intent is that the standard will focus on BES assets and be applicable only to NERC Registered Entities.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer

Document Name

Comment

We should target requirements for winter preparedness to those who are the problem. Creating additional administrative burdens for entities who are in northern climates and have generation that is designed to operate in severe winter weather is not in the best interest of the ratepayers.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions. In addition, the SAR DT revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your recommendation for the SDT for consideration once formed.

End of Report

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information			
SAR Title:	Cold Weather Preparedness and Communication Requirements between Functional Entities		
Date Submitted:	September 20, 2019		
SAR Requester			
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer		
Organization:	Southwest Power Pool, Inc.		
Telephone:	(501) 614-3206	Email:	mdesselle@spp.org
SAR Type (Check as many as apply)			
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)		
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision		
<input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)		
<input type="checkbox"/> Withdraw/retire an Existing Standard			
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input checked="" type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified		
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated		
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified		
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions. Additionally, to ensure communications between functional entities of all ambient weather impacts to generator unit availability.			
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):			
To ensure optimal reliability by preparing generation for cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.			

Requested information

Project Scope (Define the parameters of the proposed project):

The project scope will address Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; and will include the development of new or revised NERC Reliability Standards to consider such activities as winterization activities on generating units, winter-specific and plant-specific operator awareness training, and processes to ensure situational awareness for the registered functions.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards to promote reliability of the BES during cold weather and maximize generating unit availability.

1. Generator Owner/Generator Operator develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations. Elements for consideration may include:
 - a. A generating unit's historical demonstrated performance and operating limitations during ambient cold weather;
 - b. Implementing freeze protection measures;
 - c. Performing periodic adequate maintenance and inspection of freeze protection measures; and
 - d. Providing advance notification (when available) of curtailments of natural gas supply to a gas-fueled generating unit's Reliability Coordinator and Balancing Authority.
2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators the generating unit's associated historical demonstrated performance and operating limitations during ambient cold weather.
3. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when forecasted ambient weather conditions (including, but not limited to, cold weather temperatures) are expected to impact generating unit performance or generating unit availability for the appropriate next day operating horizon.

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

Requested information
<p>4. Reliability Coordinators and Balancing Authorities use of the generating unit performance and availability provided through deliverable #3 above to perform their respective Operational Planning Analysis, develop its Operating Plans, or determine the expected availability and contingency reserves for the appropriate next day operating horizon.</p>
<p>Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):</p>
<p>Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.</p>
<p>Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):</p>
<p>Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during cold weather events.</p>
<p>To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):</p>
<p>Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator</p>
<p>Do you know of any consensus building activities² in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.</p>
<p>The <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>, July 2019 was publicly noticed and shared with regulators and industry.</p>

² Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information

Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities and Reliability Coordinators, that may result from this project should be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2 and TOP-003-3 may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2) and Balancing Authority (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications.

The Operating and Planning suite of standards will be considered for this project.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:

2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019

Polar Vortex Review, September 2014

Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011

Reliability Guideline: *Generating Unit Winter Weather Readiness – Current Industry Practices*.

Reliability Principles

Does this proposed standard development project support at least one of the following Reliability Principles ([Reliability Interface Principles](#))? Please check all those that apply.

- | | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards. |
| <input checked="" type="checkbox"/> | 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand. |

Reliability Principles	
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
None	

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SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information	
SAR Title:	Extreme -Cold Weather Preparedness and Communication Requirements between Functional Entities
Date Submitted:	September 20, 2019
SAR Requester	
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer
Organization:	Southwest Power Pool, Inc.
Telephone:	(501) 614-3206
Email:	mdesselle@spp.org
SAR Type (Check as many as apply)	
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision
<input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)
<input type="checkbox"/> Withdraw/retire an Existing Standard	
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)	
<input checked="" type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):	
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for extreme cold weather conditions. Additionally, to ensure communications between functional entities of all ambient weather impacts to generator unit availability.	
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):	
To ensure optimal reliability by preparing generation for extreme cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.	

Requested information

Project Scope (Define the parameters of the proposed project):

The project scope will address Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; and will include the development of ~~a~~-new or revised NERC Reliability ~~Standards~~Standard to consider such activities as winterization activities on generating units, winter-specific and plant-specific operator awareness training, and processes to ensure situational awareness for the registered functions.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards to promote reliability of the BES during ~~extreme~~ cold weather and maximize generating unit availability.

1. Generator Owner/Generator Operator develops and implements cold weather preparednesswinterization plans, procedures, and ~~winter-specific and plant-specific operator awareness training~~ based on factors such as geographical location and plant configurations. ~~Elements for consideration~~-Additional elements to consider may include:
 - ~~a.~~A generating unit's historical demonstrated performance and ~~Generating unit availability;~~
 - ~~b.~~a. Parameters around operating ~~limitations during ambient cold weather;~~ temperatures;
 - ~~c.~~b. Implementing freeze protection measures; ~~and technologies;~~
 - ~~d.~~c. Performing periodic adequate maintenance and inspection of freeze protection measures ~~and technologies;~~ and
 - ~~e.~~d. Providing advance notification (when available) of curtailments of natural gas supply to ~~Ensuring gas-fueled generating unit's~~ Reliability Coordinator and Balancing Authority ~~are provided notification of firm transportation capacity for natural gas supply.~~
2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators ~~the associated parameters for~~ generating unit's associated historical demonstrated performance and operating limitations during ambient ~~unit availability for~~ extreme cold weather ~~performance~~.

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¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

Requested information

3. Generator ~~Owner~~~~Owners~~/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when forecasted ambient weather conditions (including, but not limited to, cold weather expected temperatures) are expected to impact~~forecasted within the determined~~ generating unit performance or generating unit~~availabilities, expected~~ availability ~~of the generating units~~ for the appropriate next day operating horizon.
4. Reliability Coordinators and Balancing Authorities~~Authority~~ use of the generating unit performance and availability~~information~~ provided through deliverable #3 above by the Generator Owner/Generator Operator to perform their respective Operational Planning Analysis, develop its Operating Plans, and determine the expected availability and contingency reserves for the appropriate next day operating horizon.

Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):

Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.

Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (*e.g.*, Dispersed Generation Resources):

Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during ~~extreme~~ cold weather events.

To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (*e.g.*, Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):

Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator

Do you know of any consensus building activities² in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.

² Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information

The *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 was publicly noticed and shared with regulators and industry.

Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities and Reliability Coordinators, that may result from this project should be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2 and TOP-003-3 may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2) and Balancing Authority (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications.

The Operating and Planning suite of standards will be considered for this project.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:

2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019

Polar Vortex Review, September 2014

Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011

Reliability Guideline: *Generating Unit Winter Weather Readiness – Current Industry Practices.*

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Reliability Principles

Does this proposed standard development project support at least one of the following Reliability Principles ([Reliability Interface Principles](#))? Please check all those that apply.

<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles

Does the proposed standard development project comply with all of the following [Market Interface Principles](#)?

Enter
(yes/no)

1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances

Region(s)/ Interconnection	Explanation
None	

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SAR Status Tracking (Check off as appropriate).

- | | |
|---|--|
| <input type="checkbox"/> Draft SAR reviewed by NERC Staff | <input type="checkbox"/> Final SAR endorsed by the SC |
| <input type="checkbox"/> Draft SAR presented to SC for acceptance | <input type="checkbox"/> SAR assigned a Standards Project by NERC |
| <input type="checkbox"/> DRAFT SAR approved for posting by the SC | <input type="checkbox"/> SAR denied or proposed as Guidance document |

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Unofficial Comment Form

Project 2019-06 Cold Weather Standard Authorization Request

Do not use this form for submitting comments. Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments on the **Project 2019-06 Cold Weather Standard Authorization Request (SAR)**. Comments must be submitted by **8 p.m. Eastern, Thursday, March 19, 2019**.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email), or at 404-446-2589.

Background Information

In July 2019, the FERC and NERC staff report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018* (Report) was released. Following the Report, Southwest Power Pool, Inc. (SPP) submitted a SAR proposing a new standard development project to review and address the recommendations in the Report. The formal comment period for the SAR's initial posting concluded November 5, 2019 and the drafting team has reviewed the comments received.

Based on the review and further discussions, the drafting team is recommending the SAR be modified to: 1) clarify aspects of the recommendations contained in the Report; and 2) ensure communication between functional entities when generator unit availability is expected to be affected by all ambient weather conditions (including, but not limited to, cold weather temperatures)¹. Of particular note, the requirements of this SAR are intended to apply to Generator Owners/Generator Operators that own/operate facilities that qualify as Bulk Electric System, regardless of fuel-type.

¹ The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Questions

1. The drafting team modified the SAR to include communication between functional entities when generator unit availability is expected to be affected by all ambient weather conditions. (Note: the preparedness will remain focused on cold weather.) Do you agree with this proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

Yes

No

Comments:

2. If you have any additional comments on the SAR, please provide them here.

Comments:

Standards Announcement

Project 2019-06 Cold Weather

Formal Comment Period Open through March 19, 2020

[Now Available](#)

A formal comment period for the **Project 2019-06 Cold Weather Standard Authorization Request** is open through **8 p.m. Eastern, Thursday, March 19, 2020**.

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. Contact [Wendy Muller](#) regarding issues with the SBS. An unofficial Word version of the comment form is posted on the [project page](#).

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries and issues. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The drafting team will review all responses received during the comment period and determine the next steps of the project.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Applications" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Comment Report

Project Name: 2019-06 Cold Weather | Standard Authorization Request (Second Posting)
Comment Period Start Date: 2/19/2020
Comment Period End Date: 3/19/2020
Associated Ballots:

There were 47 sets of responses, including comments from approximately 122 different people from approximately 97 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

1. The drafting team modified the SAR to include communication between functional entities when generator unit availability is expected to be affected by all ambient weather conditions. (Note: the preparedness will remain focused on cold weather.) Do you agree with this proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

2. If you have any additional comments on the SAR, please provide them here.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Great Plains Energy - Kansas City Power and Light Co.	Douglas Webb	1,3,5,6	MRO,SPP RE	Westar-KCPL	Doug Webb	Westar	1,3,5,6	MRO
					Doug Webb	KCP&L	1,3,5,6	MRO
DTE Energy - Detroit Edison Company	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Adrian Raducea	DTE Energy - Detroit Edison Company	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
PJM Interconnection, L.L.C.	Mark Holman	2		SRC	Brandon Gleason	Electric Reliability Council of Texas, Inc.	2	Texas RE
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	SERC
					Ali Miremadi	California ISO	2	WECC
					Helen Laines	Independent Electric	2	NPCC

						System Operator		
					Kathleen Goodman	ISO New England	2	NPCC
					Mark Holman	PJM Interconnection	2	RF
					Terry Bilke	Midcontinent Independent System Operator	2	RF
					Gregory Campoli	New York Independent System Operator	2	NPCC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no NGrid	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Helen Lainis	IESO	2	NPCC
					Sean Cavote	PSEG	4	NPCC
					Kathleen Goodman	ISO-NE	2	NPCC
					David Kiguel	Independent	7	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions	5	NPCC

					International Inc.			
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Shivaz Chopra	New York Power Authority	5	NPCC
					Mike Forte	Con Ed - Consolidated Edison	4	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Ashmeet Kaur	Con Ed - Consolidated Edison	5	NPCC
					Caroline Dupuis	Hydro Quebec	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					Laura McLeod	NB Power Corporation	5	NPCC
					Randy MacDonald	NB Power Corporation	2	NPCC
					Gregory Campoli	New York Independent System Operator	2	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Silvia Parada Mitchell	NextEra Energy, LLC	4	NPCC
	Russel Mountjoy	10		MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO

Midwest Reliability Organization					Larry Heckert	Alliant Energy	4	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administratino	1,6	MRO
					David Heins	Omaha Public Power District	1,3,5,6	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Jeremy Volls	Basin Electric Power Coop	1	MRO
					And Crooks	SaskPower Coporation	1	MRO
					Bryan Sherrow	Board of Public Utilities, (Kansas City)	1	MRO
					Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Douglas Webb	Evergy	1,3,5,6	MRO
					Fred Meyer	Algonquin Power	1,3,5	MRO
					James Williams	Southwest Power Pool	2	MRO
					Jamie Monette	Minnesota Power/Allete	1,3,5	MRO
					Jamison Crawley	Nebraska Public Power District	1,3,5	MRO
					Sing Tay	Oklahoma Gas & Electric	1,3,5,6	MRO
					LaTroy Brumfield	American Transmission Company, LLC	1	MRO
					John Chang	Manitoba Hydro	1,3,5,6	MRO
	Dominion - Dominion Resources, Inc.	Sean Bodkin	3,5,6		Dominion	Connie Lowe	Dominion - Dominion Resources, Inc.	3
					Lou Oberski	Dominion - Dominion	5	NA - Not Applicable

						Resources, Inc.		
					Larry Nash	Dominion - Dominion Virginia Power	1	NA - Not Applicable
					Rachel Snead	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	1,3,5,6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO
Lower Colorado River Authority	Teresa Cantwell	1,5		LCRA Compliance	Michael Shaw	LCRA	6	Texas RE
					Dixie Wells	LCRA	5	Texas RE
					Teresa Cantwell	LCRA	1	Texas RE

1. The drafting team modified the SAR to include communication between functional entities when generator unit availability is expected to be affected by all ambient weather conditions. (Note: the preparedness will remain focused on cold weather.) Do you agree with this proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

Thomas Foltz - AEP - 3,5

Answer

No

Document Name

Comment

AEP appreciates the SAR drafting team’s willingness to consider our previous comments, and for taking them into account in this latest draft SAR. However, while we are appreciative of the efforts of the SAR drafting team, AEP does not believe the proposed SAR is the appropriate mechanism for addressing the concerns associated with cold weather and unit reliability. While the proposed efforts for both preparedness and communication as suggested in the draft SAR appear to be reasonable in and of themselves, AEP does not believe creating NERC obligations for them is the correct path to take. AEP instead offers an alternative approach that we hope the drafting team will consider.

AEP takes cold weather preparedness very seriously, and has developed and implemented procedures to ensure unit reliability for cold weather. In addition, NERC’s own Reliability Guideline “Generating Unit Winter Weather Readiness”, has been in effect for some time now. In its own words, this document provides a “framework for developing an effective winter weather readiness program for generating units throughout North America” and guidance “on maintaining individual unit reliability and preventing future cold weather related events.” We believe entities need the flexibility of engineering judgement to design and implement their own procedures to prepare for cold weather outside of prescriptive obligations. Original unit types, design, age, and geographic locations all drive what unique preparatory steps should be taken, making prescriptive obligations undesirable and perhaps even inappropriate. As generation types continue to evolve, winter weather preparation is taken into account more than ever before. In addition, EOP-011 already addresses weather preparedness in an appropriate manner. Functional Entities, such as the TOP and BA, have checklists and attestations required for Generator weatherization. Significant improvements to weather preparedness have been made since 2011, with increased awareness and action plans driven by NERC recommendations.

Beyond the concerns provided above, is the impact of administrative burden to prove compliance of any revised or new NERC standards. While a majority of entities are likely already following the obligations being considered (for the RTOs, as mentioned previously) the impact on entities to prove compliance in addition to that already required for the RTOs, cannot be understated. Similarly, the proposed methodology of the draft SAR runs counter to that of both Paragraph 81 criteria (specifically that of Criteria B) and those which justified the retirements recently proposed in Project 2018-03 (Standards Efficiency Review Retirements). Paragraph 81 considerations continue to be an essential aspect of routine periodic reviews of existing standards subject to enforcement, as provided in Attachment 2 of NERC’s Periodic Review Template shown [here](#). It would be ill-advisable for this project to pursue development of new obligations, which from their inception, would likely be flagged for later review for potential retirement under Paragraph 81. Once again, we believe many entities are already following prudent, localized strategies in preparing for cold weather, and are already incentivized to develop and execute prudent procedures based on existing market demands. AEP does not see any reliability benefit of developing new or revised standards which would eventually be flagged for retirement under either Paragraph 81 Criterion B or Standards Efficiency Review.

Rather than the course proposed in the draft SAR, AEP believes the best path forward involves the RTOs (presumably serving as the Balancing Authority) working directly with generating entities within their footprint to determine and monitor the preparatory steps necessary, and to follow up when issues are identified. RTOs are in the best position to provide this service, as they fully understand the system constraints, geography, weather patterns, and customers for their area. RTOs often provide their own guidance in this regard, for example, PJM’s Manual 14D Attachment N: Cold Weather Preparation Guideline and Checklist. This is one of several guidance documents that is already available, and which emphasizes the reviewing of lessons learned after each event and implementations of defenses to prevent recurrence. Once in place, this creates an living effort that focuses

improvements in areas of specific need that directly translates to continual improvement of the process that is in place. ERCOT already has a suitable mechanism in place, which has proven itself in practice. We are now seeing that REs are heading in a similar direction as well. AEP believes these established processes have proven their effectiveness, and will continue to be valuable going forward as well. Not only does this relationship between the RTOs and their generating entities help to develop prudent preparatory steps in regard to cold weather, it also allows the RTO to work more closely with those generators who may need to improve the methods they already have in place. Such a working relationship naturally fosters a good communication between the generator and the BA and/or RC which we believe the SAR drafting team is actively seeking.

Rather than pursue one-size-fit-all approaches for all entities, many of which have prudent cold weather procedures already in place, RTOs should instead work more closely with those entities where preparatory improvements may need to be made. By doing so, the RTOs can more accurately determine exactly what deficiencies need to be addressed within these specific entities, and recommend appropriate entity-specific strategies accordingly.

Likes 0

Dislikes 0

Response

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

No

Document Name

Comment

City Utilities of Springfield, Missouri appreciates the drafting team's consideration of our first comments to this SAR and understands the concern with cold weather preparedness and communications. Therefore, we support comments submitted by TAPS and offer the following points for consideration.

Regarding the expectations for "communication between functional entities", this issue was settled with Project 2007-03. On page 23 of the petition filed by NERC in 2013 it states the following:

The purpose of the proposed TOP-003-2, Requirements R1 through R5 were adapted for Transmission Operators and Balancing Authorities based on similar, Commission approved requirements for Reliability Coordinators in IRO-010-1a. They emphasize the need for Transmission Operators and Balancing Authorities to obtain all of the data that they need for reliability purposes and mandate that entities that have this data and that are requested to supply it, provide it to the Transmission Operator and Balancing Authority in an approved and timely manner. Lack of adequate data for Real-time operations and modeling has been pointed out as contributing factors to system incidents in the past. The data specification concept will eliminate this problem by allowing the Transmission Operator and Balancing Authority to require entities to send them any data that is required for them to complete and honor reliability responsibilities.

Additionally, pages 20 – 21 of the Mapping Document associated with this project describe requirements in TOP-002 that were retired in lieu of the new data specification in TOP-003. Those requirements were for information like what this SAR is trying address. Therefore, unless the drafting team can explain why generator unit availability is not already in scope today under the IRO-010 and TOP-003 standards, we cannot support adding redundant requirements. This is administratively inefficient and contrary to all the efforts the industry has spent over the years through various initiatives, including the current Standards Efficiency Review project.

Regarding cold weather preparedness, we believe it's not unreasonable to expect Generator Owners to implement cold weather plans, if they have commitments with a Balancing Authority to operate in those conditions. Therefore, if the drafting team moves forward with requirements for Generator Owners, then they should only apply to that subset of generators. It's also important to consider that a requirement to prepare will not safeguard against all forced outages in extreme conditions such as the January 2018 event that prompted this SAR. Therefore, we ask the drafting team consider enhancing requirements for the Balancing Authority to prepare, because in accordance with the [NERC Rules of Procedure, Appendix 5B – Statement of](#)

[Compliance Registry Criteria](#), the Balancing Authority is “The responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real-time”. Therefore, they are the entities that should be studying the effects of all extreme conditions including cold weather well ahead of the operating horizon and preparing operating plans to mitigate the risk of shortages. If that means committing more generation online and maintaining more operating reserves to ride through an event, then that is within their purview. If market monitors are hindering that activity to minimize costs, then FERC needs to decide which one takes precedence.

In accordance with the [NERC Functional Model Technical Document](#) the Market Operator is the “interface point between reliability and commercial Functions” and should not be performing reliability functions. We understand the line has become blurred in recent years by organized RTO markets where the Market Operator and Balancing Authority are consolidated under one organization. However, if the relationship has changed as described in the NERC Functional Model, then that issue needs to be given to the NERC Organization Registration and Certification Subcommittee and resolved within the Statement of Compliance Registry Criteria. Otherwise cold weather preparedness can be resolved with more stringent resource planning and validation processes for Balancing Authorities like what ERCOT and PJM have already done. If this SAR moves forward, then it should be focused on standards to enhance that effort across the Bulk Electric System.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer

No

Document Name

Comment

The modifications to the SAR do not satisfy Pend Oreille PUD's concerns that this standard is not needed. Adding communications requirements between functional entities will not change our opinion. To address the question: We already have contractual obligations and reliability obligations to communicate with our related functional entities for any condition that could affect BES reliability (this includes known weather conditions). Additional requirements for communications, assuming the Drafting Team's best intentions, will only add to confusion, additional administration, and possible compliance exposure if the new standards doesn't fit with existing communication protocols.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 4,5,6

Answer

No

Document Name

Comment

NO. This is a Market Issue, not a Reliability Issue. If a Generator selected by their BA fails to start up due to lack of Cold Weather Winterization, that Unit incurs financial penalties, regardless of it being a BES or non-BES generating unit. Markets rules applicable to all Generation entities should fix this, not just BES Generator Owner/Operators that are subject to NERC Standards.

Developing and imposing additional compliance obligations, such as Winterization NERC Standards, on GO/GOPs, that will increase our mandatory compliance costs, but not compliance costs for non-Registered generator entities that own and/or operate non-BES generators, is unfair. NERC is not allowed to make a Standard that creates an unfair competitive advantage for non-registered entities and/or non-BES generators at the expense of GO/GOPs.

Since SPP is requesting this Standard, I suggest they work with FERC to develop Market rules in areas they operate that will insure all Market Participants in their area are Winterized and treated fairly. i.e. BES and non-BES participates both have to pay for Winterization rules (per Market rules) and both pay financial penalties if their unit(s) fails to start when called. Registered Entities that own/operate BES generator(s) shouldn't be the only one paying for Winterization and associated compliance costs; non-registered entities that own/operate non-BES generators should be paying too!

MJH 03-05-20

Likes 0

Dislikes 0

Response

Bret Galbraith - Seminole Electric Cooperative, Inc. - 1,3,4,5,6

Answer

No

Document Name

Comment

The SAR requires the GO to communicate to both the BA and RC. Instead of the RC receiving multiple calls from GOs throughout their area, Seminole reasons that the GO contact the BA, for whom they usually have more interaction with, and if the resulting action requires notification to the RC, for that action to be performed by the BA.

Likes 0

Dislikes 0

Response

Jennie Wike - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6 - WECC

Answer

No

Document Name

Comment

Tacoma Power does not agree with adding this proposed scope to the SAR. Communications regarding the capability and availability of BES resources under diverse ambient conditions is already covered under the IRO-010 and TOP-003 Standards. As part of these Standards, the RC and BA are required to communicate changes to generation capability and availability, which includes availability impacted by extreme cold weather. Adding this proposed scope to the SAR undermines the efforts of Project 2018-03, Standards Efficiency Review, to eliminate redundancy of requirements.

Likes 0

Dislikes 0

Response	
Jerry Horner - Basin Electric Power Cooperative - 1,3,5,6	
Answer	No
Document Name	
Comment	
Basin Electric believes the creation of a cold weather standard is not necessary. The use of existing standards such as TOP-003 and IRO-010 can be updated to include cold weather information of need to the RC, BA, and TOP.	
Likes	0
Dislikes	0

Response	
Richard Jackson - U.S. Bureau of Reclamation - 1,5	
Answer	No
Document Name	
Comment	
<p>Reclamation is opposed to a new standard to address extreme cold weather preparation. If a new standard must be adopted to address extreme cold weather preparation, Reclamation recommends the standard not apply to hydro generators. If a new standard must apply to hydro generators, Reclamation recommends the standard prescribe engineering and design controls for equipment to adequately withstand severe cold weather conditions, rather than plans to address facility design challenges.</p> <p>Cold weather is a subjective term that varies greatly throughout the NERC footprint. Reclamation recommends the SAR specify the geographical locations and weather conditions that are intended to be included in the scope of “cold weather conditions.”</p> <p>The proposed scope neglects to address generation units that have decades of historical operational data supporting that they were designed with cold weather in mind (specifically hydro units). These facilities can take no additional measures that would provide any meaningful impact on generation in any realistic scenario.</p> <p>The proposed requirement to develop cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location creates an administrative and financial burden for entities that already successfully operate in geographical locations that routinely experience cold weather, and does not meaningfully impact reliability in those locations. The addition of ambient weather conditions other than extreme cold weather vastly exceeds the reliability concern that elicited this SAR. Reclamation recommends that the SDT focus on a solution that tightly aligns with the scope of the original concern.</p> <p>Standards should not be imposed to address problems that are beyond the capabilities of human intervention or that are already accounted for in the facility’s design. A proposed standard that requires documented plans to address facility design challenges is only treating the symptom of not having facilities designed to adequately withstand severe cold weather conditions. A standard that prescribes engineering and design controls to address specific cold weather conditions would treat the root cause of the problem this SAR is trying to address. If facilities are designed for capabilities that are not typically used, these capabilities must be tested and verified to function properly when called upon (e.g., in an emergency).</p>	

Reclamation recommends that any proposed cold weather preparation requirements be in the form of a SERC regional variance to an existing standard; possibly EOP-011. If a continent-wide standard is required, it should not apply to hydro facilities.

Likes 0

Dislikes 0

Response

Russel Mountjoy - Midwest Reliability Organization - 10, Group Name MRO NSRF

Answer

No

Document Name

Comment

“These comments represent the MRO NSRF membership as a whole but would not preclude members from submitting individual comments”. The NSRF recommends that the Cold Weather SAR be retired and the Cold Weather SAR attributes (based on the NERC report) be in the proposed language of the updated Standards contained with the Standards Efficiency Review Phase 2 Operational Data Exchange Simplification Standard Authorization Request. The NSRF encourages the Cold Weather SAR DT to work with the Operational Data Exchange SAR DT to seek efficiencies in the scope where there overlap.

Regarding cold weather preparedness, the NSRF believe's it's not unreasonable to expect Generator Owners to implement cold weather plans, if they have commitments with a Balancing Authority to operate in those conditions. Therefore, if the drafting team moves forward with requirements for Generator Owners, then they should only apply to that subset of generators. It's also important to consider that a requirement to prepare will not safeguard against all forced outages in extreme conditions such as the January 2018 event that prompted this SAR.

The NSRF recommends the SAR maintain its focus on cold weather conditions only. It is the NSRF'sperspective that expansion of the SAR to include all forecasted ambient conditions will unnecessarily increase the administrative burden associated with compliance (without providing a corresponding commensurate reliability benefit) and detract from the clarity and intent of this requirement. As detailed in the SAR on page 4, real-time events adversely impacting the Bulk Electric System have all been tied to cold weather conditions.

In addition, the NSRF believes that limiting the scope of this requirement to cold weather conditions only, will support NERC's effort on Standards Efficiency Review; i.e. to “evaluate NERC Reliability Standards using a risk-based approach to identify potential efficiencies through retirement or modification of Reliability Standard Requirements [and] ... to identify potential candidate requirements that are not essential for reliability, could be simplified or consolidated, and could thereby reduce regulatory obligations and/or compliance burden.”

Likes 1

Tacoma Public Utilities (Tacoma, WA), 1,3,4,5,6, Wike Jennie

Dislikes 0

Response

Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable

Answer

No

Document Name**Comment**

As discussed in more detail in response to Question 2, RCs and BAs are already able to require GO/GOPs to provide information about when and how generator unit availability is expected to be affected by ambient weather conditions, pursuant to IRO-010-2 and TOP-003-3, respectively. Furthermore, with respect to those two standards, the SER Phase 2 Team's Operational Data Exchange Simplification SAR, currently posted for comment, suggests that "more clarity regarding the scope of the core BES reliability-related tasks would be beneficial and is desired. The scope of the data specification would then just reflect the information necessary to cover the scope of the core BES reliability-related tasks for the individual Registered Entity." The Operational Data Exchange Simplification SAR's proposed approach could reduce the administrative burden associated with TOP-003 and IRO-010, while clarifying the information to be requested and supplied. It does not make sense to use this concurrent SAR to try to specifically call out weather conditions.

Likes 0

Dislikes 0

Response**Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy****Answer**

No

Document Name**Comment**

Duke Energy offers the following comments:

Item 1.d:

1) Delete Item 1.d. since the Duke Energy GO/GOP does not interface with the fuel supplier.

2) If item 1.d. is not deleted, add the following as Item 2a. and revise language to read:

Provide notification (when available) of fuel supply curtailments to generating unit's Reliability Coordinator, Balancing Authority, or other appropriate personnel.

It is important to remove:

a) "advance" since fuel suppliers may not provide advance notifications, and

b) "natural gas supply/gas-fueled" since many fuel types are subject to limited fuel supply, including fuel oil, coal, or biomass, during prolonged periods of cold weather.

Item 2:

1) Rewrite Item 2. to include language from existing Item 1.d.:

Generator Owner/Generator Operator will communicate to the Balancing Authorities which will communicate with the Reliability Coordinator the generating unit's performance and operating limitations anticipated during ambient cold weather.

It is important to rearrange:

BA and GO/GOP since the BA will provide the evidence to satisfy Requirement.

Item 3:

1) Rewrite Item 3 as noted below:

Generator Owner/Generator Operator will communicate to the Balancing Authorities which will communicate with the Reliability Coordinator when forecasted ambient weather conditions (including, but not limited to, cold weather temperatures) are expected to impact generating unit performance or generating unit availability for the appropriate next day operating horizon.

It is important to rearrange:

BA and GO/GOP since the BA will provide the evidence to satisfy Requirement.

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6, Group Name Dominion

Answer

No

Document Name

Comment

The proposed expansion to all ambient weather conditions goes beyond the conclusions of the joint NERC/FERC report as well as of the intent of industry when the initial SAR was approved. The NERC Standards Committee approved the SAR based in no small part of the limitation to cold weather, as the discussion at the meeting indicated. The proposed expansion to all ambient weather impact has not been demonstrated to be a gap or deficiency or even a potential risk to the BES.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer

No

Document Name**Comment**

GRE recommends the SAR maintain its focus on cold weather conditions only. It is the GRE's perspective that expansion of the SAR to include all forecasted ambient conditions will unnecessarily increase the administrative burden associated with compliance (without providing a corresponding commensurate reliability benefit) and detract from the clarity and intent of this requirement. As detailed in the SAR on page 4, real-time events adversely impacting the Bulk Electric System have all been tied to cold weather conditions.

Likes 0

Dislikes 0

Response**George Brown - Acciona Energy North America - 5****Answer**

No

Document Name**Comment**

Acciona Energy North America Corporation (AENAC) does not agree with the Cold Weather Preparedness and Communication Requirements between Functional Entities Standards Authorization Request (CW SAR) scope.

AENAC believes that Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018 (The Report) are currently captured through energy market mechanisms, Good Utility Practice, as defined in the Pro Forma Open Access Transmission Tariff (OATT) and enforceable NERC Reliability Standards.

Notwithstanding, AENAC does recognize certain recommendations of The Report that align with the jurisdiction granted by the Energy Policy Act of 2005, §215 can assist in maintaining reliability.

AENAC recommends the CW SAR scope be modified as follows:

1. Ensuring that a Generator Owner (GO) has prepared its generation facility for cold weather conditions to meet its Facility Ratings as required by NERC Reliability Standard FAC-008-3 Facility Ratings (FAC-008).
2. Ensuring that a GO's Facility Ratings as required by FAC-008 are provided to all Functional Entities that may require them.
3. Ensuring that Generator Operator (GOP) is aware how to operate the generation facility, in cold weather conditions, to meet the Facility Ratings as required by FAC-008 for what the generation facility has been committed to provide to the Balancing Authority (BA), Transmission Operator (TOP) and Reliability Coordinator (RC)

Likes 0

Dislikes 0

Response**Daniel Gacek - Exelon - 1,3,5,6**

Answer	No
Document Name	
Comment	
<p>1) The addition of non-cold weather communication requirements, when the entire balance of the SAR is focused on cold weather, is confusing. Either the name / focus of the SAR should be changed to “Weather Preparedness”, or the “but not limited to cold weather” should be stricken from the Requirement.</p> <p>2) If warm weather is generally not impactful to BES reliability, i.e., no significant “hot weather events” with impacts similar to polar vortex events, the “but not limited to” adds nothing to the Standard.</p> <p>3) To develop operating plans, routine communications between BAs/RCs and the GOs/GOPs include availability concerns when hot and cold weather alerts are issued by system operators. Deliverable 3 should state, “The BA and RC notify generating units of forecasted ambient weather conditions that may impact generating units. The generating units implement their applicable plans and notify the BA and RC of any issues.”</p> <p>4) As noted above, proposed Requirements 3 and 4 are duplicate existing controls and can be removed from the SAR.</p> <p>5) Additionally, Exelon supports the comments submitted by EEI and NAGF on behalf of our industry.</p>	
Likes 0	
Dislikes 0	
Response	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	No
Document Name	
Comment	
<p>MISO supports comments submitted by the ISO/RTO Council (IRC) Standards Review Committee (SRC).</p> <p>MISO recommends the SAR maintain its focus on cold weather conditions only. It is MISO’s perspective that expansion of the SAR to include all forecasted ambient conditions has the potential to introduce human error in the form of oversight (in a standard otherwise dedicated to cold weather only) and unnecessarily increase the administrative burden associated with compliance (without providing a corresponding commensurate reliability benefit). As detailed in the SAR (page 4), real-time events adversely impacting the Bulk Electric System have all been tied to cold weather conditions.</p> <p>MISO believes that limiting the scope of this requirement to cold weather conditions will support NERC’s Standards Efficiency Review effort; i.e. to “evaluate NERC Reliability Standards using a risk-based approach to identify potential efficiencies through retirement or modification of Reliability Standard Requirements [and] ... to identify potential candidate requirements that are not essential for reliability, could be simplified or consolidated, and could thereby reduce regulatory obligations and/or compliance burden.”</p>	
Likes 0	
Dislikes 0	

Response	
Truong Le - Florida Municipal Power Agency - 4 - SERC	
Answer	No
Document Name	
Comment	
<p>RCs and BAs are already able to require GO/GOPs to make a notification when generator unit is available/unavailable in all ambient weather conditions as require in IRO-010-2 and TOP-003-3. It does not make sense to use this concurrent SAR to try to specifically call out weather conditions. This SAR will become a redundant burden on GO/GOPs.</p>	
Likes	0
Dislikes	0

Response	
Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>Madison Gas and Electric (MGE) thanks the SAR Drafting Team for their review and consideration of previous comments.</p> <p>MGE fully supports the TAPS position:</p> <p>As discussed in more detail in response to Question 2, RCs and BAs are already able to require GO/GOPs to provide information about when and how generator unit availability is expected to be affected by ambient weather conditions, pursuant to IRO-010-2 and TOP-003-3, respectively. Furthermore, with respect to those two standards, the SER Phase 2 Team’s Operational Data Exchange Simplification SAR, currently posted for comment, suggests that “more clarity regarding the scope of the core BES reliability-related tasks would be beneficial and is desired. The scope of the data specification would then just reflect the information necessary to cover the scope of the core BES reliability-related tasks for the individual Registered Entity.” The Operational Data Exchange Simplification SAR’s proposed approach could reduce the administrative burden associated with TOP-003 and IRO-010, while clarifying the information to be requested and supplied. It does not make sense to use this concurrent SAR to try to specifically call out weather conditions. MGE recommends that the Cold Weather SAR be retired and the Cold Weather SAR attributes be incorporated into the proposed language of the updated Standards contained with the SER SAR.</p>	
Likes	0
Dislikes	0

Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	No

Document Name**Comment**

The focus of the SAR was appropriately changed to emphasize the need for good communication between Balancing Authorities (BA), Reliability Coordinators (RC) and Generator Owners (GO) and Generator Operators (GOP) in preparation for and during cold weather events, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One (“Staff Report”). Enhancing communication between the GO/GOP and BA/RC during a cold weather event is appropriate for the SAR and is consistent with the issue identified in the Staff Report regarding GOs/GOPs taking proper steps to prepare for and communicate “generating unit design specifications and expected” performance during a cold weather event. Nevertheless, communications of generating unit availability and capability is already addressed within the current body of NERC Reliability Standards and the SDT should be careful not to create duplicate or similar requirements and confusion as on how to best meet compliance of any new requirements. Specifically, Standards IRO-010-2, Requirement R1 and TOP-003-3, Requirement R2 require the RC and BA to establish the data necessary for them to fulfill their reliability functions. NERC Project 2014-03, which resulted in the development of Reliability Standards IRO-010-2 and TOP-003-3, directly addressed existing (at the time) requirements related to the communication of generating unit availability and capability to the Reliability Entities (i.e., RC, BA, TOP) while providing the appropriate level of flexibility for the RC and BA to specify the data appropriate for their reliability needs in their respective areas.

The IRO-010-2 and TOP-003-3 standards require the GO and GOP to provide any information specified by the RC and the BA, respectively, with the purpose of supporting Operational Planning Analyses, Real-time Monitoring and Real-time Assessments. Data, as referred to in these Standards, is not limited to static information but includes real-time data feeds and event-driven notifications, such as forecasted ambient weather conditions’ impact on unit availability and capability projections as needed by the applicable RC and BA. Therefore, we ask the SDT to carefully review these existing requirements with an eye toward minimizing duplication in favor of providing clarity on how best to ensure that the “accuracy of their generating units’ ambient temperature design specifications” are effectively communicated in advance of predicted cold weather

Additionally, we are concerned that the expansion of the SAR to include all ambient weather conditions is overreaching and inconsistent with the intent of the original SAR and is not supported by the Staff Report or any other known source. The Staff Report details an effort that conducted an extensive investigation and reviews over many months to determine the findings and recommendations. The Staff Report indicates no concern with all ambient conditions. It is premature to consider a change in scope without justification to support its expansion.

Even if the SAR were to be expanded to include all ambient conditions, “ambient weather” in and of itself can mean any change in weather conditions and attempting to define it for purposes of this SAR will unnecessarily take time and focus away from the intent of the original request which was based on the cold weather findings of the Staff Report.

Comment on Purpose or Goal:

EEL suggests the following revised language for the SAR Purpose statement to better articulate the desired recommendations as stated within the Staff Report:

To ensure that cold weather performance plans for generating units are developed, implemented and communicated in order to maintain generating resource availability within performance capabilities or operating limitations.

Comments on Project Scope (Detailed Description)

In the opening statement, we have a number of concerns. First, we suggest changing the statement “The deliverable will be” to “The deliverable may be”. Next, we suggest adding the phrase “as appropriate” after “revised Reliability Standards”. Finally, the addition of “maximize generating unit availability” is not a term or phrase that should be used within a NERC SAR or Reliability Standard. The phrase is ambiguous because it is not clear what is meant by “maximize”. Additionally, there is no explanation for why BAs, RCs, GOPs or GOs might need to maximize the availability generating units for reliability purposes. The purpose of Reliability Standards is to ensure an adequate level of reliability is provided and maintained in the Bulk Power System. The use of the term “maximize” should be deleted since it disregards and creates an expansion of the clear purpose of Reliability Standards to provide an adequate level of reliability.

In the first item under the detailed description, the SDT proposes adding “a generating units historical demonstrated performance and limitations during ambient cold weather.” Aside from the issues using the word ambient previously discussed, basing a Reliability Standard requirement on prior

generator unit performance during cold weather is both challenging and could yield results that are of questionable value. It is important to recognize that many factors impact a unit's performance, not just weather. A unit could have been down for maintenance or it may not have been economical to run the unit. Basing performance on historical data from days with similar weather would produce inconsistent and inaccurate results.

In item b and c. "and technologies" was removed. Removing this term may limit the availability of options for responsible entities to mitigate the effects of cold weather, while also unnecessarily removing one of the recommendations within the Staff Report.

In item d, the SDT proposes to include gas supply within the scope of the requirements. However, narrowly tailoring a requirement to one fuel type has not been justified and would be prejudicial and is thus unsuitable for a NERC requirement. As the recent NERC Fuel Assurance Guidance indicates, planners would be the more appropriate party to determine fuel supply constraints for modeling purposes by the BA and RC. In addition, a GO/GOP may not even be aware of a potential fuel issue until the fuel supply is curtailed. Consequently, placing this burden on the GO/GOP would not enhance the ability of the BA or RC to appropriately address the issue. For all these reasons, the proposed expansion of scope is not appropriate for cold weather preparedness and enhanced communication.

Item 2: Please see our comments and concerns as described above for Item 1 on using historical data to predict and require future performance. A GO/GOP should communicate if a unit is not going to be able perform as committed but communicating on speculative items could potentially harm the ability of the BA and RC to appropriately plan and manage the grid during a cold weather event. Moreover, we agree with the Staff Report which states that GO/GOP needs to 1) validate the "accuracy of their generating units' ambient temperature design specifications"; 2) incorporate "accurate ambient temperature design specifications and expected generating unit performance, including for peak winter conditions" into GO/GOP plans, procedures and training for operating generating units; and 3) report this information to responsible RCs and BAs. (See Staff Report page 87)

Item 3: In the detailed scope, expanding the scope to include all ambient weather conditions in a project narrowly defined to address cold weather is inappropriate. Using forecasted weather conditions is risky because forecasts vary widely for the same time period and change quickly. If a weather forecast is specified, it should be for no more than a day-ahead forecast from a single forecast source and should be consistently used to prevent divergent results. Nevertheless, if it is desired that all routine communications between BAs/RCs and the GOs/GOPs regarding availability concerns for issued weather alerts by system operators then we suggest changing Item 3 to simply stating the following:

Upon notification by the responsible BA and/or RC of forecasted cold weather conditions that may impact GO/GOP generating units, responsible GOs/GOPs shall take action to implement their applicable operating plans to mitigate the impacts and notify the BA and RC of their actions as well as any issues that might diminish generating unit performance.

Item 4: EEI suggests the following alternative language for SDT consideration:

Reliability Coordinators and Balancing Authorities receiving generator unit performance and availability data, as communicated in Item 3, should factor identified resource limitations into their respective Operational Planning Analysis, develop a modified Operating Plan, which considered expected resource availability and necessary contingency reserves for the next day operating horizon.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC

Answer

No

Document Name

Comment

As stated in previously submitted comments, we believe that the BAs and RCs are already well-equipped to address generator availability - including winter preparedness - with their GOs/GOPs without the need to create a mandatory Reliability Standard. Creating a Standard such as this would only place an administrative burden on GOs/GOPs while doing little to advance reliability.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6, Group Name OKGE

Answer

No

Document Name

Comment

Oklahoma Gas & Electric supports Edison Electric Institute's (EEI) responses to Question 1 and 2.

Likes 0

Dislikes 0

Response

Douglas Webb - Great Plains Energy - Kansas City Power and Light Co. - 1,3,5,6 - MRO, Group Name Westar-KCPL

Answer

No

Document Name

Comment

Westar Energy and Kansas City Power & Light, Evergy companies, incorporate by reference Edison Electric Institute's response to Question 1.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 1,3,6

Answer

No

Document Name

Comment

Ameren agrees with and supports EEI comments.

Likes 0

Dislikes 0

Response

Scott Berry - Indiana Municipal Power Agency - 4 - RF

Answer

No

Document Name

Comment

Indiana Municipal Power Agency (IMPA) does not believe a SAR is needed to create a standard to include communication between entities, and we agree with the options proposed by Transmission Access Policy Study (TAPS) group. Further, we fully support the comments submitted by Rebecca Baldwin representing TAPS.

Likes 0

Dislikes 0

Response

Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC

Answer

No

Document Name

Comment

The SRC recommends the SAR to be reworded to recognize the fact that RC is not mapped in the functional registry to GO or GOP. Recommend that the GO/GOP provide the information to the BA and TOP, BA will provide the information to RC.

In addition, the SRC recommends the SAR maintain its focus on cold weather conditions only. It is our perspective that expansion of the SAR to include all forecasted ambient conditions has the potential to introduce human error in the form of oversight (in a standard otherwise dedicated to cold weather only) and unnecessarily increase the administrative burden associated with compliance (without providing a corresponding commensurate reliability benefit). As detailed in the SAR (page 4), real-time events adversely impacting the Bulk Electric System have all been tied to cold weather conditions.

Finally, the SRC believes that limiting the scope of this requirement to cold weather conditions will support NERC's Standards Efficiency Review effort; i.e. to "evaluate NERC Reliability Standards using a risk-based approach to identify potential efficiencies through retirement or modification of Reliability Standard Requirements [and] ... to identify potential candidate requirements that are not essential for reliability, could be simplified or consolidated, and could thereby reduce regulatory obligations and/or compliance burden."

Comment supported by PJM, NYISO, CAISO, MISO, ISO-NE, IESO

Likes 0

Dislikes 0

Response

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer

No

Document Name

Comment

Minnesota Power agrees with the following aspects of NSRF's comments:

Regarding cold weather preparedness, the MRO's NERC Standards Review Forum (NSRF) believes it's not unreasonable to expect Generator Owners to implement cold weather plans, if they have commitments with a Balancing Authority to operate in those conditions. Therefore, if the drafting team moves forward with requirements for Generator Owners, then they should only apply to that subset of generators. It's also important to consider that a requirement to prepare will not safeguard against all forced outages in extreme conditions such as the January 2018 event that prompted this SAR.

The NSRF recommends the SAR maintain its focus on cold weather conditions only. It is the NSRF's perspective that expansion of the SAR to include all forecasted ambient conditions will unnecessarily increase the administrative burden associated with compliance (without providing a corresponding commensurate reliability benefit) and detract from the clarity and intent of this requirement. As detailed in the SAR on page 4, real-time events adversely impacting the Bulk Electric System have all been tied to cold weather conditions.

In addition, the NSRF believes that limiting the scope of this requirement to cold weather conditions only, will support NERC's effort on Standards Efficiency Review; i.e. to "evaluate NERC Reliability Standards using a risk-based approach to identify potential efficiencies through retirement or modification of Reliability Standard Requirements [and] ... to identify potential candidate requirements that are not essential for reliability, could be simplified or consolidated, and could thereby reduce regulatory obligations and/or compliance burden."

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

No

Document Name

Comment

Xcel Energy supports the comments of EEI. In support, we offer additional comments below.

We are concerned that the SAR as proposed includes direction to create a Standard around very general and difficult to define conditions. It is likely that each Generator Owner/Operator will be uniquely situated geographically and in terms of equipment such that a standardized set of ambient weather conditions may widely impact the level of effort need to develop and implement a compliance based program.

For example, the SAR suggests taking into consideration the generator's historical demonstrated performance. What determines an acceptable history? The performance of a generator 20 years ago in similar weather conditions may not accurately predict present day performance. It may be impossible to put enforceable bounds on this type of assessment. Another ambiguity introduced in the SAR is the assessment of the periodic adequate maintenance. We caution the drafting team to avoid attempting to define what adequate means. Also, an effective periodicity of review of the freeze protection measures may be a difficult target to define.

Also, we believe the definition of weather conditions addressed by the SAR needs to be more clearly defined. We believe some of the terminology present in the SAR is somewhat ambiguous and not consistent throughout as to what conditions affected entities will be required to plan for and respond to. For example, the SAR includes the terms "all ambient weather impacts," "ambient cold weather," "cold weather events," and "forecasted ambient weather conditions (including, but not limited to, cold weather expected temperatures)." We believe the latter phrase could lead to scope drift if not specifically defined, as it could be interpreted to include other weather or ambient conditions such as hot weather, heavy precipitation, wind, tornadoes, flooding, and other conditions that could conceivably impact BES reliability.

We support the SAR's conclusion that these requirements already exist in existing Standard Requirements. There already exists a linkage between TOP-002-4, TOP-003-3, and IRO-010-2 in that the TOP, BA, and RC would not be able to perform their Operational Planning Analysis without knowing what its generators were going to be capable of during the Operating Day. The Data Specifications should already identify generator limitations due to weather as that is necessary to accurately conduct an OPA. Also, any lost capability should be included in the RC's outage coordination methodology and thus shared with affected entities per the IRO-017-1 requirements. The caution for the drafting team is that those Standards were intentionally edited in prior Standards Development projects to reduce the specificity of individual data items. That effort was undertaken to allow the recognized need for flexibility and customization necessary for the various operating entities. There is no real need to have a detailed freeze protection plan, costly equipment, and periodic reviews for generators located in regions that experience freezing temperatures only a few hours in a decade.

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Yes

Document Name

Comment

Removing the word "extreme" is a good idea. However, I think that "Cold Weather" needs to be well defined. In the report there are many adjectives used to describe Cold Weather, such as unusual, extremely below-normal, below-average, colder, severe. The new standard should not put additional administrative tasks on owners/operators that normally operate annually in "cold weather".

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer	Yes
Document Name	
Comment	
<p>Black Hills Corporation (BHC) supports communication between functional entities when generator units availability is effected by ambient weather conditions. As noted by the National American Generator Forum (NAGF) Comments – we agree that this type of deliverables are met through existing Tariffs, Operating Agreements, Interconnection Agreements, ISO Market rules, BA Surveys, and other existing standards such as IRO-010, TOP-003, TPL-001. As noted by the NAGF and BHC agree, the SAR does not provide additional reliability.</p>	
Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
<p>The standard should address all weather conditions (hot, hurricanes, tornadoes, flooding, draught, etc.) not just cold weather. Also, since the South Central Cold Weather Event Report utilizes the term “extreme” 84 times when referring to weather or cold weather, “extreme” should be re-introduced into the SAR.</p>	
Likes 0	
Dislikes 0	
Response	
LaTroy Brumfield - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
<p>The addition of communication of information to relevant functional entities is appropriate because this communication is essential to reliable operation of the electric system. The SAR as currently drafted, though, still leaves a reliability gap by not requiring the Generator Owner(s) and Generator Operator(s) to also provide this information to their respective Transmission Operator (TOP). The TOP is required to perform an Operational Planning Analysis (OPA) under TOP-002, similar to what is required of the Reliability Coordinator (RC) under IRO-008. As such, the TOP needs this information for an accurate OPA of its TOP area. More significantly, the TOP, not the RC, is responsible for ensuring sufficient reactive resources for the upcoming operating period under VAR-001. Generation availability is critical to voltage and reactive power management. By not having the updated information on generation availability, the TOP cannot ensure there will be sufficient reactive resources available, which creates a reliability gap. As an example, for the northern states where extreme cold conditions do occur, the reliability risk may become more acute with the integration of more wind resources and the retirement of more traditional generation. As seen during the last two polar vortex events, wind resources appear to be almost universally susceptible to</p>	

extreme cold weather conditions, such as not being able to operate below ~-20 degrees F. For TOPs, the loss of MWs and Mvars from such resources impacts the TOP's ability to conduct an accurate OPA and ensure that sufficient reactive resources will be available for the system. Because the TOP is required to perform an OPA, like the RC, and the TOP is the only entity mandated to ensure sufficient reactive resources will be available, the SAR should require communication of generator information to the TOP, in addition to the RC

Likes 0

Dislikes 0

Response

Ginette Lacasse - Public Utility District No. 1 of Chelan County - 1,3,5,6

Answer

Yes

Document Name

Comment

Upon further consideration of this SAR, we would like to change our answer to NO.

We concur with Tacoma Power comments. Please refer to their comments.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

No Comments.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Yes

Document Name

Comment

Talen Energy supports the comments being submitted to NERC by the North American Generation Forum (NAGF).

Likes 0

Dislikes 0

Response

Wayne Sipperly - NAGF - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Yes

Document Name

Comment

The North American Generator Forum (NAGF) supports communication between functional entities when generator unit availability is expected to be affected by all ambient weather conditions. However the NAGF believes the deliverables of the SAR are presently met through existing Tariffs, Operating Agreements, Interconnection Agreements, ISO market rules, BA Surveys, and other existing Standards such as IRO-010, TOP-003, and TPL-001. These existing documents, procedures, rules, and standards could be revised to address specific weather related communication if needed, but most likely already suffice as the GO/GOP must satisfy the obligations of documented specifications to assist in Real-time monitoring and planning assessments.

The NAGF does not agree that the addition of non-cold weather communication requirements within the SAR provides additional reliability. Warm weather is not typically impactful to the reliability of the BES with the same significance as extreme cold weather events. Again, we believe that the routine communication requirements in existing standards address these issues.

Likes 0

Dislikes 0

Response

Kenisha Webber - Entergy - NA - Not Applicable - SERC

Answer

Yes

Document Name

Comment

This communication between generators and BAs should already happen but I understand that it is not included in any existing Reliability Standard, so I am OK including it here. The BA should also understand that severe weather conditions will affect reliability of units with conditions that may exceed the design criteria of the units. These instances do not happen very often so it is not possible to find everything on a generating unit that may make it trip under these conditions. ISO/BA should do what most Utilities have done in the past, dispatch extra units as a contingency for reliability of the generation on the system, with the assumption that a certain percentage of the generators will trip under certain conditions. It seems that every ISO/BA is learning this all over again. Under severe weather conditions, you cannot just dispatch for economics and assume all units will be reliable.

I don't think there is a need for addressing all weather issues in this standard. This should only address severe cold weather, which is very different and more impactful than hot weather. Additionally, clarity of functional entities is needed.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer

Yes

Document Name

Comment

DTE Electric supports comments submitted by the NAGF.

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 1,3,5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott McGough - Georgia System Operations Corporation - 3,4

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Andrea Barclay - Georgia System Operations Corporation - 3,4

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Hillary Dobson - Colorado Springs Utilities - 1,3,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Cantwell - Lower Colorado River Authority - 1,5, Group Name LCRA Compliance	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no NGrid	
Answer	
Document Name	
Comment	
<p>On item 3, GO/GOP should communicate with the TOP as well as the BA and RC.</p> <p>On item 4, the TOP, as well as the BA and RC should use performance and availability information in OPAs.</p>	
Likes 0	
Dislikes 0	
Response	
Carl Pineault - Hydro-Quebec Production - 1,5	
Answer	
Document Name	

Comment

We support RSC comment

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer**Document Name****Comment**

Texas RE recommends the SAR include utilization of Real-time data. The SAR discusses RC and BA utilization of parameter in operation planning studies (OPA, Operating Plans, reserves for next day operating horizon), but does not address utilization of parameters in Real-time (RTA, Real-time monitoring). By ignoring Real-time analysis and monitoring, the SAR does not address cold weather events where actual temperatures are more severe than forecasted temperatures and actions are needed in Real-time to account for these unexpected conditions.

For example, the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 states *“The forecasts improved somewhat, but even the forecasts for January 15 (two days ahead) were 3 to 8 degrees higher than the minimum temperature observed on January 17.”* Additionally, the report states *“The analyses and resulting next-day Operating Plans were completed by late afternoon on January 16, and thus could not reflect the significant amount of additional unplanned generation outages, derates and failures to start which occurred overnight, and the impacts of the higher power transfer levels and decreased system voltage levels resulting from those losses.”* Together, these facts support the need to include consideration of these parameters for Real-time analysis and monitoring in addition to day-ahead studies.

Additionally, Texas RE recommends the SAR include TOP applicability for cold weather preparedness. According to the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 *“Transmission Operators have a similar requirement to perform daily OPAs, and prepare Operating Plans to address the OPA’s findings, under TOP-002-4 R1&R2.”* On page 50, the report states *“Transmission Operators have a similar requirement to perform real-time assessments, under TOP-001-4, Requirement R13”* which reinforces the need to address utilization of parameters in Real-time (RTA, Real-time monitoring).

In the FERC/NERC Staff Report on the 2011 Southwest Cold Weather Event the following is stated : *“Transmission Operators and Balancing Authorities should obtain from Generator Owner/Operators their forecasts of real output capability in advance of an anticipated severe weather event; the forecasts should take into account both the temperature beyond which the availability of the generating unit cannot be assumed, and the potential for natural gas curtailments.”* The 2011 Report also states, when discussing capability of transmission facilities performance during cold weather conditions, the following: *“Transmission Owner/Operators should determine the ambient temperature to which their equipment, including fire protection systems, is protected (taking into account the accelerated cooling effect of wind), and ensure that temperature requirements are met during operations.”*

Texas RE recommends the SAR differentiate between the GOP and GO function. Registered entities are not always registered for both functions.

Texas RE requests the SAR drafting team to consider adding a specific requirement for GOs, GOPs, and TOPs to submit cold weather data to the BA and RC. Communication from a GOP to RC is not covered in COM-001-3 so there is no Requirement to have Interpersonal Communications nor test those Interpersonal Communications between these two functions. Data specifications in IRO-010 may or may not contain all information needed and could result in gaps in understanding and operating.

Likes 0	
Dislikes 0	
Response	

2. If you have any additional comments on the SAR, please provide them here.

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

We support the comments of EEI and believe the SDT should remain focused on the recommendations contained in Staff Report and limit changes to the SAR to those recommendations.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment

DTE Electric supports the additional comments submitted by the NAGF.

Likes 0

Dislikes 0

Response

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer

Document Name

Comment

Minnesota Power agrees with NSRF's comments for question 2.

Likes 0

Dislikes 0

Response

Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC

Answer

Document Name

Comment

Existing SAR Language:

2. Generator Owner/Generator Operator communicates with the Balancing Authorities, Transmission Operators and Reliability Coordinators the generating unit's associated historical demonstrated performance and operating limitations during ambient cold weather.

Suggested Language:

2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Transmission Operators, and provides the generating unit's associated historical demonstrated performance and operating limitations during ambient cold weather. Balancing Authorities communicate operating limitations to its Reliability Coordinators.

Please note Paragraph 2 can easily be incorporated into paragraph 3.

Existing SAR Language:

3. Generator Owner/Generator Operator communicates with the Balancing Authorities, Transmission Operators and Reliability Coordinators when forecasted ambient weather conditions (including, but not limited to, cold weather temperatures) are expected to impact generating unit performance or generating unit availability for the appropriate next day operating horizon.

Suggested Language:

3. Generator Owner/Generator Operator communicates with the Balancing Authorities and Transmission Operators when forecasted ambient weather conditions (including, but not limited to, cold weather temperatures) are expected to impact generating unit performance or generating unit availability for the appropriate next day operating horizon. Balancing Authorities communicate operating limitation to the Reliability Coordinators.

Existing SAR Language:

4. Reliability Coordinators, Transmission Operators and Balancing Authorities use of the generating unit performance and availability provided through deliverable #3 above to perform their respective Operational Planning Analysis, develop its Operating Plans, or determine the expected availability and contingency reserves for the appropriate next day operating horizon

Suggested Language:

Suggest adding TOP standards to the scope of SAR. Paragraph 4 is already included in TOP-003 (for BA) and IRO-008 (for RC).

Comment supported by PJM, NYISO, CAISO,MISO, ISO-NE, IESO

Likes 0

Dislikes 0

Response

Carl Pineault - Hydro-Qu?bec Production - 1,5

Answer

Document Name	
Comment	
<p>We are aware of the FERC order, but we would like to raise our concerns about this new standard. All of our generators are located in areas where, each year, they already experience cold weather and extreme cold weather in north of Quebec. We already have cold weather preparations and procedures in place, our operators are trained for these conditions, our units are designed to handle very cold temperatures, ... A new standard/modification of standards would be time consuming and additional administrative burden without an appreciable increase in reliability.</p>	
Likes	0
Dislikes	0
Response	
Scott Berry - Indiana Municipal Power Agency - 4 - RF	
Answer	
Document Name	
Comment	
<p>This SAR should not proceed and agree with the options proposed by the Transmission Access Policy Study Group (TAPS). IMPA agrees with and fully supports the comments submitted by Rebecca Baldwin representing TAPS.</p>	
Likes	0
Dislikes	0
Response	
David Jendras - Ameren - Ameren Services - 1,3,6	
Answer	
Document Name	
Comment	
<p>Ameren agrees with and supports EEI comments.</p>	
Likes	0
Dislikes	0
Response	
Douglas Webb - Great Plains Energy - Kansas City Power and Light Co. - 1,3,5,6 - MRO, Group Name Westar-KCPL	
Answer	

Document Name

Comment

Westar Energy and Kansas City Power & Light, Evergy companies, incorporate by reference Edison Electric Institute's response to Question 2.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6, Group Name OKGE

Answer

Document Name

Comment

Oklahoma Gas & Electric supports Edison Electric Institute's (EEI) responses to Question 1 and 2.

Likes 0

Dislikes 0

Response

Kenisha Webber - Entergy - NA - Not Applicable - SERC

Answer

Document Name

Comment

Freeze protection and seasonal readiness has always been a focus at our company. All plants have PM's set up in our maintenance management system and some procedures to address this. This is all, good prudent operation of our plants, with that, it is very difficult to remedy all situations when these severe conditions do not apply very often, with that if good plans are in place, but a unit still trips, they should not be held accountable (violation of the standard) for these instances.

Overall, this standard is beneficial and should help the industry.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC

Answer	
Document Name	
Comment	
<p>IRO-010-2 and TOP-003-3 already give RCs and BAs, respectively, the authority to require GO/GOPs to provide information about generator unit availability and how it is expected to be affected by ambient weather conditions. If some BAs and RCs are not requesting this information when necessary, or if GO/GOPs are failing to provide it when requested, the standards should be clarified if needed and enforced accordingly. The SDT noted in response to comments on the first posting of the SAR that those standards “do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment,” but there is no need for such specificity; the standards require BAs and RCs to maintain “[a] list of data and information” that they need to carry out their responsibilities.</p> <p>Additionally, the SER Phase 2 Team’s Operational Data Exchange Simplification SAR, currently posted for comment, suggests that “more clarity regarding the scope of the core BES reliability-related tasks would be beneficial and is desired. The scope of the data specification would then just reflect the information necessary to cover the scope of the core BES reliability-related tasks for the individual Registered Entity.” This proposed approach could reduce the administrative burden associated with TOP-003 and IRO-010, while clarifying the information to be requested and supplied. This would be more efficient and effective than creating another SAR to try to address issues arising from weather conditions. Generating units being available when called upon is a planning issue and the standards that require the communication of this information already exist.</p> <p>It does not make sense from an economic or reliability perspective to winterize every generator in all regions, as not all regions experience the same cold weather conditions. Furthermore, Section 215(i)(2) of the Federal Power Act does not give NERC authority over the “adequacy... of electric facilities.” If there were a widespread need to retrofit generators to withstand colder temperatures, it would not be a problem that NERC could solve with a Reliability Standard. If the SDT decides to continue with its focus on increasing generating unit availability, it must at a minimum avoid creating the type of requirements that the SER initiative has been focused on retiring and revising, and instead strive for a results-based standard. The approach proposed by the Cold Weather SAR – creating and implementing a cold weather preparedness plan – may offer increased reliability, but it will not be results-based and will add an administrative burden to every GO/GOP.</p> <p>To conclude, the NERC Statement of Compliance Registry Criteria defines the BA as “[t]he responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real-time.” BAs should be studying the effects of all extreme conditions, including cold weather, well ahead of the operating horizon and preparing operating plans to mitigate the risk of shortages.</p>	
Likes	0
Dislikes	0
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	
Document Name	
Comment	
<p>EEl supports a requirement for a GO/GOP to have a winterization plan (including appropriate maintenance and training), execute it, and communicate its completion to the RC/BA, prior to the onset of winter weather.</p> <p>Nevertheless, the SDT should remain focused on the recommendations contained in Staff Report and limit changes to the SAR to those recommendations and not attempt to solve problems that there is no basis for concern.</p>	

Likes 0

Dislikes 0

Response

Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6

Answer

Document Name

Comment

It is MGE's position that this SAR is not needed. As noted in TAPS's response to Question 1, IRO-010-2 and TOP-003-3 already give RCs and BAs, respectively, the authority to require GO/GOPs to provide information about generator unit availability and how it is expected to be affected by ambient weather conditions. The SDT noted in response to comments on the first posting of the SAR that those standards "do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment," but there is no need for such specificity; the standards require BAs and RCs to maintain "[a] list of data and information" that they need to carry out their responsibilities. Indeed, as noted by City Utilities of Springfield in its comments on this SAR, NERC's 2013 petition for approval of the TOP-003 requirements referenced above stated that the requirements "emphasize the need for Transmission Operators and Balancing Authorities to obtain all of the data that they need for reliability purposes and mandate that entities that have this data and that are requested to supply it, provide it to the Transmission Operator and Balancing Authority in an approved and timely manner." Plainly, information about the impact of the weather on generator availability falls into the category of necessary information. And in much of the United States - MISO, PJM, and ISO-NE, for example - such information is in fact routinely requested and used. If requesting and communicating generator capability and availability information is in fact currently within the scope of the IRO-010 and TOP-003 standards, then any failure by registered entities to request or supply such information appears to be a shortcoming in executing the CMEP. If additional clarity is required, then TAPS recommends that the communication aspect of the Cold Weather SAR be transferred to the SER Phase 2 Operational Data Exchange Simplification SAR with the goal of clarifying core BES reliability-related tasks and their associated data specifications.

Generating units being unavailable when called upon, due to cold weather or other foreseeable problems, is a planning issue: the BA and RC should know the temperature constraints of the units in their areas, and should take those constraints into account in their planning, including calculating reserve margin. As described above, the standards requiring the necessary information exchange already exist.

In response to comments, the SDT states that market incentives for generators to avoid unexpected unit unavailability are inadequate because "plant freezing issues continue to occur when precautions have not been taken to prevent freezing during these [c]onditions." Our response to that assertion is threefold. First, even given perfect information, a perfectly-maintained new plant may fail to synch on a blue-sky day. But the BA should have adequate operating reserves (that are rated to operate under then-current conditions) to withstand such a contingency. Second, it does not make sense from an economic or reliability perspective to winterize every generator in all regions, some of which may see a handful of hard freezes during a unit's useful life. We should not be charging ratepayers to harden facilities when the issue can be addressed through communications and planning. Finally, and perhaps most importantly, Section 215(i)(2) of the Federal Power Act does not give NERC authority over the "adequacy... of electric facilities." If there were a widespread need to retrofit generators to withstand colder temperatures - which TAPS does not believe to be the case - it would not be a problem NERC could solve with a standard.

TAPS strongly believes that this SAR should not proceed, and that if it does, it should be rolled into the Operational Data Exchange Simplification SAR and handled as a planning/communications issue, as described above. To the extent the SDT nevertheless decides to focus on increasing generating unit availability, it must at minimum avoid creating the type of requirements that the SER initiative has been focused on retiring and revising, and instead strive for a results-based standard. As stated in Order 672 (P 331), standards "should be designed to apply throughout the interconnected North American Bulk-Power System, to the maximum extent this is achievable with a single Reliability Standard," and "should not be based on a single geographic... model but should take into account geographic variations in... weather, and other such factors." Any standard prescribing actions that should reasonably be taken by registered entities in Florida, Minnesota, and California would necessarily be vague. Development and implementation of a cold weather preparedness plan, as contemplated by the SAR, might improve unit availability in cold weather; but such an approach is not results-based, and would create a new administrative burden for every GO/GOP. On the other hand, a results-based requirement could, for example, be based on unit availability when called to run (with a proviso that unavailability only "counts" where the BA and RC requested and received accurate information

about the unexpectedly unavailable generator's constraints, and they factored that information into their plans). Such a requirement would result in generators being penalized twice for failure to start - first by the market and then, if too many failures occurred, by NERC - but would at least avoid creating additional paperwork for those generators whose procedures are already adequate.

Finally, we note that the NERC Statement of Compliance Registry Criteria defines the Balancing Authority as “[t]he responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real-time.” BAs are thus the entities that should be studying the effects of all extreme conditions, including cold weather, well ahead of the operating horizon and preparing operating plans to mitigate the risk of shortages. It is within the BA's purview to commit more generation online and maintain more operating reserves as needed to ride through an event. If market monitors are hindering that activity to minimize costs, then FERC needs to decide whether reliability or economics takes precedence in this matter. In addition, as noted above, we question whether forcing generators to winterize is overall the more economic option.

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 1,5, Group Name LCRA Compliance

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Truong Le - Florida Municipal Power Agency - 4 - SERC

Answer

Document Name

Comment

FMPA does not believe this SAR is needed. The deliverables of the SAR are presently met through existing Tariffs, Operating Agreements, Interconnection Agreements, ISO market rules, BA Surveys, and other existing Standards such as IRO-010, TOP-003, and TPL-001. Generating units being unavailable when called upon, due to weather or other foreseeable problems, is a planning issue: the BA and RC should know the temperature constraints of units in their areas and should take those constraints into account to plan adequate reserve margin. Additionally, even a perfectly maintained plant with the best in class operating practices has a risk of failing to sync on a blue-sky day. It does not make sense economically or reliably to enforce a single standard requiring winterization of all generation, some of which are nearing the end of life and others regionally may only

see freezing temperatures once every several decades. Most importantly, Section 215(i)(2) of the Federal Power Act does not give NERC authority over the “adequacy... of electric facilities.” As such, FMPA strongly believes that this SAR should not proceed forward.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Document Name

Comment

MISO supports comments submitted by the ISO/RTO Council (IRC) Standards Review Committee (SRC).

In addition, MISO is supportive of the direction the SDT has taken and offers the following comments to enhance clarity or improve the quality of the SAR.

Generating Unit versus Generating Facilities - For clarity and to more clearly indicate inclusivity of renewables, MISO recommends the term “generating unit” be replaced with "generating Facilities" throughout.

Flexibility to Accomodate Lack of Historical Performance - Currently the SAR references “historical demonstrated performance” in items 1a and 2 under Detailed Description (page 2). MISO recommends the SDT modify the language to encompass generating Facilities that are new or those with a limited amount of “historical demonstrated performance” during cold weather conditions by providing an alternate means of providing anticipated output and availability information (see FAC-008, R1, part 1.1 as an example, excerpt below).

- Design or construction information such as design criteria, ratings provided by equipment manufacturers, equipment drawings and/or specifications, engineering analyses, method(s) consistent with industry standards (e.g. ANSI and IEEE), or an established engineering practice that has been verified by testing or engineering analysis.

- Operational information such as commissioning test results, performance testing or historical performance records, any of which may be supplemented by engineering analyses.

Availability and Output - The *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* discusses the need to maximize generator *output and* availability where as the Detailed Description of the SAR (page 2) states:

“The deliverable will be new or revised Reliability Standards to promote reliability of the BES during cold weather and maximize generating unit availability.”

Of the two, if forced to make a choice, MISO would agree that it is more important to ensure generator start-up (availability) than full output (as a derate is less impactful); however, if the intent of the SAR is to address both, MISO recommends the language on page 2 be modified to state:

Suggested Language: “The deliverable will be new or revised Reliability Standards to promote reliability of the BES during cold weather and maximize generating unit output and availability.”

SAR Time Horizon and Related Standards (page 4) - Currently, the SAR calls out a few related standards (i.e. IRO-010-2 and TOP-003-3) and then goes on to state that, “The Operating and Planning suite of standards will be considered for this project.” MISO is supportive of this effort.

The section then goes on to reference “Real-time monitoring and Real-time Assessments.” Currently, the aspect of Real-time operations is not clearly articulated in the scope of the SAR as the majority of actions correspond to the Operations Planning (i.e. “for the appropriate next day operating horizon;” bullet items 3-4) or Long-Term Planning (i.e. “develops and implements cold weather preparedness plans, procedures and awareness training” bullet item 1) horizons.

- Develops and implements plans – Reliability impacts of extreme weather conditions (see EOP-011-1, R2, part 2.2.9)
- Next Day Operating Horizon - **Operations Planning** (see IRO-008-2, R1/R2; IRO-010-2; and R4 (BA); TOP-003-3)
- Generator Operator Training – **Long-Term Planning** (see PER-006-1)

MISO requests the SDT provide clarification whether the SAR is intended to address same-day operations and Real-time operations. If the latter, MISO requests the drafting team identify which items this is applicable to; e.g. bullet item 2 (page 2).

Reliability Principles (page 5) - MISO recommends box 6 be checked to indicate that training of generator operations personnel is supported by this project.

6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1,3,5,6

Answer

Document Name

Comment

1) The “deliverable” statement includes “... during cold weather and maximize generating unit availability”. Statement implies that any generation availability less than 100% during cold weather, which may extend for half a year in some places, is unacceptable. Recommend re-writing statement to be: “... to promote reliability of the BES and improved generating unit availability during cold weather.”

2) It is recognized that the revised draft SAR, with increased flexibility to reflect geographical location and generating unit specific considerations, is an improvement over the initial issue. However, the lack of an international standard for “cold”, and the variability of equipment installations and protections, mitigation measures, and legal limitations on determining and transmitting non-public gas curtailment information, make Deliverable 1, items (b), (c), and (d) both insufficient and too detailed. Recommend folding Deliverable 1(a) into the body of the deliverable, and deleting items (b), (c), and (d). These are details the SDT can work out.

3) Given that the driver of concern in the 2018 cold weather event is lack of plans and/or failure to execute, the Deliverable should be limited to requiring registered entities to have cold weather preparation plans, and carrying them out.

4) Additionally, Exelon supports the comments submitted by EEI and NAGF on behalf of our industry.

Likes 0

Dislikes 0

Response	
George Brown - Acciona Energy North America - 5	
Answer	
Document Name	
Comment	
<p>More often than not, dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, output capabilities, are driven by ambient weather conditions. Through NERC Reliability Standards IRO-010-2 Reliability Coordinator Data Specification and Collection (IRO-010) and TOP-003 -3 Operational Reliability Data (TOP-003), Generator Owner (GO) and Generator Operator (GOP) are required to transmit/communicate specified data for Operational Planning Analyses, Real-time monitoring and Real-time Assessments. The Reliability Coordinator (RC), Balancing Authority (BA) and Transmission Operator (TOP), collectively Reliability Entities, prescribe these specifications based on what they believe they require for the purposes of reliability for their respective function. As such, mandating specific data/communications beyond what the Reliability Entities request could become burdensome and detract from reliability, especially when considering constantly changing ambient conditions and dispersed power producing resources.</p> <p>Further, NERC has undertaken the Standards Efficiency Review (SER) with the overall project scope including identifying “potential candidate requirements that are not essential for reliability, could be simplified or consolidated, and could thereby reduce regulatory obligations and/or compliance burden.” The SER Phase 2 scope and approach intends to “reduce inefficiencies and unnecessary regulatory burdens for the purpose of supporting continued safe, secure and reliable operations.” AENAC feels that anything beyond the Cold Weather Preparedness and Communication Requirements between Functional Entities Standards Authorization Request (CW SAR) scope recommended in the response to question one, would in fact be a departure from SER Phase 2’s scope. SER Phase 2 has initiated the SAR Operational Data Exchange Simplification which has a secondary purpose of removing other data exchange requirements dispersed in standards. Any data specification for the purpose of reliability should be identified through that SAR project.</p>	
Likes	0
Dislikes	0
Response	
Michael Brytowski - Great River Energy - 1,3,5,6 - MRO	
Answer	
Document Name	
Comment	
GRE has no further comments	
Likes	0
Dislikes	0
Response	

Answer

Document Name

Comment

The addition of 'maximize generating unit availability' is not appropriate for a reliability standard. Units may or may not be available for any number of reasons and the identified issue related to the communications of the unit being able to perform as committed. The unit availability issue is more of a market related issue and not a reliability issue. The communication to the BA/RC of the unit being able to meet it's commitments appears to be the issue.

In the first item under detailed description, the SDT proposes adding 'a generating units historical demonstrated performance and limitations during ambient cold weather'. Aside from the issues using the word ambient previously discussed, basing a reliability standard requirement on prior performance during cold weather is problematic. Many factors impact a units performance, not just weather. A unit could have been down for maintenance or it may not have been economical to run the unit. Basing performance based on historical data from days with similar weather would produce inconsistent and inaccurate results and this scope change should be deleted.

In item d, the SDT proposes to include gas supply within the scope of the requirements. This would appear to be based on the joint NERC/FERC report. Narrowly tailoring a requirement to one fuel type would appear to be prejudicial and is inappropriate for a NERC requirement. Also, the GO/GOP would not be the appropriate entity to address fuel supply issues. As the recent NERC guidance document outlined, the planning horizon and the planners would be the more appropriate party to determine fuel supply constraints for the BA and RC to model around. The GO/GOP may not even be aware of a potential fuel issue until the fuel supply is curtailed, so placing this burden on the GO/GOP would not enhance the ability of the BA or RC to appropriately address the issue. Dominion Energy recommends deleting this expansion of scope as not appropriate to the issues being addressed, namely cold weather preparedness and enhanced communication.

Please see the comments above for item 2 on using historical data to predict and require future performance. A GO/GOP could communicate if a unit is not going to be able perform as committed, but communicating on speculative items could actually harm the ability of the BA and RC to appropriately plan and manage the grid during a cold weather event.

On item 3 in the detailed scope, Dominion Energy continues to have concerns about expanding the scope to include all ambient weather conditions in a project narrowly defined to address cold weather. Dominion Energy also has concerns about using forecasted weather conditions, as forecasts can vary widely for the same time period and change quickly. If a weather forecast is specified, it should be no more than a day ahead forecast and a single forecast source should be consistent used to prevent divergent results.

Finally, item #4 should be deleted in its entirety as depending on facts and circumstances an RC or BA may choose not to use data provided by the GO/GOP, and requiring it to use data that may be problematic, inaccurate, or deemed unreliable for any reason would be extremely detrimental to BES reliability.

Likes 0

Dislikes 0

Response

Answer	
Document Name	
Comment	
<p>Duke Energy offers the following additional comments;</p> <p>1) Duke Energy supports the NAGF comment:</p> <p>"NAGF supports a Cold Weather Standard that requires GO/GOPs to perform the following process-based enhancements:</p> <p>a) Develop Cold Weather Preparedness Plans and Procedures.</p> <p>b) Develop and Implement Operator awareness training for Cold Weather Preparedness.</p> <p>c) Implement Cold Weather Preparedness Plans and Procedures."</p> <p>2) Duke Energy echoes the concerns of the NAGF requiring unit availability data for all ambient weather conditions. With the focus of the SAR being on Cold Weather generator performance events, Duke Energy would like to see the emphasis to provide unit availability data for cold weather conditions only.</p> <p>3) Duke Energy generally supports the changes made to the SAR and the comments provided by EEI through the expansion of the scope to include communication requirements between functional entities; but additional changes are necessary. Specifically, EEI's position on the Industry Need Statement that tying this obligation to "all ambient weather impacts" without requiring the development of reasonable performance expectations, will make it difficult for entities to comply with the requirement because the requirement could be interpreted to mean that any change in weather could result in scrutiny of all weather-related conditions and, consequently, make compliance audits subjective. For this reason, the SDT should consider reviewing the current language to better align with the Results Based Standards model such as adding the following as the second sentence in the industry need section of the SAR:</p> <p>"Additionally, to ensure communications between functional entities for weather related events that may exceed resource performance capabilities impacting generator unit availability."</p> <p>4) Finally, as stated by EEI regarding "Comments on Detained Description", Duke Energy does not support the use of the term "ambient cold weather" because it does not improve the clarity of the current term used in the SAR (extreme cold weather).</p>	
Likes 0	
Dislikes 0	
Response	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	

Document Name**Comment**

This SAR is not needed. As noted in TAPS's response to Question 1, IRO-010-2 and TOP-003-3 already give RCs and BAs, respectively, the authority to require GO/GOPs to provide information about generator unit availability and how it is expected to be affected by ambient weather conditions. The SDT noted in response to comments on the first posting of the SAR that those standards "do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment," but there is no need for such specificity; the standards require BAs and RCs to maintain "[a] list of data and information" that they need to carry out their responsibilities. Indeed, as noted by City Utilities of Springfield in its comments on this SAR, NERC's 2013 petition for approval of the TOP-003 requirements referenced above stated that the requirements "emphasize the need for Transmission Operators and Balancing Authorities to obtain all of the data that they need for reliability purposes and mandate that entities that have this data and that are requested to supply it, provide it to the Transmission Operator and Balancing Authority in an approved and timely manner." Plainly, information about the impact of the weather on generator availability falls into the category of necessary information. And in much of the United States - MISO, PJM, and ISO-NE, for example - such information is in fact routinely requested and used. If requesting and communicating generator capability and availability information is in fact currently within the scope of the IRO-010 and TOP-003 standards, then any failure by registered entities to request or supply such information appears to be a shortcoming in executing the CMEP. If additional clarity is required, then TAPS recommends that the communication aspect of the Cold Weather SAR be transferred to the SER Phase 2 Operational Data Exchange Simplification SAR with the goal of clarifying core BES reliability-related tasks and their associated data specifications.

Generating units being unavailable when called upon, due to cold weather or other foreseeable problems, is a planning issue: the BA and RC should know the temperature constraints of the units in their areas, and should take those constraints into account in their planning, including calculating reserve margin. As described above, the standards requiring the necessary information exchange already exist.

In response to comments, the SDT states that market incentives for generators to avoid unexpected unit unavailability are inadequate because "plant freezing issues continue to occur when precautions have not been taken to prevent freezing during these [c]onditions." Our response to that assertion is threefold. First, even given perfect information, a perfectly-maintained new plant may fail to synch on a blue-sky day. But the BA should have adequate operating reserves (that are rated to operate under then-current conditions) to withstand such a contingency. Second, it does not make sense from an economic or reliability perspective to winterize every generator in all regions, some of which may see a handful of hard freezes during a unit's useful life. We should not be charging ratepayers to harden facilities when the issue can be addressed through communications and planning. Finally, and perhaps most importantly, Section 215(i)(2) of the Federal Power Act does not give NERC authority over the "adequacy... of electric facilities." If there were a widespread need to retrofit generators to withstand colder temperatures - which TAPS does not believe to be the case - it would not be a problem NERC could solve with a standard.

TAPS strongly believes that this SAR should not proceed, and that if it does, it should be rolled into the Operational Data Exchange Simplification SAR and handled as a planning/communications issue, as described above. To the extent the SDT nevertheless decides to focus on increasing generating unit availability, it must at minimum avoid creating the type of requirements that the SER initiative has been focused on retiring and revising, and instead strive for a results-based standard. As stated in Order 672 (P 331), standards "should be designed to apply throughout the interconnected North American Bulk-Power System, to the maximum extent this is achievable with a single Reliability Standard," and "should not be based on a single geographic... model but should take into account geographic variations in... weather, and other such factors." Any standard prescribing actions that should reasonably be taken by registered entities in Florida, Minnesota, and California would necessarily be vague. Development and implementation of a cold weather preparedness plan, as contemplated by the SAR, might improve unit availability in cold weather; but such an approach is not results-based, and would create a new administrative burden for every GO/GOP. On the other hand, a results-based requirement could, for example, be based on unit availability when called to run (with a proviso that unavailability only "counts" where the BA and RC requested and received accurate information about the unexpectedly unavailable generator's constraints, and they factored that information into their plans). Such a requirement would result in generators being penalized twice for failure to start - first by the market and then, if too many failures occurred, by NERC - but would at least avoid creating additional paperwork for those generators whose procedures are already adequate.

Finally, we note that the NERC Statement of Compliance Registry Criteria defines the Balancing Authority as "[t]he responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real-time." BAs are thus the entities that should be studying the effects of all extreme conditions, including cold weather, well ahead of the operating horizon and preparing operating plans to mitigate the risk of shortages. It is within the BA's purview to commit more generation online and maintain more operating reserves as needed to ride through an event. If market monitors are hindering that activity to minimize costs, then FERC

needs to decide whether reliability or economics takes precedence in this matter. In addition, as noted above, we question whether forcing generators to winterize is overall the more economic option.

Likes 0

Dislikes 0

Response

Russel Mountjoy - Midwest Reliability Organization - 10, Group Name MRO NSRF

Answer

Document Name

Comment

“These comments represent the MRO NSRF membership as a whole but would not preclude members from submitting individual comments”.

The SAR DT should also consider the following recommendations to improve the clarity of the SAR.

[Generating Facilities versus Generating Unit]

For clarity and to more clearly indicate inclusivity of renewables, the NSRF recommends the term “generating unit” be replaced with generating Facilities throughout.

lexibility to Accomodate Lack of Historical Performance (page 2)

Currently the SAR references “historical demonstrated performance” in items 1a and 2 under Detailed Description (page 2). The NSRF recommends the SDT modify the language to encompass generating Facilities that are new or those with a limited amount of “historical demonstrated performance” during cold weather conditions as follows:

Suggested Language:

- 1.a. A generating unit’s Facilities’ historical demonstrated performance or design specifications and operating limitations during ambient cold weather;
2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators the generating unit’s Facilities’ associated historical demonstrated performance and operating limitations during ambient cold weather.

Availability and Output

The *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* discusses the need to maximize generator *output and* availability where as the Detailed Description of the SAR (page 2) states:

“The deliverable will be new or revised Reliability Standards to promote reliability of the BES during cold weather and maximize generating unit availability.”

The NSRF recommends to not include language that includes “maximize generator output”.

SAR Time Horizon and Related Standards (page 4)

Currently, the SAR calls out a few related standards (i.e. IRO-010-2 and TOP-003-3) and then goes on to state that, “The Operating and Planning suite of standards will be considered for this project.” The NSRF is supportive of this effort.

The section then goes on to reference “Real-time monitoring and Real-time Assessments.” Currently, the aspect of Real-time operations is not clearly articulated in the scope of the SAR as the majority of actions correspond to the Operations Planning (i.e. “for the appropriate next day operating horizon;” bullet items 3-4) or Long-Term Planning (i.e. “develops and implements cold weather preparedness plans, procedures and awareness training” bullet item 1) horizons.

- Develops and implements plans – Reliability impacts of extreme weather conditions (see EOP-011-1, R2, part 2.2.9)
- Next Day Operating Horizon - **Operations Planning** (see IRO-008-2, R1/R2; IRO-010-2; and R4 (BA); TOP-003-3)
- Generator Operator Training – **Long-Term Planning** (see PER-006-1)

The NSRF requests that the SDT provide clarification whether the SAR is intended to address same-day operations and Real-time operations. If the latter, the NSRF requests the drafting team identify which items this is applicable to; e.g. bullet item 2 (page 2).

Reliability Principles (page 5)

The NSRF recommends box 6 be checked to indicate that training of generator operations personnel is supported by this project.

6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Likes 0

Dislikes 0

Response

Wayne Sipperly - NAGF - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF supports a Cold Weather Standard that requires GO / GOPs to perform the following process-based enhancements:

- Develop Cold Weather Preparedness Plans and Procedures
- Develop and implement Operator awareness training for Cold Weather Preparedness
- Implement Cold Weather Preparedness Plans and Procedures

Any changes to existing or new standards should be process-based versus performance-based and written to allow for Continent-wide flexibility in meeting the requirements based on differences in geography, generator-type, design and regional ambient temperatures.

The NAGF takes exception to the phrase “maximize generating unit availability” This statement is too broad and open to interpretations. GO / GOPs may have robust Cold Weather Preparedness Programs and Implementation; that will not guarantee that a unit will be available during extreme cold

weather. A Cold Weather Preparation standard will improve generator unit availability during extreme winter conditions, but it is not a guarantee that the unit will be at maximum availability.

As stated above, the NAGF supports GO / GOP communication of generator availability and limitations. However NAGF membership questions the value of providing "Item 1.a. historical demonstrated performance and operating limitations during 'ambient' cold weather". As stated in the previous SAR, the NAGF believes the addition of specific Cold Weather Cause Codes and Failure mechanisms to the GADs, WADS and developing SADs data systems would provide the necessary data moving forward without an undue administrative burden.

Recommend to revise Item 1.c. to state "Perform periodic maintenance and inspection of freeze protection measures;". The present wording can be misinterpreted to imply that any cold weather-related power generation limitation or outage indicates that the measures taken were inadequate, but many such incidents are not maintenance or inspection-related. They often derive instead from weather conditions that exceed the design capability of equipment (e.g. clogging of combustion turbine inlet air filters due to blizzard-level snowfall rates) or are impossible to mitigate (e.g. cooling water inlets becoming blocked due to rivers icing-over).

Recommend to revise Item 1.d. to remove the word "advanced" regarding notification of natural gas supply curtailments. It is unlikely that pipeline companies will provide such advance notifications. GO/GOPs can only pass-along curtailment notifications after they are received from pipeline companies (i.e. after-the-fact, not before-the-fact).

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

Document Name

Comment

Reclamation supports the comments provided by the North American Generator Forum.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Document Name

Comment

Talen Energy supports the additional comments being submitted to NERC by the North American Generation Forum (NAGF), and adds the following points:

The word, "curtailments," in item 1.d of the SAR should be defined:

- Supply pressure reductions making it impossible to achieve full output, or
- Complete shut-off of fuel, or
- Both of the above

Clarification is also needed for the word, "advance" in item 1.d:

- If it means that GO/GOPs are to pass-along curtailment announcements made by natural gas pipeline companies (i.e. after-the-fact information), we hope but cannot guarantee that such notifications will be received in advance of the supply pressure reductions or fuel shutoff. Also, this task could be addressed in the data specifications of existing standards IRO-010 and TOP-003; a new standard is not needed.
- If it means that GO/GOPs must attempt to obtain and pass-along curtailment plans in advance of the time they are made public (before-the-fact information), the SAR team should seek advice from NERC's legal staff as to whether or not such inputs could be considered market insider information, in which case it might be inappropriate or even illegal in deregulated markets for GO/GOPs (which are heavily involved in power and fuel trading) to seek, have or pass-along this information.

We believe that the requirements proposed for GOs and GOPs should be made applicable also for TOs and DPs. These entities perform critically important winter preparation activities, and the proposed standard would be greatly weakened if failing to encompass all parties involved in ensuring BES reliability in this respect.

Likes 0

Dislikes 0

Response

Jerry Horner - Basin Electric Power Cooperative - 1,3,5,6

Answer

Document Name

Comment

Additionally:

1. We believe a new NERC standard addressing cold weather would only add regulatory burden with little or no benefit to our generation fleet.
2. We successfully operate more than 30 units multiple days each year in temperatures ranging from -20 to -40 F within states such as ND, SD, MT, and Wyoming.
3. Perhaps a regional standard should be considered addressing those units that had difficulty operating in cold weather.
4. Each generation facility has existing cold and warm weather plant procedures which are executed, and are UNIQUE to each facility. This uniqueness is based upon different physical designs at each facility.

5. We believe this cold weather issue is 'self policing' based upon the fact if a generation unit is bid into the market and has any type of issue to produce power, this becomes a financial burdent for several reasons. Replacement power must be purchased, typically causing a financial loss, but also we do not recieve the expected generation income.

Likes 0

Dislikes 0

Response

Jennie Wike - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6 - WECC

Answer

Document Name

Comment

The SDT did not comprehensively address the comments provided by other entities in regards to existing Standard Requirements providing sufficient scope for the ERO to hold entities accountable for cold weather preparation. Tacoma Power understands that this Standards Project is initiated from the report titled, *2019 FERC and NERC Staff Report: The South Central United States Weather Bulk Electric System Event of January 17, 2018*. This report concludes that the existing regulatory framework is not sufficient in preventing cold weather events.

However, this report does not include justification as to why a new Standard is needed versus modifying existing Standards to include additional assurances. Tacoma Power recommends a detailed justification or analysis that evaluates the merits of a standalone Standard. This justification/analysis should, at a minimum, consider the following existing Standards:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak.

As part of this analysis/justification, Tacoma Power recommends that the SDT clearly articulate why the existing Standard Requirements do not provide sufficient scope to hold entities accountable, and how the new Standard would differ from these existing Requirements. This additional evaluation will help entities understand the scope of these changes, what needs to be implemented that isn't already in place for existing Standards, and the impacts of the new requirements.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Document Name

Comment

No Comments.

Likes 0

Dislikes 0

Response

Bret Galbraith - Seminole Electric Cooperative, Inc. - 1,3,4,5,6

Answer

Document Name

Comment

The scope of the deliverable of the SAR under Section 1.d. requires the advance notification of curtailments of natural gas supply to an entity's RC and BA. However, natural gas scheduling curtailments occur frequently within the industry and requiring notification to the RC of every individual curtailment (when available) could result in a flood of information to the RC that does not require the RC's review, i.e., false alarms.

Because of this reasoning, Seminole requests the SAR language for this Section to be revised to only address some type of qualitative or quantitative physical curtailment that could result in BES reliability issues.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 4,5,6

Answer

Document Name

Comment

NO.

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Document Name

Comment

Comments: The standard should address all weather conditions (hot, hurricanes, tornadoes, flooding, draught, etc.) not just cold weather. Also, since the South Central Cold Weather Event Report utilizes the term "extreme" 84 times when referring to weather or cold weather, "extreme" should be re-introduced into the SAR.

Comments: How does the SAR address the confirmation of fuel switching capability since the South Central Cold Weather Event Report indicates that only four of the seven BAs had procedures in plant to test dual-fuel generating units, especially considering that 40 of 55 units in SERC successfully switched to their secondary fuel sources which provided the needed energy supply?

Comments: How will the SAR ensure that RCs will take the necessary numerous mitigating measures to maintain BES reliability when outages occur during extreme weather conditions as mentioned in the South Central Cold Weather Event Report?

Comments: How will the SAR ensure that SOLs will be based on, at a minimum, ambient temperature conditions instead of summer temperatures or on static, year-round ratings as mentioned in the South Central Cold Weather Event Report?

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer

Document Name

Comment

The majority of the comments I reviewed from the previous Drafting team solicitation for comments indicated strong disapproval. Many of the responses by the drafting team were repetitive in defending this SAR. The Drafting Team should remand the SAR back to SPP for a Regional standard, and the Drafting Team be disbanded..

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer	
Document Name	
Comment	
<p>Black Hills Corporation (BHC) does not agree with the SAR in that it is mandating additional Operator Awareness Training for Cold Weather Preparedness. All of our generators are located in areas that we experience “Cold Weather” as the norm, and thus our units are designed to handle cold temperatures. We therefore have winter preparations, plans, and annual preventative measures already in place that address our facilities being ready to deal with ambient weather conditions. A training on our units operational conditions that is normal for us, would be considered a waste of our operators time and provides nothing for the reliability of the bulk electrical system.</p> <p>BHC supports the NAGF with their comments on: the phrase “maximize generating unit availability”; “providing historical demonstrated performance & operating limitations during ambient cold weather”; and the noted recommendations for Item 1.c. & 1.d.</p>	
Likes	0
Dislikes	0
Response	

Comments received by Southern Company

Q1 - Southern Company believes that the communication of generating unit availability and capability under all ambient conditions is already addressed in existing NERC Reliability Standards. Specifically, Standards IRO-010-2, Requirement R1 and TOP-003-3, Requirement R2 require the Reliability Coordinator (“RC”) and Balancing Authority (“BA”) to establish the data necessary for them to fulfill their reliability functions. NERC Project 2014-03, which resulted in the development of Standards IRO-010-2 and TOP-003-3, directly addressed existing (at the time) requirements related to the communication of generating unit availability and capability to the Reliability Entities (i.e., RC, BA, TOP) while providing the appropriate level of flexibility for the RC and BA to specify the data appropriate for their reliability needs in their respective areas.

Furthermore, these IRO-010-2 and TOP-003-3 standards require the Generator Owner and Generator Operator to provide any information specified by the Reliability Coordinator and the Balancing Authority, respectively, with the purpose of supporting Operational Planning Analyses, Real-time Monitoring and Real-time Assessments. Data, as referred to in these Standards, is not limited to static information but includes real-time data feeds and event-driven notifications, such as forecasted ambient weather conditions’ impact on unit availability and capability projections as needed by the applicable RC and BA.

For each of the following Standards and Requirements, the Mapping Document for Project 2014-03 indicates a clear and definitive correlation with TOP-003-3, Requirement R5 and, in most cases, with IRO-010-2, Requirement R3:

Former Standard Former Requirement(s)

- TOP-001-1a R7 (incl. sub-parts)
- TOP-002-2.1b R3, R13, R14 (incl. sub-parts) and R15
- TOP-003-1 R1, Part 1.1
- TOP-006-3 R1, Part 1.1

Project 2014-03 SDT intentionally consolidated multiple existing Requirements in the development of IRO-010-2, Requirement R3 and TOP-003-3, Requirement R5 to include all information needed from Generator Owners and Generator Operators relative to Operational Planning, Monitoring and Assessments conducted by the RC, BA and TOP.

The development of an additional Standard addressing these types of communications for the same purpose would be duplicative, unnecessary, and potentially impose avoidable conflicts and associated compliance risks for any nuances between the data, as well as its format and required timing for communication. The duplicative nature of Requirements was a common theme in the justifications presented by the Standard Efficiency Review (SER) Phase I Team in their recent recommendations for retiring NERC Reliability Standards and Requirements. The vast majority of the Standards and Requirements recommended for retirement were approved by FERC, indicating the Commission's acknowledgement that duplicative Requirements are unnecessary.

Q2 - Southern Company supports a requirement for a GO/GOP to have a winterization plan (including appropriate maintenance and training), execute it, and communicate its completion to the RC/BA, prior to the onset of winter weather. Southern Company also supports the dissemination of historical demonstrated performance and operating limitations by the GO/GOP to the RC and BA.

However, Southern Company believes that applicability of any new requirement should be limited to address the aforementioned GO/GOP standard gaps and has a concern over imposing unnecessary additional requirements for the RC and BA as described in Deliverable 4 . Specifically, as described in Question 1, there are already existing requirements for the RC and BA to specify all data needed to perform their respective reliability functions in IRO-010-2 and TOP-003-3, which necessarily includes data related to generating unit availability and capability from GOs and GOPs. Furthermore, other existing Standards and Requirements already require the RC and BA to utilize this data to perform the necessary reliability functions for all ambient conditions experienced in operations, including extreme weather conditions, or as a result of gas curtailments. For example, TOP-002-4 requires the BA to have a next-day Operating Plan that addresses the expected generation commitment and dispatch as well as capacity and energy reserve requirements, including deliverability capability and to communicate the plan to its RC. Similarly, EOP-011-1 requires the BA to develop, maintain, and implement a plan to mitigate Capacity Emergencies and Energy Emergencies within its BA. This includes processes to prepare for and mitigate Emergencies including managing generating resources to address generator capability and availability, fuel supply concerns and reliability impacts of forecasted ambient weather conditions. Adding additional RC and/or BA requirements as contemplated in Deliverable 4 would be duplicative, unnecessary, and potentially impose avoidable conflicts and associated compliance risks with the existing standards that cover all the necessary reliability functions performed by the RC/BA.

Consideration of Comments

Project Name: 2019-06 Cold Weather | Standard Authorization Request

Comment Period Start Date: 10/4/2019

Comment Period End Date: 11/5/2019

There were 42 sets of responses, including comments from approximately 95 different people from approximately 76 companies representing 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact Vice President of Engineering and Standards [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. [Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.](#)
2. [Provide any additional comments for the SAR drafting team to consider, if desired.](#)

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Westar Energy	Douglas Webb	1,3,5,6	MRO,SPP RE	Westar-KCPL	Doug Webb	Westar	1,3,5,6	MRO
					Doug Webb	KCP&L	1,3,5,6	MRO
Public Utility District No. 1 of Chelan County	Jeff Kimbell	1,3,5,6		CHPD	Davis Jelusich	Public Utility District No. 1 of Chelan County	6	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Amber Skillern	East Kentucky Power Cooperative	1	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Adrienne Collins	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					William D. Shultz	Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern	6	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						Company Generation		
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no NGrid	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Helen Lainis	IESO	2	NPCC
					Sean Cavote	PSEG	4	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Kathleen Goodman	ISO-NE	2	NPCC
					David Kiguel	Independent	NA - Not Applicable	NPCC
					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Shivaz Chopra	New York Power Authority	5	NPCC
					Mike Forte	Con Ed - Consolidated Edison	4	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Ashmeet Kaur	Con Ed - Consolidated Edison	5	NPCC
					Caroline Dupuis	Hydro Quebec	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					Laura McLeod	NB Power Corporation	5	NPCC
					Randy MacDonald	NB Power Corporation	2	NPCC
					Gregory Campoli	New York Independent System Operator	2	NPCC
					Quintin Lee	Eversource Energy	1	NPCC

1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope please provide your recommendation and explanation.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer No

Document Name

Comment

This standard may be necessary for specific generation types in climates where sudden severe winter weather may be a threat, but for many generators in northern climates this standard will be a burden. NERC has put out guidance on winter weather preparedness, and this should be sufficient.

Likes 0

Dislikes 0

Response: Thank you for your comment. In addition, the SAR DT revised the SAR to provide flexibility among the geographical regions. Regarding the winter weather preparedness guidance, it is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

AEP takes cold weather preparedness very seriously, and has developed and implemented procedures to ensure unit reliability for cold weather. In addition, NERC’s own Reliability Guideline “Generating Unit Winter Weather Readiness”, has been in effect for some time now. In its own words, this document provides a “framework for developing an effective winter weather readiness program for generating units throughout North America” and guidance “on maintaining individual unit reliability and preventing future cold weather related events.” We believe entities need the flexibility of engineering judgement to design and implement their own procedures to prepare for cold weather outside of prescriptive obligations. Original unit types, design, age, and geographic locations all drive what unique preparatory steps should be taken, making prescriptive obligations undesirable and perhaps even inappropriate. As generation types continue to evolve, winter weather preparation is taken into account more than ever before.

In addition, it should be noted that RTOs often provide their own guidance such as PJM’s as found in [PJM Manual 14D](#) attachment N: Cold Weather Preparation Guideline and Checklist. This is one of several guidance documents that is already available and emphasize reviewing lessons learned after each event and implementations of defenses to prevent recurrence. Once this is in place it creates an living effort that focuses improvements in areas of specific need that directly translates to continual improvement of the process that is in place. ERCOT already has a suitable mechanism in place, which has proven itself in practice. In addition, we are now seeing that REs are heading in a similar direction as well.

In addition, EOP-011 already addresses weather preparedness in an appropriate manner. Functional Entities, such as the TOP and BA, have checklists and attestations required for Generator weatherization. Improvements to weather preparedness have been significantly improved since 2011, with increased awareness and action plans driven by NERC recommendations.

In summary, NERC guidelines, RTO guidance and checklists, and existing NERC requirements, all collectively provide an effective framework for cold weather preparedness.

Likes	0
Dislikes	0

Response: Thank you for your comment. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions. In addition, the SAR DT revised the SAR to provide flexibility among the geographical regions. The SAR DT reviewed other standards and deemed additional modifications may be required based on the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

Regarding the winter weather preparedness guidance, it is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Jim Nail - City of Independence, Power and Light Department - 1,3,5

Answer

No

Document Name

Comment

Requirements already exist to inform others concerning the status of Facilities. RC/BA/TOP have the authority to include any status/data they deem necessary in their Facility Data requests. Whether a GO/GOP maintains their Facilities ready for dispatch is properly a Market function rather than a Reliability function. Declaring a Facility as available and then failing to bring it on line could be dealt with using Market penalties rather than imposing a new continent wide Standard. For many entities, the documentation of cold weather preparations and maintenance would be an additional administrative burden without an appreciable increase in Reliability.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although economics and reliability go hand in hand, the focus of the SAR is reliability issues related to cold weather preparedness. Market issues are beyond the authority of the SAR drafting team. The SAR DT reviewed other

standards and deemed additional modifications may be required based on the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer No

Document Name

Comment

The information in the SAR does not suggest any exemptions or qualifiers are being considered. Reclamation recommends limiting the applicability of a future NERC standard on cold weather preparedness to entities located in geographic areas that don't normally see harsh winter conditions and excluding hydro generators from applicability. As the SAR is presently written, the future standard will result in an administrative burden that offers no increase in reliability for facilities that normally operate in a cold winter environment.

Reclamation agrees with the proposal for Generator Owners and Generator Operators to develop winterization plans and procedures. The SAR appears to propose winterization preparedness requirements that are not prescriptive, which will allow facilities that need certain cold weather preparedness methods to implement those methods while allowing other facilities to implement different appropriate methods. If the proposed standard does not include the above exemptions, it is important to allow different entities with different equipment to develop winterization procedures that are appropriate for their needs.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Jeff Kimbell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name CHPD

Answer No

Document Name

Comment

The SPP SAR addresses issues experienced in the Southern portion of the Mid-Continent Regional Transmission Organization. The SAR therefore seeks to address a regional event on national basis, with implications for all of North America.

Many generators operate in areas of regular cold weather and have operated reliably for many years, based on their design for this environment, as well as existing operations planning and procedures. Events in the The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 report show the potential unpreparedness of some utilities that do not operate in this environment. While the SAR addresses those that may not be prepared for winter weather, this is not the case for most utilities in North America. Any standard should focus on those not in cold climates, or limit any additional compliance obligations to those who do operate in cold weather to a simple response of preparedness rather than multiple documentation and training requirements specific to cold weather. Our maintenance and operating procedures, practices and the design of our plants are for reliable operation in cold environments. Practices to operate in cold conditions are embedded in existing documentation, rather than specific procedures or documents that would meet this very specific, prescriptive list. Our designs are for cold environments. Many of the problems identified in the report will not happen at northern facilities because the systems are designed around them.

Additionally, multiple past cold weather Events have included natural gas supply availability as an issue. This is not applicable to large hydro plants on a major river such as the Columbia.

The list of requirements to be included in the standard provide little to no additional value to those GOPs that operate in cold weather areas and would create a significant regulatory burden. A more appropriate solution would be to limit the applicability of the standard to specific geographic regions where cold weather is an anomaly and not include regions where this weather is in the normal and planned operating range.

Specific comments for the list contained in the SAR are provided below.

1. *Generator Owner/Generator Operator develops winterization plans, procedures, and winter-specific and plant-specific operator awareness training. Additional elements to consider may include:* These are unnecessary for GO and GOP that operate in regularly cold regions and simply create additional evidence burdens.
 - a. *Generating unit availability;* Normally reported, and not a significant cold weather dependent issue with hydro generation on a major river, such as the Columbia.

b. *Parameters around operating temperatures;* Parameters don't change, as we are designed and operate for cold weather as a matter of course.

c. *Implementing freeze protection measures and technologies;* These are in place in cold regions, but not specifically identified. Identification and implementation would be an additional burden.

d. *Performing periodic adequate maintenance and inspection of freeze protection measures and technologies;* This is part of normal processes and maintenance: What is adequate for a plant that operates in a cold region is minimal and in place, or it would routinely not be operable. Evidence documentation would be an unnecessary burden with no improvement to reliability.

e. *Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.* Our generation is 100% hydro and this is not applicable.

2. *Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance.* The capacity of our generation type (hydro) does not change based on cold weather conditions, unlike other generation types such as gas and wind that have been affected by cold weather.
3. *Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units for the appropriate next day operating horizon.* This is unnecessary, as availability is already reported to the BA. Cold weather does not change that for those who operate in cold climates.
4. *Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected availability and contingency reserves for the appropriate next day operating horizon.* This is already performed as a matter of course for our system and would not benefit from additional mandatory requirements.

Likes	0
Dislikes	0

Response: Thank you for your comments. Although it is understood that plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer No

Document Name

Comment

City Utilities is not opposed to creating a new Reliability Standard or modifying an existing one to ensure resource availability or capability for the BES if necessary. However, we believe the scope of the SAR is too narrow and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during various ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a Standard to only address the cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff

recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Marty Hostler - Northern California Power Agency - 5,6

Answer No

Document Name

Comment

No. I don't feel this is a reliability issue. This is Market issue. If a Generator cannot start up and has been selected by BA to run; then there are financial penalties to encourage keeping the unit available to run when called on.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although economics and reliability go hand in hand, the focus of the SAR is a reliability issues related to cold weather preparedness. Market issues are beyond the authority of the SAR drafting team. The SAR DT reviewed other standards and deemed additional modifications are required based on the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer No

Document Name

Comment

GRE recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. GRE also recommends more technical information be posted on this topic before deciding on a course of action to

take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

While GRE is opposed to creating a new Reliability Standard; we would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, GRE believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT encourages you to review the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

The SAR drafting team chose to keep the SAR focus to cold weather preparedness, which is consistent with the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* Recommendation one.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Jerry Horner - Basin Electric Power Cooperative - 1,3,5,6

Answer No

Document Name

Comment

Basin supports comments generated by MRO NSRF, as follows:

The NSRF recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. The NSRF also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

The NSRF is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, the NSRF believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

1. Provide any additional comments for the SAR drafting team to consider, if desired.

Comments: If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.

- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes	0
Dislikes	0

Response: Thank you for your comment. (1) The SAR drafting team encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. (2) The SAR drafting team determined to keep the SAR focus to cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation one. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. (3) The SAR drafting team revised the SAR to provide flexibility among the geographical regions. (4) Although plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. In addition, those standards listed above do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. These recommendations will be notated for the SDT when formed. (5) The SAR DT agrees that resource adequacy is not intended to become a requirement and has modified the SAR accordingly.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer	No
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Document Name	
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Comment

This issue seems to affect southern U.S. entities and does not appear to be a continent-wide issue. Alliant Energy recommends more technical information be posted on this topic before deciding on a course of action to take such as a white paper that clearly defines the true issues that need correction by the GOs/GOPs during extreme cold weather events.

Rather than a new standard, Alliant Energy would support consideration of a modification of existing standards to ensure resource availability or capability for the BES. However, we believe the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. Development of a new Reliability Standard

that only addresses the extreme cold weather issue will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT encourages you to review the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Daniel Gacek - Exelon - 1,3,5,6

Answer

No

Document Name

Comment

The section labeled "project scope" is acceptable. However the following section "Detailed Description" is both too restrictive and too vague, see additional comments below.

On Behalf of Exelon: Segments 1, 3, 5, 6	
Likes	0
Dislikes	0
Response: Thank you for your comment. Please see the SAR DT responses in Question 2.	
Joseph DePoorter - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>MGE recommends that no new Standard be developed at this time as this seems to be a southern US entity issue and not continent-wide issue.</p> <p>We are opposed to creating a new Reliability Standard but would be willing to modify an existing one to ensure resource availability or capability for the BES, if necessary. However, we believe the scope of the SAR is too narrow and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during various ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a Standard to only address the cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the draft 2019 ERO Reliability Risk Priorities Report.</p>	
Likes	0
Dislikes	0
Response: Thank you for your comment. The SAR DT encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.	

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer No

Document Name

Comment

Minnkota believes that no new Standard needs to be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. Minnkota also requests more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the specific issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events, including metrics based on geographic location and generator type.

Minnkota is opposed to creating a new Reliability Standard; however, Minnkota would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	No
Document Name	
Comment	
<p>For Generating Units that are designed for cold weather operation, this would create an unnecessary administrative burden. Minnesota Power supports Edison Electric Institute’s comment, which supports the North American Generator Forum (glossary)’s recommendations:</p> <ul style="list-style-type: none"> • The development of a quantifiable definition for “Extreme Cold Weather” • The addition of language within the SAR that ensure regional differences will be considered when addressing this issue. 	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment. The SAR drafting team discussed at length ‘Extreme Cold Weather’ and how it could be considered a subset of cold weather. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestions for the SDT to consider as they draft proposed revisions.</p>	
Thomas Breene - WEC Energy Group, Inc. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>WEC Energy Group does nor agree with this SAR.</p>	

The GO/GOP topics covered in 1. a, b, c and d of this SAR are already included in existing reliability guidelines. The SAR materials and links refer to issues in climates typically not exposed to cold weather patterns. The need to focus on winterization procedures and freeze protection in these regions should be emphasized.

The SAR attempts to bring the market function into the reliability function during cold weather and this should not be supported with a standard.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although economics and reliability go hand in hand, the focus of the SAR is reliability issues related to cold weather preparedness. Market issues are beyond the authority of the SAR drafting team. The SAR DT reviewed other standards and deemed additional modifications may be required based on the FERC/NERC Report.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Wayne Sipperly - North American Generator Forum - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

No

Document Name

Comment

The North America Generator Forum (NAGF) does not agree with the proposed scope of the SAR for Cold Weather Preparation as submitted by SPP. Generators as a whole take weather preparation, whether winter or summer, and reliability, very seriously. Under normal winter weather conditions, generators do not experience operating issues on a consistent basis. However, under extreme conditions, all BES elements, not just those associated with generation, could experience unpredictable operational issues. The NAGF believes that the proposed SAR does not address the core issue(s) and will create more administrative work and financial expense for GO/GOP registered entities with no reliability benefit. The NAGF supports ensuring that existing requirements for the PC, RC, and BA address communication of generator operational information, including when they cannot perform as requested, during all types of extreme weather events.

The NAGF membership believes the deliverables of the SAR are presently met through existing Tariffs, Operating Agreements, Interconnection Agreements, ISO market rules, BA Surveys, and other Standards such as TOP-003. Under the requirements of TOP-003-3, the TOP and BA must maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses. The GO / GOP must satisfy the obligations of documented specifications to assist in Real-time monitoring and assessments. If the TOP and BA do not have the information needed to perform Planning Analyses for cold weather events, the data should be requested as part of TOP-003-3. There may be an opportunity to further refine the required data by revising TOP-003-3.

Although not representative of all NERC registered generators, many of the NAGF membership companies already have Cold Weather Preparation procedures in place and have invested in winterizing their facilities. They utilize and reference NERC's Reliability Guideline "Generating Unit Winter Weather Readiness" and ISO market rules, and believe that flexibility is needed based on design, geography and market requirements in order to determine appropriate weather preparation. Continent wide, prescriptive requirements are not appropriate because of the differences in technology and typical winter conditions across the ERO.

Organized markets provide financial incentives for GO/GOPs to invest in winterization improvements. However, such investments do not guarantee that a generation unit will start when required or will not be derated during an extreme cold weather event. Extreme cold weather-related outages typically involve previously unknown vulnerabilities, especially when plants experience unprecedented combinations of temperature, wind speed and precipitation. Transmission systems suffer unpredictable failures under such circumstances, and the same applies for generation plants.

Therefore, the focus of this SAR should be to:

- Enhance communication of generator operational capabilities for the planning and real-time time horizon so that the RC, BA, and TOPs can more accurately forecast BES generator capability and availability during extreme weather events.
- Support incentives for GO/GOPs to continually improve generation facilities for all types of extreme weather events.
- Support incentives for putting additional generation plants online in advance of extreme weather events (keeping units running is far more secure than starting-up in the middle of a major winter storm).

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during these conditions. The SAR DT will notate the standards referenced in your comment for SDT consideration when developing modifications to the appropriate standards, if warranted.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer	No
Document Name	
Comment	
<p>Black Hills Corporation (BHC) agrees with most of the SAR, but does not agree with the proposed scope for “Operator Awareness Training”. Due to the fact that our Generation Resources/Facilities are all located in the central to Northern area of North America, our generation facilities are designed already for “cold weather” and as such, our generation facilities already have in place plans/procedures and as part of these annual reviews, each facility reviews prior items from past year(s) and proceed accordingly for their annual winter preparations. Our Generators Plant Operators already have an awareness of cold weather, including extreme cold, & its potential impacts to our facilities and the reliability of the BES, that another mandatory training placed upon them if not a productive or cost effective use of their time.</p>	
Likes	0
Dislikes	0
<p>Response: Thank you for your comment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Formal and regular winter readiness/operator awareness training typically does not exist or is rarely practiced. In addition, the SAR DT encourages you to review page 86 of the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i> report. This confirms that training is part of recommendation 1.</p>	
Dennis Sismaet - Northern California Power Agency - 5,6	
Answer	No
Document Name	
Comment	

I don't feel this is a reliability issue. This is Market issue. If a Generator cannot start up and has been selected by BA to run; then there are financial penalties to encourage keeping the unit available to run when called on.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions.

sean erickson - Western Area Power Administration - 1,6

Answer

No

Document Name

Comment

WAPA recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. WAPA also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

WAPA is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, WAPA believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes	0
Dislikes	0
<p>Response: Thank you for your comment. The SAR DT encourages you to review the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>.</p> <p>The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.</p> <p>The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.</p>	
<p>David Jendras - Ameren - Ameren Services - 1,3,6</p>	
Answer	No
Document Name	
Comment	
<p>Ameren does not support the proposed SAR for Cold Weather Preparation as submitted by SPP. The Midcontinent Independent System Operator (MISO) and the other ISOs serve as Balancing Authorities (BA) and Reliability Coordinators (RC) and have been leading several initiatives to address cold weather preparation. To avoid the duplication of efforts, Ameren would like to push for more of a regional approach, and allow the ISOs to continue leading extreme weather preparations.</p>	

The vast majority of generation outages and derates caused by cold weather happened in the southern region, where cold weather susceptible components are not adequately protected. As a matter of normal reliable operating procedure, generators in the mid and northern regions fully enclose their critical components and utilize heat tracing technologies.

Another issue was having precautions for wind barriers, measures Ameren is already doing. MISO has already created cold weather steps for wind in preparation for winter. Ameren would prefer that the RTOs and GO/GOPs work out winterization plans outside the formal standard process.

Likes 0

Dislikes 0

Response: Thank you for your comment. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC

Answer

No

Document Name

Comment

The Taunton Municipal Lighting Plant believes that the BAs and RCs are well-equipped to address winter preparedness on their own without the need to create a mandatory Reliability Standard. BAs and RCs in North America that regularly experience cold weather are well aware of the concerns and limitations of their GOPs, and part of this comes from the BAs and RCs creating their own operating procedures that require some level of winterization/winter preparedness. By creating a mandatory Reliability Standard for this scope,

NERC will be placing additional burden on the GOPs who already have extensive reporting requirements, and the fear is that this requirement would only add an additional, cumbersome compliance task to GOPs without a significant increase in reliability.

Likes 0

Dislikes 0

Response: Thank you for your comment. It is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. The SAR addresses recommendation 1 and may be developed at the same time RTO/ISOs are addressing other recommendations that deal with regional mitigation.

The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Tara Lightner - Sunflower Electric Power Corporation - 1 - MRO

Answer No

Document Name

Comment

The NSRF recommends that no new Standard be developed at this time, as the issue seems to affect southern U.S. entities and is not a continent-wide issue. The NSRF also recommends more technical information be posted on this topic before deciding on a course of action to take. For example, NERC should develop a white paper that clearly defines the true issues that need correction by the GOs/GOPs that have problems operating during extreme cold weather events.

The NSRF is opposed to creating a new Reliability Standard; however, the group would be willing to consider modification of existing standards to ensure resource availability or capability for the BES, if necessary. However, the NSRF believes the scope of the SAR is too narrowly drawn and shortsighted. The rapid transformation of the grid due to growing political and economic pressures is leading to more resource shortages during diverse ambient conditions, not just extreme cold. Therefore, the scope of the project should evaluate the larger issue and ensure existing Reliability Standards adequately protect the BES under all ambient conditions, not just extreme cold. If the industry develops a new Reliability Standard that only addresses the extreme cold weather issue, then it will miss an opportunity to address the broader emerging risk of grid transformation as identified in the [draft 2019 ERO Reliability Risk Priorities Report](#).

Likes	0
Dislikes	0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Tony Skourtas - Los Angeles Department of Water and Power - 1,3,5,6

Answer	No
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Document Name	
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Comment

LDWP does not agree with the scope of this SAR. Extreme cold weather has little to no impact on the reliability of LDWP’s generating stations, including the Intermountain Power Plant (IPP) generating station in Utah. Historically, IPP encounters subzero temperatures regularly throughout the winter months, and no reliability issues have been encountered.

The only issue that does occur during these extreme cold weather events is the potential to disrupt IPP’s fuel supply. IPP personnel deal with frozen coal in the coal cars when they arrive on site for unloading. They also manage frozen coal moving up the conveyor belts into the generating unit. Both of these issues could cause a disruption to the generating units. The turbine generator and the transformers historically have not been adversely effected by these cold weather events.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR drafting team will notate your comment regarding coal, turbine generations, and transformers to the SDT when formed.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

No

Document Name

Comment

Entities located in the northern United States experience and prepare for cold weather conditions every year. These entities design their facilities to operate during cold weather (unlike entities in the south, which design facilities to manage heat during the summer). Moreover northern entities already have practices in place to prepare for winter conditions each year, and have had such practices for as much as 100 years. For northern entities, this Standard would appear to add a paperwork burden—formally documenting, tracking, monitoring, and evidencing implementation of policies and procedures that have functioned for decades—that offers no reliability benefit. Indeed the burden to prepare and manage the necessary documentation may even detract from cold weather reliability for northern entities. First because resources will need to be assigned to document compliance, potentially reducing the availability of resources to perform other work (including winterization). And second because to minimize the compliance risk and documentation challenge, northern entities may simplify, standardize, or eliminate some of the proven winterization activities they perform today.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your comment for the SDT to take this into account when the drafting phase begins. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring. Also, it was determined during analysis of the 2018 South Central Cold Weather event, that some GO/GOPs still do not have winterization plans as recommended as a result of the 2011 Southwest Cold Weather Event.

The SAR drafting team revised the SAR to provide flexibility among the geographical regions.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

None.

Likes 0

Dislikes 0

Response: The SAR drafting team thanks you for your support.

Anthony Jablonski - ReliabilityFirst - 10

Answer Yes

Document Name

Comment

ReliabilityFirst provides the following as points to be considered in the Cold Weather SAR.

1. Although the main focus of the Standard is extreme cold weather, this is a perfect opportunity for other extreme weather conditions to be addressed (hot, cold, draught, hurricane, etc.)
2. Addition or modification of Glossary terms may be necessary such as what is considered “extreme cold” or “extreme weather”.
3. Transmission Owners/Operators should be included in applicability to ensure extreme cold weather preparations for switchyards/substations.
4. Purpose should include preparing switchyards/substations for extreme cold weather performance (Ensuring operation of breaker compressors/heaters, weather proofing of breaker cabinets/electrical boxes against water infiltration, preventing icing of Kirk key interlocking system, preventing freezing of disconnect/ground switch operating mechanisms, etc.).

Likes 0

Dislikes 0

Response: Thank you for your comments. (1) The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time. (2) The SAR drafting team removed the word ‘extreme’ from the SAR; therefore, a glossary term may not be needed.

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer Yes

Document Name

Comment

Nuclear units are subject to annual reviews from their On-Site NRC Inspectors for both winter and summer seasonal readiness per NRC Attachment 71111.01 “Adverse Weather Protection”. A cold-weather standard would represent dual regulation (i.e. both NRC and NERC would be auditing cold weather preparation plans). Consider exempting all units regulated by the NRC from this standard (removed from scope) similar to what is being done for the CIP Standards.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion regarding nuclear units for the SDT to consider as they draft proposed revisions.

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

None

Likes 0

Dislikes 0

Response: The drafting team appreciates your response and support.

Bette White - AES - Indianapolis Power and Light Co. - 3

Answer

Yes

Document Name

Comment

IPL agrees with the basic scope of the proposed scope of the Cold Weather SAR.	
Likes	0
Dislikes	0
Response: The drafting team appreciates your response and support.	
Rodney Warner - PNM Resources - Public Service Company of New Mexico - 1 - WECC	
Answer	Yes
Document Name	
Comment	
<p>Concern was expressed by the committee the "Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply." This information is publically available. Should not be a requirement for the GO/GOP to report to the RC and BA.</p> <p>Recommend that GO/GOP provide changes to firm gas supply that would effect planned generation to BA and RC as soon as possible. BA and RC will use this information for real time Operational Planning assesments and Real Time Assesments.</p>	
Likes	0
Dislikes	0
Response: Thank you for your comments. Some Regional Reliability Organizations under their market rules already require that GO/GOPs formally identify and report fuel transportation issues, contract commitments, resource capability, capacity and dual-fuel availability. The SAR has been revised to clarify that communication between functional entities will occur when generating unit availability is expected to be affected by all ambient weather conditions. In addition, references to 'firm gas' have been removed from the SAR.	

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
<p>EEI supports the SAR scope as proposed but suggests consideration be given to the following recommendations made by the NAGF:</p> <ul style="list-style-type: none"> • Flexibility based on design, geography, and other unique characteristics of each generator in order to determine appropriate weather preparations. • Development of a quantifiable definition for “Extreme Cold Weather” that considers regional differences. 	
Likes	0
Dislikes	0
<p>Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions. In addition, The SAR drafting team removed the word ‘extreme’ from the SAR since each geographical area may have different interpretations of what they consider extreme; therefore, a glossary term may not be needed.</p>	
Bobbi Welch - Midcontinent ISO, Inc. - 2 - MRO,SERC,RF	
Answer	Yes
Document Name	
Comment	
<p>MISO supports the development of a NERC Reliability Standard to ensure preparedness for extreme cold weather conditions and believes that the proposed SAR does a good job capturing the spirit and intent of the findings and recommendations contained in the <i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>; In addition, we offer the following items for consideration.</p>	

Currently the SAR is silent regarding accuracy of generating unit performance with respect to ambient temperature. As the FERC and NERC Staff Report mentions “accuracy” several times, how can accuracy be incorporated into the scope of the Standard? MISO recommends the Generator Owner/Generator Operator periodically review generating unit performance and update its plans, procedures and training for operating generating units based on changes (equipment modifications, operating experience, etc.) and share this information with their Balancing Authorities.

In addition to the standards outlined in the SAR (IRO-010-2 and TOP-003-3), MISO recommends EOP-011 be reviewed for impacts as a result of this proposed project. For example, EOP-011 requires some of these aspects already. This standard requires Balancing Authorities to develop, maintain and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area, including “Reliability impacts of extreme weather conditions.” In addition, Reliability Coordinators are required to review the Operating Plan(s) submitted by Balancing Authorities for compatibility, inter-dependency and coordination to avoid risk to Wide Area reliability.

Under Reliability Principles, we recommend that boxes 6 and 7 also be checked to:

Recognize the Generator Owner/Generator Operator training aspects proposed under the scope of this project; i.e. “Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.”

Recognize the Reliability Coordinator wide-area assessment and monitoring aspects associated with this project; i.e. “The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.”

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your recommendations for the SDT consideration once formed. Although it is known that some Regional Reliability Organizations already address generating unit performance as part of their market operations and may require actual testing as part of their cold weather preparation, the drafting team will consider including these areas in the standard and review the possible impacts of EOP-011.

The SAR DT does not agree with principle #6 and #7 being checked as those focus more on System Operator Certification and Cyber Security.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no NGrid	
Answer	Yes
Document Name	
Comment	
<p>Although we agree with the industry need for better preparation in extreme weather conditions and better situation awareness in both planning and operations, extreme cold is relative to where you are in North America. We suggest that the SAR should be modified to be more general, i.e extreme weather preparedness (removal of the word cold weather).</p>	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions.</p> <p>Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.</p>	
Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL	
Answer	Yes
Document Name	
Comment	

Westar Energy and Kansas City Power & Light endorse Edison Electric Institute's (EEl) response to Question 1.

Likes 0

Dislikes 0

Response: Please see response to EEl.

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

While Southern Company support efforts to improve BES reliability during extreme cold weather, the scope of the SAR, as written, should be focused on actions that will improve generating unit availability and capability during all weather events; furthermore, the SAR should not introduce redundant requirements or revise existing standard requirements that already account for weather conditions, including extreme cold weather.

1. Consistent with the Cold Weather Event recommendations, the SAR should only be applicable to GO/GOP activities related to winterization efforts and associated communication to the RC and/or BA.
 - Design does not necessarily ensure generating unit capability, as each winter event is unique. Generating unit capability is ensured by proper maintenance, operation, and when necessary, preparation for inclement weather. "Parameters around operating temperatures" implies temperature design limits have been reviewed for each generating facility and that units will operate during extreme weather above a certain temperature. Actual operation is different than design, and each winter event will have unique characteristics, making it nearly impossible to guarantee operation above a certain pre-defined temperature. Additionally, the plant site dynamics will vary for each winter event, including whether adjacent units are running or offline prior to and during the winter event. The SAR, as written, could drive GOs/GOPs to declaring their units' availability uncertain below 32 degrees in order to ensure compliance with this new standard. This would provide little value to BES reliability. Therefore, Southern recommends that the SAR Drafting Team abandon the concept of defining a design temperature

for each generating facility, that may not be relevant from event to event, and instead include a requirement for Generator Owners to develop and implement winterization plans prior to the onset of winter weather.

- Additionally, the SAR is not specific on the type of firm transportation (FT) for natural gas supply obtained and what details would be required to be communicated to the BA and/or RC. In the SAR, bullet 1.e. is unnecessary and should be factored into 1.a. in the assessment of generating unit availability by the GO/GOP. Where-as primary FT guarantees point to point delivery, examples such as released capacity may not be secure under peak winter demand situations, even though it is classified as FT. The SAR also fails to outline expectations around Delivered gas, where the supplier utilizes their FT for delivery. Finally, the SAR makes no mention of other fuel commodities such as fuel oil inventory levels for oil-fired CTs.

2. No new standard requirements should be placed on the RC and/or BA, or where there is already a requirement for the GO/GOP to provide availability and capability information. There are several existing NERC standards that address generating resource availability and capability that address all kinds of conditions, including cold weather events, and a new or revised standard addressing availability and capability during one specific type of weather event is duplicative and unnecessary.

- FAC-008 – Requires Generator Owner to consider ambient conditions in establishing Facility Ratings.
- IRO-008 – Requires Reliability Coordinators to perform Operational Planning Analyses (next-day) and Real-time Assessments (every 30 minutes) to determine potential SOL and IROL exceedances; RCs are authorized to request information form Generator Owners necessary for conducting these analyses and assessments by way of NERC Standard IRO-010.
- IRO-010 – Authorizes the Reliability Coordinator to request and collect information necessary for performing Operational Planning Analyses, Real-time monitoring and Real-time Assessments.
- MOD-025 – Requires the Generator Owner to verify real and reactive capability and allows for the Transmission Planner to request an adjustment for different conditions.
- TOP-002 – Requires the Balancing Authority to have an Operating Plan (next-day) that specifically addresses expected generation resource availability (commitment and dispatch), reserve requirements and deliverability capability.
- TOP-003 – Authorizes the Balancing Authority to request and collect information necessary for performing Operational Planning Analyses, Real-time monitoring and Real-time Assessments.

Likes	0
Dislikes	0

Response: Thank you for your comment. (1) The SAR drafting team encourages you to review the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. (2) The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time. (3) The SAR drafting team revised the SAR to provide flexibility among the geographical regions. (4) Although plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. In addition, the standards referenced in your comments do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. These recommendations will be notated for the standards drafting team when formed. (5) The SAR DT agrees that resource adequacy is not intended to become a requirement and has modified the SAR accordingly. (6) Some Regional Reliability Organizations under their market rules already require that GO/GOPs formally identify and report fuel transportation issues, contract commitments, resource capability, capacity and dual-fuel availability. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. (7) After evaluating 1.e, the SAR DT also agreed that bullet 1.e was not necessary. To address assessment of generating unit availability and expectations around delivered gas, the SAR drafting team determined that 1.d and 1.a should be modified to address these areas. Also, natural gas availability and delivery was the main focus of the South Central Cold Weather Event report recommendations and not fuel oil inventory. Additionally, the SAR drafting team removed the word 'technologies' from the SAR. Lastly, the SAR drafting team will notate your other recommendations for the SDT when formed.

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response: The SAR drafting team thanks you for your support.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response: The SAR drafting team thanks you for your support.	
Line Dufour - Hydro-Quebec Production - 5 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response: The SAR drafting team thanks you for your support.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response: The SAR drafting team thanks you for your support.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response: The SAR drafting team thanks you for your support.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	

Comment

Texas RE has the following comments regarding the scope of the SAR:

- The SAR includes “Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis” as a deliverable in new or revised Reliability Standards. However, per TOP-002-4 Balancing Authorities are not required to perform an Operational Planning Analysis and are only required to create Operating Plan(s) for the next day.
- The Purpose or Goal states “To ensure optimal reliability by preparing generation for extreme cold weather performance and ensure situational awareness in both **planning** and operations by applicable registered entities.” However, the SAR does not include provision of associated parameters for generating unit availability for extreme cold weather performance to Transmission Planners (TPs) and Planning Coordinators (PCs). In order to prepare for extreme cold weather events, the impact of the events should be studied in the in the planning horizon as well rather than just identifying issues in next-day studies when it may be too late to develop solutions for the issues.
- The SAR discusses provision of “associated parameters for generating unit availability for extreme cold weather performance” to the RC, but does not address how the RC would use the data. The RC would need to Due to the vague language used in the definitions of OPA and RTA, it may be necessary to prescribe use of this data for the RCs OPA and RTA.
- The SAR discusses provision of “associated parameters for generating unit availability for extreme cold weather performance” to the RC, but does not include provision of data to the TOP. Since the TOP is required to perform the same analysis (OPA, RTA) as the RC, this data should be provided to the TOP as well and the TOP should be required to consider the data in its analysis.
- There are no parameters for what is considered “extreme” cold weather performance. Texas RE recommends the SAR provide guidance on simply cold weather performance. There is no mention of renewables fuel supply or protection measures. Certainly the BA, RC, and TOP should have information from the GO/GOPs that expect icing on blades or feathering of turbines at wind speed X. For consistency the technical basis document should provide discreet examples for GO/GOPs to provide to allow for consistency in application of the Standard.

- Natural gas is the only fuel mentioned as a potential fuel availability issue in the SAR, and the GO/GOP may not have the information necessary to inform the RC and BA about fuel supply. Gas availability may very well be beyond the control of the generating entity. Evaluation of freezing coal would also need to be considered for completeness.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate all of your recommendations for the SDT when formed. In addition, after evaluating 1.e, the SAR DT also agreed that bullet 1.e was not necessary. To address assessment of generating unit availability and expectations around delivered gas, the SAR drafting team determined that 1.d and 1.a should be modified to address these areas. Also, natural gas availability and delivery was the main focus of the South Central Cold Weather Event report recommendations and not fuel oil inventory. Additionally, the SAR drafting team removed the word ‘technologies’ from the SAR. Lastly, the SAR drafting team will notate your other recommendations for the SDT when formed. Lastly, the SAR has been modified to clarify the ‘associated parameters...’

2. Provide any additional comments for the SAR drafting team to consider, if desired.	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	
Document Name	
Comment	
<p>Entities in northern North America should not be subject to the proposed Standard for the reasons discussed in question 1, above. We offer three options for achieving this.</p> <p>1) One approach to design of a Reliability Standard with Regional Variance might be to identify, using historical data of the United States National Weather Service or a similar organization, regions where freezing temperatures may be expected at some time in each three to five years. A map that clearly marks such regions should be included as an Attachment to the Standard.</p> <p>2) A second approach is to identify two regions as suggested above, but have different requirements in the Standard for each region. Entities of the southern region would be required to document, track, monitor, and evidence implementation of cold weather policies and procedures as envisioned in the SAR. Entities of the northern region would be required simply to have a document that states their winterization plans without having to meet specific sub-requirements as to content, implementation, tracking, or monitoring (they may be presumed already to do so by virtue of long experience in cold weather).</p> <p>3) A third approach might be to include a ‘trigger mechanism’ within the Standard. Such a trigger mechanism would control when the Standard would apply to an entity, i.e., if the entity suffered loss of availability of BES generation or transmission due to cold weather, that entity then would be required to document, track, and evidence implement of cold weather policies and procedures. A sunset clause would be appropriate, to the effect that after successfully maintaining availability for the next two or three cold weather events, the need to document, track, and evidence implementation of winterization would no longer be required until a future loss of availability occurs. Such a mechanism provides appropriate carrot and stick incentives. If an entity winterizes successfully by whatever means, it would not be subject to compliance monitoring, audits, and risk. If an entity does not, it can remove the compliance risk by demonstrating</p>	

successful winterization over the next two or three cold weather events (which might be 2-3 years for a northern entity and decades for a southern entity).

4) Both options could be combined.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.

Tony Skourtas - Los Angeles Department of Water and Power - 1,3,5,6

Answer

Document Name

Comment

Perhaps this project could use a geographic approach in restricting applicability to areas in which reliability could be impacted by extreme cold weather.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Tara Lightner - Sunflower Electric Power Corporation - 1 - MRO

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are “non-utility” companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold) and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order

to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. (1) The SAR drafting team encourages you to review the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*. (2) The SAR drafting team determined to keep the SAR focus to cold weather preparedness, which is consistent with the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* Recommendation one. (3) The SAR drafting team revised the SAR to provide flexibility among the geographical regions. (4) Although plant winterization plans have been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. In addition, those standards referenced in your comments do not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. These recommendations will be notated for the standards drafting team when formed. (5) The SAR DT agrees that resource adequacy is not intended to become a requirement and has modified the SAR accordingly.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

David Jendras - Ameren - Ameren Services - 1,3,6

Answer	
Document Name	
Comment	
<p>In addition, the North America Generator Forum (NAGF) does not support the proposed SAR for Cold Weather Authorization either. They too agree that most Generator Owners already have Cold Weather Preparation procedures and implementation in place. Cold weather-related outages typically involve previously unknown vulnerabilities.</p> <p>With MISO already looking at what FERC is putting out and addressing it, Ameren would prefer not to recreate the wheel, which is also what NAGF enforces in their comments. For instance, revising existing standards to address gaps in planning for “Extreme Weather Events” and developing a measurable definition for “Extreme Cold Weather.”</p>	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment. (1) It is understood that cold weather-related guidelines, checklists, surveys, testing, etc., have been established by Regional Reliability Organizations; but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS although plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions. Since the NERC Winter Guidelines, which posted in 2013, other cold weather related outages have happened. This has led to the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. (2) It was determined during analysis of the 2018 South Central Cold Weather event, that some GO/GOPs still do not have winterization plans as recommended as a result of the 2011 Southwest Cold Weather Event. (3) The SAR drafting team removed the word ‘extreme’ from the SAR; therefore, a glossary term may not be needed. (4) Lastly, the SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.</p>	
Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL	
Answer	

Document Name	
Comment	
None.	
Likes 0	
Dislikes 0	
Response:	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	
Document Name	
Comment	
Thank you for the opportunity to comment. Cost Impacts are an important aspect to be studied. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.	
Likes 0	
Dislikes 0	
Response: The drafting team appreciates your response and cost impacts will be considered through the modification phase.	
Bobbi Welch - Midcontinent ISO, Inc. - 2 - MRO,SERC,RF	
Answer	
Document Name	
Comment	

Some suggested modifications to language in the SAR are provided below:

1. Generator Owner/Generator Operator develops, ***maintains and implements*** winterization plans, procedures, and winter-specific and plant-specific operator awareness training, ***including consideration of the following*** elements: a. Generating unit ***output and*** availability; b. ***Operating*** parameters around ***ambient*** temperatures; c. Implementing freeze protection measures and technologies; d. Performing periodic adequate maintenance and inspection of freeze protection measures and technologies; and e. Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.
2. Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit ***output and*** availability for extreme cold weather performance.
3. Generator Owners/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators when expected temperatures are forecasted within the determined generating unit availabilities, expected ***output and*** availability of the generating units for the appropriate next day operating horizon.
4. Balancing Authority use of the information provided by the Generator Owner/Generator Operator to perform Operational Planning Analysis, and determine the expected ***output and*** availability ***of*** contingency reserves for the appropriate next day operating horizon.

For bullet #4, MISO recommends the word “and” be replaced with the word “of” to indicate the requirement is to assess the forecasted sufficiency of reserves for the next day operating horizon as opposed to revisiting the annual determination of the Most Severe Single Contingency (MSSC).

Likes 0

Dislikes 0

Response: Thank you for your comments. The SAR has been modified based on overall comments received. Please review the modified SAR.

Jonathan Robbins - Seminole Electric Cooperative, Inc. - 1,3,4,5,6	
Answer	
Document Name	
Comment	
<ul style="list-style-type: none"> • The resulting standard could become onerous for GO's to comply with <ul style="list-style-type: none"> ○ Will evidence and communication regarding routine maintenance of plant heat trace system and components be required? ○ Would winter specific and plant specific awareness training create the need for a whole certification program to NERC? • Could this be simplified by requiring the GO to provide their minimum operating temperature or by the standard only be applicable to locations that experience extreme cold weather? 	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.	
sean erickson - Western Area Power Administration - 1,6	
Answer	
Document Name	
Comment	
<p>If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:</p>	

{C}- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.

{C}- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If this information is unavailable or incorrect, then that should be in scope today for the ERO.

{C}- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those

who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

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- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes	0
Dislikes	0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR drafting team will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Dennis Sismaet - Northern California Power Agency - 5,6

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response:

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

Xcel Energy believes that the SAR could be easility addressed by modifying already existing standards. For instance, weather conditions considered "extreme" and their effects likely have regional variability depending on historical events and might be best addressed by Regional data specifications. Regional data specifications are addressed in existing Standard IRO-010-2 R1-R3. Further, data specifications for Operational Planning assessments are addressed in existing Standard TOP-003-3. Fuel supply and reliability impacts of extreme weather conditions are addressed by EOP-011 R2.2.3.2 and 2.2.9 respectively.

We suggest that variability between extreme weather conditions between regions and their effects on Generators, Generator Operators, Balancing Authorities and Reliability Coordinators an approach similar to EOP-010-1 should be considered. A Standard where the individual RCs develop, maintain and implement an Extreme Cold Weather Preparedness Operating Plan that coordinates Operating Procedures or Operating Processes within its Reliability Coordinator Area and each GOP, GO and BA and other affected entities develop, maintain and implement an Extreme Cold Weather Preparedness Plan Operating Procedure or Operating Process to mitigate the effects of Extreme Cold Weather events on the reliable operation of its respective system.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR drafting team will notate your recommendations for the SDT to consider when formed.

Wayne Sipperly - North American Generator Forum - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF recommends the following prior to implementing any new weather-related Reliability Standard for Generator Owner / Operators:

1. Prior to developing a new standard, revise existing standards to address gaps in planning for "Extreme Weather Events"

- i. Reliability Assessments, TPL-001, IRO-010 and TOP-003 can all be strengthened to ensure the RC and BA request and receive information from GO / GOP to plan for various “Extreme Weather Events”.
- 2. Develop a measurable definition for “Extreme Cold Weather”. This likely would need to be based on regional assessments and account for changing weather patterns rather than just averages.
- 3. Develop cause codes for GADs that address outages, start-up failures and curtailments attributed directly to extreme cold weather. This would allow for meaningful data collection that could be useful in future mitigation.
- 4. Encourage BA / TOP / RC to develop criteria to dispatch units with extended start-up periods early to allow for pre-warming.
 - i. Instead of cycling natural gas Combined Cycle units, dispatch units at a lower load so that they are warm and available when needed.
- 5. Encourage TOP / TP / BA to schedule planned outage seasons with regard to changing weather patterns.
- 6. If a cold weather standard is eventually developed do not use ambiguous language (“Parameters around operating temperatures”), treat equipment failures as NERC violations (“adequate” measures), or expect GO/GOPs to communicate information they do not possess (“notification of firm transportation capacity for natural gas supply”).
- 7. Support research on the weaknesses of IEEE-515 and misapplication of this standard by heat tracing and insulation contractors, particularly as regards quantifying the effects of failing to properly account for uninsulated valve bonnets, actuators and pipe supports, and spiraling insulation instead of bunching it at valves, traps and other devices.
- 8. The NAGF is interested in working with the FERC and NERC to assist those entities identified in the *South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 Report* and industry to strengthen generation cold weather plans/processes where needed.

Likes 0

Dislikes 0

Response: Thank you for your comments. The SAR drafting team modified the SAR to address the concern around ‘parameters around operating...’

The SAR drafting team discussed at length ‘Extreme Cold Weather’ and how it could be considered a subset of cold weather. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestions for the SDT to consider as they draft proposed revisions.

The SAR drafting team removed ‘firm capacity’ from the SAR.

Line Dufour - Hydro-Quebec Production - 5 - NPCC

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response: The SAR drafting team appreciates your response and support.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE suggests including applicable planning entities as well as the TOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT chose to keep the scope of work consistent with the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* recommendation one, which addressees, Generators, BAs, and RCs.

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they do not have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they do not have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.

- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they do not have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that affect resource capability and availability, which are becoming more frequent.

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Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not perform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR drafting team will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Lastly, the SAR drafting team revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Joseph DePoorter - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

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- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under various ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions,

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A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to continually create a project to address the next event based on other factors.

This SAR has its positive and negative aspects which is based on the FERC and NERC report. Many northern GOs do not and did not have an issue with the cold (or hot) weather event. A Standard developed for a GO to assure that a unit will always start will be a magical instrument. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This would include; derates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems, icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities, frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants, lack of water due to frozen water/EPA restrictions/etc. for hydro plants. As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information not just training or installing freeze protection measures.

A Standard should not incent an entity to perform as the state they can as this is a market issue. This SAR is developing Resource Adequacy which does not need to a Reliability Standard. The maintenance items within the FERC and NERC report should be common

sense items that a GO would perform, in order to perform as required. If there are a set of GOs who do not perform due to some type of (low) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incentive generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR drafting team will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Daniel Gacek - Exelon - 1,3,5,6

Answer

Document Name

Comment

The shortcoming of the proposed SAR scope is it tries to address a regional problem, i.e., failure of generation during cold weather in traditionally warm-weather locales, with an international solution. The Standard should be performance-based, describing the outcome desired, and not prescriptive of actions which may or may not result in the outcome desired. If the overall goal of the Standard is to ensure better winter generation performance, then the Requirements should apply more to those generators that have failed to perform in cold weather. Similar to other Standards, exemptions should apply for those generators that have not experienced operational interruptions due to cold weather, with increasing requirements for those that have had the worst operation and would benefit the most from increased oversight. As performance improves, the need for oversight lessens and this lessening is built into the Standard. The SAR should clearly communicate the intent is improvement in generation performance in areas that have been lacking.

The concept that there is a single “ambient temperature limit” that applies to a generator unit is not universally accurate. Different temperature limits may apply for HVAC systems, water systems, etc. however these limiting design temperatures are routinely extended by use of mitigating actions. Especially in regions that routinely experience cold weather, mitigating operations such as the application of heaters, re-routing of warmed condenser water, flushing/draining of systems, alternate or standby operation of parallel components are taken during extreme conditions. In addition, these components are typically located in enclosed buildings protected from the weather making the determination of a single ambient design temperature moot. The laborious determination of each nominal minimum operating temperature for the tens of systems and thousands of components within a generating station, when seasonal preparation actions and contemporary operator actions routinely mitigate the impact of both hot and cold weather operation, do nothing to prove the operational capability of the generating unit. The most reliable indication of low-temperature capability is the actual minimum temperature recorded at which the generating unit has successfully operated at not the application of an "ambient temperature limit".

The “Additional elements to consider may include” recommendations should be located in technical guidance and not included as auditable requirements. For example, if the general location of a motor control center in a building keeps the MCC warm enough without a heater, then specifying in a Standard that MCCs should have heaters adds nothing to the BES reliability. By including detailed requirements that must be considered and dispositioned for every component creates a situation in which large lists of components are maintained to prove to auditors that mitigating features have been considered, with attendant burdens in storage, retrieval, and maintenance, with no gain in operating capability. Again, the Standard should focus on the performance required, not the means to achieve it.

The “Detailed description” section includes, “Generator Owner/Generator Operator communicates with the Balancing Authorities and Reliability Coordinators associated parameters for generating unit availability for extreme cold weather performance “ What does “associated parameters for generating unit availability” mean?

The proposed Standard development/revisions should take maximum advantage of existing Standards and any new Standard should be general enough to reflect the wide variation in generator unit types, geographical and meteorological conditions, and historical generator experience in coping with cold weather.

Items such as “training” need not be a separate training module in already burdened training schedules (especially for nuclear generating units). That is, the technical basis or reference sections of winterizing procedures, “Just in Time” training and briefings as cold weather preparations begin, should be sufficient. The Standard should not conflict with or repeat requirements already embodied in ISO operating manuals with which GOs must comply.

For those generators which routinely operate in cold weather the Standard is not required. Any new requirements should be geared to improving the operation of generators which do not.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR has been modified based on the 'associated parameters'. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.

Rodney Warner - PNM Resources - Public Service Company of New Mexico - 1 - WECC

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response:

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather.

MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather.

NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak.

IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather.

IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start, which could require the investment of a large sum of money for winterizing their generator, seems unrealistic.

The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include:

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

Every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be “common sense” items that a GO/GOP would perform, in order to operate as required.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comment does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of

operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Michael Brytowski - Great River Energy - 1,3,5,6 - MRO

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time.

For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under diverse ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources within their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under diverse ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.

• IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incent the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as a GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. The SAR proposal will most likely be very controversial with these entities and take years to develop and implement. Additionally, to secure industry approval, the result could be a Reliability Standard with weak requirements that does little to address the issue; and creates more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring of all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to create projects continually to address the next event based on other factors.

Many northern GOs/GOPs do not have issues during extreme weather events (both hot and cold), and did not have an issue during the extreme cold weather event of January 17, 2018. A Standard developed for a GO/GOP to assure that a unit will always start is unrealistic and unsustainable. A generator owner could invest a large sum of money into winterizing their generator and it still may not start and perform as designed. The SAR should clearly address the communication of when a generator cannot perform as requested (to start, to ramp, etc.). This communication could include (but not limited to):

- De-rates of output due to snow/dust/ cloud cover/sun set times etc. to PV systems;
- Icing of turbine blades/over speed due to excess wind/cut out due to extreme cold for wind Facilities;
- Frozen and wet coal piles/hot-cold ambient temps that impact Mw outputs/etc. for fossil fuel plants; and
- Lack of water due to frozen water/EPA restrictions/etc. for hydro plants.

As you can see, every type of generator has some type of natural and outside rules that can limit its output. This SAR should address the communication of such information and not just training or installing freeze protection measures.

Finally, this SAR seems to propose Resource Adequacy as a requirement, which does not need to be part of a Reliability Standard focused on reliability during ambient conditions. In other words, a GO/GOP should perform its obligations pursuant to contract or market rules without the influence of a Reliability Standard, and a Reliability Standard should not dictate that a generator must perform in a certain way. The maintenance items within the FERC and NERC report should be "common sense" items that a GO/GOP would perform, in order to operate as required. If there are a set of GOs/GOPs who do not preform due to some type of low (i.e., extreme cold weather) temperature parameters, then there could be a tariff or market process to reduce the credibility of the GO/GOP.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

Marty Hostler - Northern California Power Agency - 5,6

Answer

Document Name

Comment

NO.

Likes	0
Dislikes	0
Response:	
Bette White - AES - Indianapolis Power and Light Co. - 3	
Answer	
Document Name	
Comment	
<p>IPL does not agree with all the Detailed Description provided in the SAR to support the scope. IPL takes exception to the following items for the stated reasons:</p> <ol style="list-style-type: none"> 1. If generating unit availability is measured differently than it currently is, this could impose undue burden on utilities due to potential additional studies and reporting activities. 2. Documented operating temperature parameters pose a significant burden on established generating stations that did not likely have documented operating parameters defined when they were built. For older plants, would historical operational data be sufficient? Or would time consuming, expensive studies be required? 3. Weather conditions vary significantly throughout the US based on location and geography. If operating temperature parameters are specified, they need to include consideration of regional weather patterns, altitude, etc. 4. Adding the word “technologies” into the proposed verbiage introduces the potential for conscriptive, and potentially expensive, preparation/remediation measures. Simply stating “Implementing effective freeze protection measures.” would cover traditional means as well as any emerging technologies that might spring up as a result of this new standard. 5. Introducing the thought of “firm gas transportation” into the language implies utilities must have firm transport contracts. This infringes on a company’s decision on how to utilize the Market processes and will likely provide undo excessive costs. It also focuses 	

solely on natural gas a fuel rather than being more generic and preparing for shortages or issues with all fuel supply. However, fuel supply concerns are already a part of EOP-011 and should remain in one standard only.

6. Communications for generating unit availability between the GO/GOPs and BAs/RCs already take place through normal and emergency operations. If these are included in a Cold Weather specific emergency, great care should be taken to ensure the requirements don't conflict with or further restrict what is already in other standards.

7. There is the potential for significant cost impacts should additional studies or technologies be required of entities to meet the language of the new standard. Until the language is further defined, these costs are difficult to calculate, but the potential should be considered as verbiage is crafted.

Likes 0

Dislikes 0

Response: Thank you for your comment. After evaluating 1.e, the SAR DT also agreed that bullet 1.e was not necessary. To address assessment of generating unit availability and expectations around delivered gas, the SAR drafting team determined that 1.d and 1.a should be modified to address these areas. Also, natural gas availability and delivery was the main focus of the South Central Cold Weather Event report recommendations and not fuel oil inventory. Additionally, the SAR drafting team removed the word 'technologies' from the SAR. Lastly, the SAR drafting team will notate your other recommendations for the SDT when formed.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

Document Name

Comment

If FERC and NERC expect to have no adverse effects on the BES in the real-time operations horizon during extreme ambient conditions, then the same expectation should be placed on the planning horizons. There are numerous Reliability Standards already in place that should be assessing resource capability and availability for these extreme conditions to identify and mitigate shortages ahead of real-time. For example:

- FAC-008 and MOD-025 should ensure the GO and GOP know the capability and availability of their BES resources under various ambient conditions, including extreme cold weather. If they don't have this information or are providing false information, then that should be in scope today for the ERO.
- MOD-031 and MOD-032 should ensure the PC and BA request and receive information from each RP to know the capability and availability of BES resources in their area under various ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- NERC Reliability Assessments and TPL-001 should ensure near-term/long-term planning studies only include BES resources that are known to have the capability and availability under the specified ambient conditions, including extreme cold weather/winter peak. If they are not studying these conditions or are including invalid resources, then that should be in scope today for the ERO.
- IRO-010 and TOP-003 should ensure the RC and BA request and receive information from each GO and GOP to know the capability and availability of BES resources in their area under various ambient conditions, including extreme cold weather. If they don't have this information or are provided false information, then that should be in scope today for the ERO.
- IRO-008, TOP-001 and TOP-002 should ensure the RC's and BA's Operational Planning Analysis and the RC's Real-time Assessment only includes BES resources that are known to have the capability and availability under the expected ambient conditions, including extreme cold weather/winter peak. If they are not assessing these conditions or are including invalid resources and/or Operating Plans, then that should be in scope today for the ERO.

If the ERO enforces these expectations, then it should either incentivize the GO/GOP to invest in improvements to be eligible for resource planning and BA/market dispatch (revenue) or the entities planning and operating the BES should have to acquire and dispatch other resources to maintain reliability and prevent recurrence of an event like January 17, 2018. This approach should also work in protecting the BES against other factors that impact resource capability and availability, which are becoming too frequent.

The drafting team should also be mindful of the practicality in creating more Reliability Standards that apply to nearly 1000 entities registered as GO/GOP whose primary business is to sell power to the grid. With the proliferation of renewable resources, many of those GO/GOP entities are "non-utility" companies who are operating in RTO markets solely for revenue. This will most likely be very controversial with them and take years to develop and implement. To get industry approval the end result could be a Standard with weak requirements that does little to address the issue. This could create more administrative work for the registered entities (especially those who already routinely operate in cold weather conditions) with uncertain value. The ERO will also have to initiate monitoring on all 1000 of these entities, which may be inefficient and impractical.

A more effective and efficient method would be to ensure requirements for the PC, RC and BA (whose role and responsibility is to oversee resource adequacy within an area of the BES) are sufficient to address the emerging risk of grid transformation. This proactive approach would reduce the need to continually create a project to address the next event based on other factors.

Likes 0

Dislikes 0

Response: Thank you for your comment. The standard referenced in your comments does not specifically address freezing issues that occur to combustion turbines, boilers and balance of plant equipment. Plant winterization plans have already been established and implemented for generating facilities located in areas/regions that experience severe cold weather conditions, but the freezing of valves, equipment, piping and instrumentation is still occurring causing failures to start, de-rates, and trips impacting the reliability of the BPS. Although it is understood that market operations incent generator availability and lack of/poor performance can result in monetary penalties, plant freezing issues continue to occur when precautions have not been taken to prevent freezing during cold weather conditions. The SAR DT will notate the standards referenced in your comments for SDT consideration when developing modifications to the appropriate standards, if warranted.

The SAR drafting team chose to keep the primary focus of the SAR on cold weather preparedness, which is consistent with the 2019 FERC and NERC Staff Report: the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 Recommendation One. In response to a NERC Staff recommendation, the SAR DT modified the SAR to include communication of operating limitations due to all ambient weather conditions. The basis for NERC Staff's recommendation is that communication is important for reliability as it allows RCs and BAs to be better prepared for next day studies and even hour ahead studies. It is important that entities know that a unit can be counted on based on the data provided. NERC Staff recommended including the issue in this project, rather than addressing in a subsequent project, in the interest of administrative efficiency and to avoid the burdens that could come from having multiple successive versions of a standard become effective in a short time.

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment	
None	
Likes	0
Dislikes	0
Response:	
Jeff Kimbell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name CHPD	
Answer	
Document Name	
Comment	
<p>This SAR addresses an important concern in some regions, but is so general that it will negatively impact the bulk of generators that already reliably operate in routinely cold weather regions and generation types that are not impacted fully in the same ways as the types concerned in the Events that have been analyzed over the last ten years. We design and operate our plants for cold weather. Additional regulatory requirements will divert resources from valuable work in maintaining these systems to compliance paperwork that will not improve plant or system reliability.</p>	
Likes	0
Dislikes	0
Response: Thank you for your comment. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	

Document Name	
Comment	
<p>BPA suggests that the Drafting Team include a good representation of cold weather GO/GOPs, specifically, generators that are experienced with cold weather preparation and who are in a better position to assess the new documentation burden that will come with a new standard.</p>	
Likes 0	
Dislikes 0	
<p>Response: Thank you for your comment.</p>	
<p>Richard Jackson - U.S. Bureau of Reclamation - 1,5</p>	
Answer	
Document Name	
Comment	
<p>Reclamation recommends the SAR be reviewed by FERC or a FERC representative to ensure it encompasses the full scope of what FERC envisions for regulating cold weather preparedness. This will help to fully scope the project and avoid the churn of immediate modifications to newly approved or revised standards under this project.</p> <p>Reclamation also recommends the drafting team for this project include representatives from Canadian and northern U.S. entities and hydro generators to ensure unreasonable burdens are not created while regulating a problem that only impacts a subset of entities and generators.</p>	
Likes 0	
Dislikes 0	

Response: Thank you for your comment. FERC staff is engaged with this SAR drafting team. Active observers are welcome and encouraged to participate in the drafting process of this SAR and/or subsequent Standard.

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response:

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Document Name

Comment

If the equipment's operational temperatures were properly specified during designs and procurements then most of issues discussed in the report should not have occurred. The cold weather related issues are more design and geographical related than of compliance.

Likes 0

Dislikes 0

Response: The SAR drafting team appreciates your response. The SAR drafting team revised the SAR to provide flexibility among the geographical regions. In addition, the SAR drafting team will notate all of your recommendations for the SDT to consider when formed.

Anthony Jablonski - ReliabilityFirst - 10	
Answer	
Document Name	
Comment	
<p>ReliabilityFirst notes that the “Recommendations” section (Appendix G) of the 2019 FERC and NERC Staff Report - The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 has a number of Recommendations as well which should be included in the SAR (some of these may already be covered SAR). They include the following:</p> <p>#6: Transmission Operators, Balancing Authorities, and Generator Owner/Operators should consider developing mechanisms to verify that units that have fuel switching capabilities can periodically demonstrate those capabilities. (I would think this should really be directed to the GO/GOPs)</p> <p>#7: Balancing Authorities, Transmission Operators and Generator Owners/Operators should take the steps necessary to ensure that black start units can be utilized during adverse weather and emergency conditions. (Blackstart Resources should always get special attention).</p> <p>#14: Generator Owner/Operators should ensure that adequate maintenance and inspection of freeze protection elements be conducted on a timely and repetitive basis.</p> <p>#15: Each Generator Owner/Operator should inspect and maintain its generating units’ heat tracing equipment.</p> <p>#16: Each Generator Owner/Operator should inspect and maintain its units’ thermal insulation.</p> <p>#17: Each Generator Owner/Operator should plan on the erection of adequate wind breaks and enclosures, where needed.</p> <p>#18: Each Generator Owner/Operator should develop and annually conduct winter-specific and plant-specific operator awareness and maintenance training.</p>	

#19: Each Generator Owner/Operator should take steps to ensure that winterization supplies and equipment are in place before the winter season, that adequate staffing is in place for cold weather events, and that preventative action in anticipation of such events is taken in a timely manner.

#20: Transmission Operators should ensure that transmission facilities are capable of performing during cold weather conditions.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your recommendations for the SDT to consider when formed. The SAR DT chose to focus the SAR on Recommendation #1 of the FERC/NERC report, which focuses on Generators, BAs, and RCs.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response:

Thomas Foltz - AEP - 3,5

Answer

Document Name

Comment

The proposed SAR needs to more clearly identify whether these reports and preparations are only mandatory for BES assets. If the document refers to the preparation of NG and Coal facilities to be encompassing of power generation, preparations then need to specify responsibilities related to BES renewables.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your recommendation for the SDT to consider when formed. The SAR DTs intent is that the standard will focus on BES assets and be applicable only to NERC Registered Entities.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer

Document Name

Comment

We should target requirements for winter preparedness to those who are the problem. Creating additional administrative burdens for entities who are in northern climates and have generation that is designed to operate in severe winter weather is not in the best interest of the ratepayers.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions. In addition, the SAR DT revised the SAR to provide flexibility among the geographical regions. The SAR DT will notate your recommendation for the SDT for consideration once formed.

End of Report

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information			
SAR Title:	Cold Weather Preparedness and Communication Requirements between Functional Entities		
Date Submitted:	September 20, 2019		
SAR Requester			
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer		
Organization:	Southwest Power Pool, Inc.		
Telephone:	(501) 614-3206	Email:	mdesselle@spp.org
SAR Type (Check as many as apply)			
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)		
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision		
<input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)		
<input type="checkbox"/> Withdraw/retire an Existing Standard			
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input checked="" type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified		
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated		
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified		
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions. Additionally, to ensure communications between functional entities of cold weather impacts to generator unit availability.			
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):			
To ensure optimal reliability by preparing generation for cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.			

Requested information

Project Scope (Define the parameters of the proposed project):

The project scope will address Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; and will include the development of new or revised NERC Reliability Standards to consider such activities as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes to ensure situational awareness for the registered functions.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards, as appropriate, to promote reliability of the BES during cold weather and to ensure that cold weather performance plans for BES generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within performance capabilities or operating limitations.

1. Generator Owner/Generator Operator² develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather ;
 - b. Implementing freeze protection measures;
 - c. Performing periodic adequate maintenance and inspection of freeze protection measures; and
 - d. Providing advance notification (when available) of curtailments of natural gas to a BES generating unit's Reliability Coordinator and Balancing Authority.
2. Generator Owner/Generator Operator communicates with the Balancing Authorities, Reliability Coordinators, and Transmission Operators the BES generating unit's associated design

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

² The term Generator Owner/Generator Operator used throughout the SAR is used as a broad categorization rather than a definitive requirement for both entities. The intention is for the Standard Drafting Team to determine the appropriate responsible entity based on the NERC Glossary of Terms and functional obligations defined in the standards.

Requested information
<p>specification or historical demonstrated performance and operating limitations during cold weather, including as required by deliverable 1d.</p> <ol style="list-style-type: none"> 3. Generator Owner/Generator Operator communicates with the Balancing Authorities, Reliability Coordinators, and Transmission Operator when local forecasted cold weather conditions are expected to limit BES generating unit performance or BES generating unit availability. 4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop its Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.
<p>Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):</p>
<p>Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.</p>
<p>Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (<i>e.g.</i>, Dispersed Generation Resources):</p>
<p>Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during cold weather events.</p>
<p>To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (<i>e.g.</i>, Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):</p>
<p>Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator, Transmission Operator</p>
<p>Do you know of any consensus building activities³ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.</p>

³ Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information

The *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019* was publicly noticed and shared with regulators and industry.

Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

In implementing the project scope, the preference is for the Standards Drafting Team to utilize and revise, to the extent possible, the current Operating and Planning Suite of mandatory Reliability Standards subject to enforcement and create a new standard only if necessary and appropriate. The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities and Reliability Coordinators, that may result from this project must be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2, TOP-003-3, and EOP-011 may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2) and Balancing Authority (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications. Additionally, EOP-011 includes consideration of generator management and extreme weather conditions.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:

2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019

Polar Vortex Review, September 2014

Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011

Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.

Requested information

Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.

Reliability Principles

Does this proposed standard development project support at least one of the following Reliability Principles ([Reliability Interface Principles](#))? Please check all those that apply.

<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles

Does the proposed standard development project comply with all of the following [Market Interface Principles](#)?

Enter
(yes/no)

1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
None	

For Use by NERC Only

SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information	
SAR Title:	Extreme Cold Weather Preparedness <u>and Communication Requirements between Functional Entities</u>
Date Submitted:	September 20, 2019
SAR Requester	
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer
Organization:	Southwest Power Pool, Inc.
Telephone:	(501) 614-3206
Email:	mdesselle@spp.org
SAR Type (Check as many as apply)	
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision
<input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)
<input type="checkbox"/> Withdraw/retire an Existing Standard	
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)	
<input checked="" type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):	
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for extreme cold weather conditions. <u>Additionally, to ensure communications between functional entities of cold weather impacts to generator unit availability.</u>	
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):	
To ensure optimal reliability by preparing generation for extreme cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.	

Requested information

Project Scope (Define the parameters of the proposed project):

The project scope will address Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; and will include the development of ~~a~~ new or revised NERC Reliability Standard to consider such activities as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes to ensure situational awareness for the registered functions.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards, as appropriate, to promote reliability of the BES during ~~extreme~~ cold weather and to ensure that cold weather performance plans for BES generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within performance capabilities or operating limitations.

1. Generator Owner/Generator Operator² develops and implements cold weather preparedness winterization plans, procedures, and ~~winter-specific and plant-specific operator~~ awareness training based on factors such as geographical location and plant configurations. Additional elements to-for consideration may include:
 - a. Generating unit availability. The need for accurate cold weather temperature design specifications or historical demonstrated performance, and operating limitations during cold weather;
 - ~~b. Parameters around operating temperatures;~~
 - ~~c. Implementing freeze protection measures and technologies;~~
 - ~~d. Performing periodic adequate maintenance and inspection of freeze protection measures and technologies; and~~

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¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

² The term Generator Owner/Generator Operator used throughout the SAR is a used as a broad categorization rather than a definitive requirement for both entities. The intention is for the Standard Drafting Team to determine the appropriate responsible entity based on the NERC Glossary of Terms and functional obligations defined in the standards.

Requested information

~~e.d. Providing advance notification (when available) of curtailments of natural gas to a BES generating unit's Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply.~~

2. Generator Owner/Generator Operator communicates with the Balancing Authorities, ~~and~~ Reliability Coordinators, ~~and Transmission Operators the associated parameters for~~ BES generating unit's ~~associated design specification or historical demonstrated performance, and operating limitations during availability for extreme cold weather, performance including as required by deliverable 1d.~~
3. Generator Owners/Generator Operator communicates with the Balancing Authorities, ~~and~~ Reliability Coordinators, ~~and Transmission Operator~~ when ~~local forecasted cold weather conditions are~~ expected ~~to temperatures are forecasted within the determined limit~~ BES generating unit ~~performance or BES generating unit availabilityies, expected availability of the generating units for the appropriate next day operating horizon.~~
4. ~~Reliability Coordinators, Balancing Authority, and Transmission Operator incorporate the use of the data, as communicated in deliverable #2 and #3 above, use of the information provided by the Generator Owner/Generator Operator to perform their respective~~ Operational Planning Analysis, ~~and develop its Operating Plans, or~~ determine the expected availability ~~and of~~ contingency reserves for the appropriate next day operating horizon.

Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):

Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.

Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):

Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during ~~extreme~~ cold weather events.

Requested information

To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):

Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator, Transmission Operator

Do you know of any consensus building activities³ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.

The *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 was publicly noticed and shared with regulators and industry.

Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

In implementing the project scope, the preference is for the Standards Drafting Team to utilize and revise, to the extent possible, the current Operating and Planning suite of mandatory Reliability Standards subject to enforcement and create a new standard only if necessary and appropriate. The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities and Reliability Coordinators, that may result from this project ~~should~~must be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2, ~~and~~ TOP-003-3, and EOP-011 may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2) and Balancing Authority (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications. Additionally, EOP-011 includes consideration of generator management and extreme weather conditions.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

³ Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information

A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:

2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019

Polar Vortex Review, September 2014

Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011

Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.

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Reliability Principles

Does this proposed standard development project support at least one of the following Reliability Principles ([Reliability Interface Principles](#))? Please check all those that apply.

<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles

Does the proposed standard development project comply with all of the following [Market Interface Principles](#)?

	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes

Market Interface Principles	
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
None	

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SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Standard Authorization Request (SAR)

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The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information	
SAR Title:	Cold Weather Preparedness and Communication Requirements between Functional Entities
Date Submitted:	September 20, 2019
SAR Requester	
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer
Organization:	Southwest Power Pool, Inc.
Telephone:	(501) 614-3206
Email:	mdesselle@spp.org
SAR Type (Check as many as apply)	
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision
<input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)
<input type="checkbox"/> Withdraw/retire an Existing Standard	
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)	
<input checked="" type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):	
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions. Additionally, to ensure communications between functional entities of <u>all-ambient cold</u> weather impacts to generator unit availability.	
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):	
To ensure optimal reliability by preparing generation for cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.	

Requested information

Project Scope (Define the parameters of the proposed project):

The project scope will address Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; and will include the development of new or revised NERC Reliability Standards to consider such activities as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes to ensure situational awareness for the registered functions.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards, as appropriate, to promote reliability of the BES during cold weather and ~~maximize to ensure that cold weather performance plans for BES~~ generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within performance capabilities or operating limitations.

1. Generator Owner/Generator Operator² develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations. ~~Elements for consideration~~ may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather ~~A generating unit's historical demonstrated performance and operating limitations during ambient cold weather;~~
 - b. Implementing freeze protection measures;
 - c. Performing periodic adequate maintenance and inspection of freeze protection measures; and
 - d. Providing advance notification (when available) of curtailments of natural gas to a supply to a gas-fueled BES generating unit's Reliability Coordinator and Balancing Authority.

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

² The term Generator Owner/Generator Operator used throughout the SAR is a used as a broad categorization rather than a definitive requirement for both entities. The intention is for the Standard Drafting Team to determine the appropriate responsible entity based on the NERC Glossary of Terms and functional obligations defined in the standards.

Requested information

2. Generator Owner/Generator Operator communicates with the Balancing Authorities, ~~and~~ Reliability Coordinators, ~~and Transmission Operators~~ the BES generating unit's associated ~~design specification or~~ historical demonstrated performance and operating limitations during ~~ambient~~ cold weather, ~~including as required by deliverable 1d.~~
3. Generator Owner/Generator Operator communicates with the Balancing Authorities, ~~and~~ Reliability Coordinators, ~~and Transmission Operator~~ when local forecasted ~~ambient cold~~ weather conditions ~~(including, but not limited to, cold weather temperatures)~~ are expected to ~~impact generating unit performance or limit BES~~ generating unit ~~performance or BES generating unit~~ availability, ~~for the appropriate next day operating horizon.~~
4. Reliability Coordinators, ~~and~~ Balancing Authorities, ~~and Transmission Operator~~ ~~incorporates use of the~~ ~~data, as communicated in generating unit performance and availability provided through~~ deliverable ~~#2 and~~ #3 above, to perform their respective Operational Planning Analysis, develop its Operating Plans, or determine the expected availability ~~and of~~ contingency reserves for the appropriate next day operating horizon.

Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):

Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.

Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):

Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during cold weather events.

To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):

Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator, ~~Transmission~~ ~~Operator~~

Requested information
Do you know of any consensus building activities ³ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.
The 2019 FERC and NERC Staff Report: <i>The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i> , July 2019 was publicly noticed and shared with regulators and industry.
Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?
<p><u>In implementing the project scope, the preference is for the Standards Drafting Team to utilize and revise, to the extent possible, the current Operating and Planning Suite of mandatory Reliability Standards subject to enforcement and create a new standard only if necessary and appropriate.</u> The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities and Reliability Coordinators, that may result from this project should<u>must</u> be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2, and TOP-003-3, <u>and EOP-011</u> may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2) and Balancing Authority (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications. <u>Additionally, EOP-011 includes consideration of generator management and extreme weather conditions.</u></p> <p><u>The Operating and Planning suite of standards will be considered for this project.</u></p>
Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.
<p>A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:</p> <p><i>2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018</i>, July 2019</p>

³ Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information
<i>Polar Vortex Review, September 2014</i>
<i>Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011</i>
<i><u>Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.</u></i>
<i><u>Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.</u></i>

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Reliability Principles	
Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to	Yes

Market Interface Principles

access commercially non-sensitive information that is required for compliance with reliability standards.

Identified Existing or Potential Regional or Interconnection Variances

Region(s)/ Interconnection	Explanation
None	

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SAR Status Tracking (Check off as appropriate).

- | | |
|---|--|
| <input type="checkbox"/> Draft SAR reviewed by NERC Staff | <input type="checkbox"/> Final SAR endorsed by the SC |
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Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Unofficial Comment Form

Project 2019-06 Cold Weather | Standard Authorization Request

Do not use this form for submitting comments. Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments on the **Project 2019-06 Cold Weather Standard Authorization Request (SAR)**. Comments must be submitted by **8 p.m. Eastern, Thursday, May 21, 2020**.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email), or at 404-446-2589.

Background Information

In July 2019, the FERC and NERC staff report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018* (Report) was released. Following the Report, Southwest Power Pool, Inc. (SPP) submitted a SAR proposing a new standard development project to review and address the recommendations in the Report. The formal comment period for the SAR's second posting concluded on March 19, 2020. The SAR drafting team (DT or SAR DT) has reviewed the formal comments submitted in response to the SAR's initial posting.

Based on the review and discussions, the DT modified the SAR and a third draft is re-posted for a 30-day informal comment period. The main substantive modifications to the SAR include, but are not limited to: 1) deleting references to "all ambient weather;" 2) focusing the SAR's scope on communications between functional entities when generator unit availability is expected to be impacted by cold weather conditions; 3) adding the Transmission Operator (TOP) to the communications deliverables, wherein the TOP will receive communications from the Generator Owner/Generator Operator and incorporate such information into the TOP's required system and operational planning analysis; and 4) clarifying that the requirements apply to all Bulk Electric System generating units.

The SAR DT will review all responses and incorporate, as appropriate, proposed revisions to the SAR. In the documents posted for informal comment, the highlighted language is intended to indicate that the revision includes a substantive change. The SAR DT requests that you focus your informal comments on these highlighted revisions.

1. Do you agree with the redline modifications made to the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

Yes

No

Comments:

Standards Announcement

Project 2019-06 Cold Weather

Comment Period Open through May 21, 2020

[Now Available](#)

An informal comment period for the **Project 2019-06 Cold Weather Standard Authorization Request** is open through **8 p.m. Eastern, Thursday, May 21, 2020**.

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. Contact [Wendy Muller](#) regarding issues with the SBS. An unofficial Word version of the comment form is posted on the [project page](#).

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries and issues. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The drafting team will review all responses received during the comment period and determine the next steps of the project.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Comment Report

Project Name: 2019-06 Cold Weather | Standard Authorization Request (Third Posting)
Comment Period Start Date: 4/22/2020
Comment Period End Date: 5/21/2020
Associated Ballots:

There were 51 sets of responses, including comments from approximately 141 different people from approximately 108 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

1. Do you agree with the redline modifications made to the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
MRO	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Andy Crooks	SaskPower Corporation	1	MRO
					Bryan Sherrow	Kansas City Board of Public Utilities	1	MRO
					Bobbi Welch	Omaha Public Power District	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Bobbi Welch	Midcontinent ISO	2	MRO
					Douglas Webb	Kansas City Power & Light	1,3,5,6	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					James Williams	Southwest Power Pool, Inc.	2	MRO
					Jamie Monette	Minnesota Power / ALLETE	1	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
Sing Tay	Oklahoma Gas & Electric	1,3,5,6	MRO					
Terry Harbour	MidAmerican Energy	1,3	MRO					

					Troy Brumfield	American Transmission Company	1	MRO
PPL - Louisville Gas and Electric Co.	Devin Shines	3,5,6	RF,SERC	Louisville Gas and Electric Company and Kentucky Utilities Company	Charles Freibert	PPL - Louisville Gas and Electric Co.	3	SERC
					JULIE HOSTRANDER	PPL - Louisville Gas and Electric Co.	5	SERC
					Linn Oelker	PPL - Louisville Gas and Electric Co.	6	SERC
Westar Energy	Douglas Webb	1,3,5,6	MRO,SPP RE	Westar-KCPL	Doug Webb	Westar	1,3,5,6	MRO
					Doug Webb	KCP&L	1,3,5,6	MRO
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
PJM Interconnection, L.L.C.	Mark Holman	2		SRC	Brandon Gleason	Electric Reliability Council of Texas, Inc.	2	Texas RE
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	SERC
					Ali Miremadi	California ISO	2	WECC
					Helen Laines	Independent Electric	2	NPCC

						System Operator		
					Kathleen Goodman	ISO New England	2	NPCC
					Mark Holman	PJM Interconnection	2	RF
					Terry Bilke	Midcontinent Independent System Operator	2	RF
					Gregory Campoli	New York Independent System Operator	2	NPCC
Northern California Power Agency	Marty Hostler	3,4,5,6		NCPA	Michael Whitney	Northern California Power Agency	3	WECC
					Scott Tomashefsky	Northern California Power Agency	4	WECC
					Dennis Sismaet	Northern California Power Agency	6	WECC
					Marty	Northern California Power Agen	5	WECC
Public Utility District No. 1 of Chelan County	Meaghan Connell	1,3,5,6		PUD No. 1 of Chelan County	Ginette Lacasse	Public Utility District No. 1 of Chelan County	1	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Davis Jelusich	Public Utility District No. 1 of Chelan County	6	WECC
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama	3	SERC

						Power Company		
					William D. Shultz	Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards Committee	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Helen Lainis	IESO	2	NPCC
					John Pearson	ISO-NE	2	NPCC
					David Kiguel	Independent	7	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
					Salvatore Spagnolo	New York Power Authority	1	NPCC

Shivaz Chopra	New York Power Authority	5	NPCC
Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Cristhian Godoy	Con Ed - Consolidated Edison Co. of New York	6	NPCC
Nicolas Turcotte	Hydro-Qu?bec TransEnergie	1	NPCC
Chantal Mazza	Hydro Quebec	2	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
Nurul Abser	NB Power Corporation	1	NPCC
Randy MacDonald	NB Power Corporation	2	NPCC
Jim Grant	NY-ISO	2	NPCC
Quintin Lee	Eversource Energy	1	NPCC
Silvia Parada Mitchell	NextEra Energy, LLC	4	NPCC
Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
Vijay Puran	NYSPS	6	NPCC
ALAN ADAMSON	New York State Reliability Council	10	NPCC
John Hasting	National Grid USA	1	NPCC

					Michael Jones	National Grid USA	1	NPCC
					Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC
Dominion - Dominion Resources, Inc.	Sean Bodkin	3,5,6		Dominion	Connie Lowe	Dominion - Dominion Resources, Inc.	3	NA - Not Applicable
					Lou Oberski	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
					Larry Nash	Dominion - Dominion Virginia Power	1	NA - Not Applicable
					Rachel Snead	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	1,3,5,6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO

1. Do you agree with the redline modifications made to the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer No

Document Name

Comment

City Utilities of Springfield continues to have concerns with creating a continent-wide standard to address a very specific regional issue. As stated in previous comments, we believe the current suite of Reliability Standards already cover most of the issues this SAR attempts to address. If Reliability Standards have to specifically call out each and every ambient condition or operational situation that could occur across North America to be effective, then we're going to continue spending valuable industry resources and our customer's money on non-stop standards projects. We don't believe that's the case and the current EOP, IRO and TOP standards are adequate to address the responsibilities of the RC, BA and TOP to collect information, prepare and operate the Bulk Electric System under all conditions, including cold weather. Therefore, we recommend removing items 2-4 in the Detailed Description of the SAR. If the SAR drafting team maintains the position that we need clarity on these items, then a better use of industry resources would be development of Implementation Guidance to provide examples for implementing these standards to address cold weather events. Perhaps some of the guidelines already developed around this issue would be a good place to start.

Therefore, the only thing we can support is item #1 in the Detailed Description of the SAR i.e., the development of new or revised requirements for Generator Owners to identify their ambient (cold weather) design parameters and for Generator Operators to provide a plan to their respective RC, BA and TOP to operate (or not) outside those parameters.

Likes 1 Northern California Power Agency, 5, Hostler Marty

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer No

Document Name

Comment

A standard of this type is not needed. There is sufficient guidance and market pressures to encourage entities to properly plan on extreme weather events. A standard of this type is overly burdensome to most entities in an effort to get marginal entities to perform.

Likes 1 Northern California Power Agency, 5, Hostler Marty

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 3,4,5,6, Group Name NCPA

Answer	No
Document Name	
<p>NCPA does NOT support this SAR. NCPA DOES support TAPS' SAR comments.</p> <p>The FERC report does not justify a Continent-Wide NERC Cold Weather Standard. The following two LiveWire Compliance Articles explain the issues mentioned in the 2018 FERC report, and are suggested reading prior to balloting and commenting. They are related to enforcement of Market Rules, Interconnection Agreements, and/or Regional PUC rules.</p> <p> https://mcusercontent.com/81c75744170760af3b43dad9c/files/8350bfca-81c1-462f-9674-22e933856d8d/Spotlight_2020_04_28_Cold_Weather_SAR_Controversy.pdf </p> <p> https://mcusercontent.com/81c75744170760af3b43dad9c/files/85a60b10-5ed2-45b7-96a2-b5febb45b961/Spotlight_2020_05_12_Project_2019_06_Cold_Weather_SAR_Draft_3.pdf </p> <p>The following draft SAR and 2018 FERC event report comments are offered, along with Regional improvement suggestions, in lieu of a Continent-Wide NERC Standard.</p> <p>2018 FERC Cold Weather Event Report Recommendation 1:</p> <p>A. Development/enhancement of NERC Reliability Standards where appropriate</p> <ul style="list-style-type: none"> <li>• Continent-Wide new Standards are NOT appropriate nor justified by the FERC report. <li>• The FERC Report does NOT identify any BES synchronized unit that tripped off-line. <li>• Contrary to SAR drafting team members' verbal comments, FERC's Report does not rule out regional standard(s) only; nor, implementing recommendations 2 and/or 3 only (B and C in these comments). <li>• IRO, TOP, and MOD Standards are not broken. They are, under used and/or not enforced. <li>• FERC staff and/or SAR drafting team members did not know, or will not accept, that existing NERC Standards already allow BA and RCs the ability to create a data specification(s) for Generator Facility information they need. BA/RCs can provide GO/GOP information, to each other and PA, TP, and TOPs. <li>• Numerous GO/GOPs, in several different BA/RC areas, informed FERC, NERC, and SAR drafting team members of the aforementioned facts, in SAR comments; and prior NERC documents filed with FERC (see TAPS comments for references to said NERC documents). <li>• BA/RCs involved in the 2018 FERC report event should have already requested design and other said information from GO/GOPs. It is a Standards Compliance or Market Enforcement issue if a GO/GOP does not provided requested information. This situation does NOT warrant enormous amounts of industry time and effort to develop a new standard. <li>• What is the status of BA/RCs, in the impacted area, requesting and receiving GO/GOP data? <li>• See EEI comments related to Gas Supply. <p>B. Market (ISO/RTO) rules where appropriate:</p> <ul style="list-style-type: none"> <li>• Cold Weather Preparation issues are best suited for Market solutions. Existing Market rules are fair and penalize all Market Participants, GOPs and non-GOPs, equally. 	

- Enforce existing Market rules/penalties if a generating unit that bids into the Market does not perform; or the GOP failed to submit a timely outage card/notice.
- If aforementioned Rules do not exist, BA/RTO should developed similar rules.
- BA/RCs develop incentives for Cold and/or extreme (hot) weather unit availability.
- This SAR is counter to NERC Market Interface Principle “A reliability standard shall not give any market participant an unfair competitive advantage”. Current California ISO (CAISO) Market rules do not allow GOPs to recover fixed cost for unfunded FERC reliability mandates. Non-GOP Market Participants have no said obligation(s) cost(s).
- If this SAR is to move forward FERC needs to level the playing field and first order BAs to compensate GO/GOPs for fixed NERC Compliance Costs. Otherwise this proposed Standard, among others, results in unfair Market competitive advantages for non-GOP generator Market Participants in the CAISO BA, and maybe others too.
- Another Market Interface Principle states “Standards shall not define an adequate amount of, or require expansion of, bulk power system resources or delivery capability.” This SAR and FERC report recommendations run afoul with said principle; both seek forcing BA/RTO bid stack/resource increases. Also see AEPs comments and link: http://www.nerc.com/pa/Stand/Resources/Documents/Market_Principles.pdf

C. Enhanced outreach to GO/GOPs

- FERC, NERC, SAR drafting team and Industry all agree existing outreach has been working and improving; kudos to everyone.
- Increase Outreach to GO/GOPs, especially those in the event area that did not have plans, who do not know their design ratings, and those that had unplanned outages. Assist them with developing and maintaining Cold Weather plans and annual preparation. In addition, assist them with determining equipment ratings that BA/RC Planners and dispatchers will actually use.

Other Suggestions:

- Increase Spinning Reserves during Cold Weather.
- Warm up Generators Units long before anticipated cold weather to prepare for higher load demand and avoid additional unit startup stresses during Extreme Cold Weather.
- Do not include non-Market participant’s resources in Loads and Resources Plan. During SAR drafting team meetings, it was mentioned, that some BA/RTOs had issues with non-market participants not starting up when called upon. Why did BA/RTOs call on said units to start up, or include them in Loads and Resources Plans?
- If GOP, Market Participant, does not submit a bid, nor an outage notice, do not assume their unit is available or ready to start; especially in extreme cold, call/email, and/or verify.
- Improve load and weather forecasting.
- Detail what data is really needed and if will actually be used by Planners or Dispatchers.
- BA or RC communicate directly with Gas Pipeline Owners/Operators.

The FERC Report does NOT mention:

- The primary cause of the event was extreme Cold Weather, not unplanned generation outages. Extreme Cold Weather was not forecasted by BAs, RCs, RTO, nor GOPs. Weather forecasts were inaccurate which caused load forecasts to be more inaccurate than they already were. Which required BA, RC, and RTOs to need more generation and reserves than forecasted.
- GO/GOPs communicated de-rates to BA, RTO, and RCs.
- BA/RCs need to ask for information, instead of saying standards do not allow.
- It is unclear if BA and RTOs' day-ahead, or beyond, loads and resources plans included Generation that had not bid into their Market(s) or non-Market Participant Generation.
- During SAR drafting team meetings BA/RTO people mentioned they were having issues with non-Market participants. Simple: do not include non-Market Participant generation in resource plans.
- To definitively conclude generation facilities were within their designed operating ratings, more detailed analysis necessary. It does not appear that units were within their designed operating temperature when BA/RTO finally called on them to start.
- Actual temperatures at each generating facility are not provided. The report identifies ranges of impacted area ambient temperatures that could have been in load area.
- Actual wind chill, icing, etc. adjusted temperatures at each generator is not in the report.
- It appears that BA/RTO waited too long, until it got too cold in load center areas, before requesting additional generation to come on line. Warming up units before temperatures dropped would have helped a lot.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 3,5

Answer

No

Document Name

Comment

AEP once again appreciates the efforts of the standards drafting team, and thanks them for their continued willingness to consider our feedback and to take it into account as they've further revised the SAR. While AEP's comments in response to this latest SAR revision build upon our previous feedback, we begin by supplementing additional concerns related to the SAR's potential impact on energy markets.

It is apparent by the SAR's inclusion of market based principles, that NERC recognizes the potential interaction between Reliability Standards and energy markets, and seeks to ensure that the SAR follows the Market Interface Principles. While we recognize that reliability standards do impact the energy markets, the markets themselves (especially RTOs/ISOs) specifically design energy products to incent reliable operations. AEP is unable to support this SAR, as any standard that directs activities to improve cold weather performance directly runs afoul of the Market Interface Principles, specifically: "Standards shall not define an adequate amount of, or require expansion of, bulk power system resources or delivery capability." http://www.nerc.com/pa/Stand/Resources/Documents/Market_Principles.pdf Further, AEP believes that there are sufficient market constructs to ensure resources are prepared for any weather conditions, as it is in their best interest to produce energy. This is especially true during challenging weather conditions, as energy prices will typically reflect any shortage condition, and compensate resources for their efforts to ensure operability during these conditions.

Despite our stated objections, AEP does acknowledge the need for effective communication of resource capabilities, and believes that this communication regularly takes place in the markets where we operate (ERCOT, PJM, SPP). Generation limits can be submitted as far out as seven days in advance, with updates provided as system conditions change (e.g. weather, transmission topography, unit status, fuel, hydro, wind, and solar availability, etc.). Obviously, as the time horizon to real-time operations draws closer, the forecast accuracy of all of these inputs increases, and updates are provided to the RTO. Of course, there is always an emphasis on ensuring the accuracy of Day Ahead and Real Time limits, as these are the most critical to the reliable operation of the grid. Again, this is why there are market incentives to ensure this information is correct. (e.g. operating reserve charges, balance energy, etc.) As such, AEP has significant concern with developing any standard which would create an additional set of reporting criteria. A second set of reporting criteria would at best, cause confusion, and even worse, could potentially be called into question by Market Monitoring Units within the markets, and other regulating bodies, when reviewing an entity's market behavior, simply due to any differences in timing and reporting requirements.

While we are appreciative of the efforts of the SAR drafting team, AEP still does not believe the proposed SAR is the appropriate mechanism for addressing the concerns associated with cold weather and unit reliability. While the proposed efforts for both preparedness and communication as suggested in the draft SAR appear to be reasonable in and of themselves, AEP does not believe creating NERC obligations for them is the correct path to take. As a result, AEP would like to revise and restate our previous feedback and concerns as provided below.

AEP takes cold weather preparedness very seriously, and has developed and implemented procedures to ensure unit reliability for cold weather. In addition, NERC's own Reliability Guideline "Generating Unit Winter Weather Readiness", has been in effect for some time now. In its own words, this document provides a "framework for developing an effective winter weather readiness program for generating units throughout North America" and guidance "on maintaining individual unit reliability and preventing future cold weather related events." In addition, EOP-011 already addresses weather preparedness in an appropriate manner. Functional Entities, such as the TOP and BA, have checklists and attestations required for Generator weatherization. Significant improvements to weather preparedness have been made since 2011, with increased awareness and action plans driven by NERC recommendations.

Beyond the concerns provided above, is the impact of administrative burden to prove compliance of any revised or new NERC standards. While a majority of entities are likely already following the obligations being considered (for the RTOs, as mentioned previously) the impact on entities to prove compliance in addition to that already required for the RTOs, cannot be understated. Similarly, the proposed methodology of the draft SAR runs counter to that of both Paragraph 81 criteria (specifically that of Criteria B) and those which justified the retirements recently proposed in Project 2018-03 (Standards Efficiency Review Retirements). Paragraph 81 considerations continue to be an essential aspect of routine periodic reviews of existing standards subject to enforcement, as provided in Attachment 2 of NERC's Periodic Review Template shown here. It would be ill-advisable for this project to pursue development of new obligations, which from their inception, would likely be flagged for later review for potential retirement under Paragraph 81. Once again, we believe many entities are already following prudent, localized strategies in preparing for cold weather, and are already incentivized to develop and execute prudent procedures based on existing market demands. AEP does not see any reliability benefit of developing new or revised standards which would eventually be flagged for retirement under either Paragraph 81 Criterion B or Standards Efficiency Review.

Rather than the course proposed in the draft SAR, AEP believes the best path forward involves the RTOs (presumably serving as the Balancing Authority) working directly with generating entities within their footprint to determine and monitor the preparatory steps necessary, and to follow up when issues are identified. RTOs are in the best position to provide this service, as they fully understand the system constraints, geography, weather patterns, and customers for their area. RTOs often provide their own guidance in this regard, for example, PJM's Manual 14D Attachment N: Cold Weather Preparation Guideline and Checklist. This is one of several guidance documents that is already available, and which emphasizes the reviewing of lessons learned after each event and implementations of defenses to prevent recurrence. Once in place, this creates a living effort that focuses improvements in areas of specific need that directly translates to continual improvement of the process that is in place. ERCOT already has a suitable mechanism in place, which has proven itself in practice. We are now seeing that REs are heading in a similar direction as well. AEP believes these established processes have proven their effectiveness, and will continue to be valuable going forward as well. Not only does this relationship between the RTOs and their generating entities help to develop prudent preparatory steps in regard to cold weather, it also allows the RTO to work more closely with those generators who may need to improve the methods they already have in place. Such a working relationship naturally fosters a good communication between the generator and the BA and/or RC which we believe the SAR drafting team is actively seeking.

Rather than pursue rule making that applies to all entities, many of which have prudent cold weather procedures already in place, RTOs should instead work more closely with those entities where preparatory improvements may need to be made. By doing so, the RTOs can more accurately determine exactly what deficiencies need to be addressed within these specific entities, and recommend appropriate entity-specific strategies accordingly.

Likes	1	Northern California Power Agency, 5, Hostler Marty
Dislikes	0	
Response		
Meaghan Connell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name PUD No. 1 of Chelan County		
Answer	No	
Document Name		
Comment		
<p>CHPD appreciates the consideration of comments the DT made in the third draft revision of the SAR. However, the language in the SAR maintaining the requirement that all BES generating units would be required to develop and implement cold weather preparedness plans continues to put an unnecessary compliance burden on the bulk of generating units that already operate reliably in historically cold climates. CHPD requests the DT add language providing an exemption for those units located in historically cold climates that already operate reliably in routinely cold weather regions in order to not add unnecessary compliance paperwork and divert resources from valuable work in maintaining these systems.</p>		
Likes	0	
Dislikes	0	
Response		
Scott Berry - Indiana Municipal Power Agency - 4 - RF		
Answer	No	
Document Name		
Comment		
<p>A cold weather standard is not needed and IMPA does not support this SAR. The SAR is requested data that can be collected under MOD-032, IRO-010, and TOP-003 (some of it is being collected there today). The standard MOD-032 uses a data specification and intentionally lets the Planning Coordinators and Transmission Planners decide what data they needed to collect in the specification. The TOP-003 NERC standard lets the Transmission Operators and Balancing Authorities decide the necessary data to request in their data specifications. The IRO-010 standard lets the Reliability Coordinators collect their necessary data from entities. All three of these standards are written in a way to let the requesting entities decide the necessary data to collect from entities in order to do their required planning or work.</p> <p>For item 3, the use of the wording “when local forecasted cold weather conditions are expected to limit BES generating unit performance” is vague and subject to many interpretations. In the case of a peaking unit, a GO/GOP can’t be expected to speculate if it knows of no problems prior to startup. If a new standard would require the GO/GOP to speculate, this could cause unnecessary calls during the winter season if the cold weather is “expected” to limit its BES generation. Do Reliability Coordinators, Balancing Authorities, and Transmission Operators really want the GO/GOP to guess and call them every time cold weather is “expected” to limit BES generation? If a generating unit located within the PJM area has a known derate, the GO/GOP would have to submit that to PJM. If the cold weather is known to limit the BES generation, then a call makes sense but every time the cold weather is expected to limit BES generation is very different. If item 3 is kept in the SAR, IMPA recommends replacing “expected” with the wording similar to “is known to actually limit” the BES generation.</p> <p>In addition to these comments, IMPA supports the comments submitted by Rebecca Baldwin (TAPS).</p>		

Likes 1	Northern California Power Agency, 5, Hostler Marty
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Dislikes 0	
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Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer	No
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Document Name	
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Comment

The thesis for our revised wording of the SAR is as follows.

1. Develop a cold weather preparedness plan and execute it
2. Establish a communication process between the GO/GOP and RC/BA for cold weather data

The accuracy of the data supplied should not be the focus, but rather the establishment of a communication/risk assessment process between the GO/GOP and RC/BA, along with a cold weather preparedness plan.

1. Generator Owner/Generator Operators develop and implement cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations should include but not limited to the following:
 2.
 - i. Cold weather temperature unit design specifications or unit historical demonstrated performance and operating limitations during cold weather;
 - ii. Implementation of freeze protection measures;
 - iii. Performing periodic adequate maintenance and inspection of freeze protection measures
 3. Reliability Coordinators/Balancing Authorities/Transmission Operators establish the expectations for the appropriate Generators Owner/Generator Operators to communicate the following, but not limited to:
 4. Data in deliverable 1a
 5. Notification of curtailments of natural gas once made available to the GO/GOP
 6. Generating unit operating limitations in advance of a forecasted cold weather event

Likes 0	
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Dislikes 0	
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Response

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer	No
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Document Name	
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Comment

SRP sees this SAR as overreaching. There are market penalties for lack of performance during cold weather and the necessary information can be requested by other means (TOP-003 and IRO-010).

Deliverable 1 should be revised to remove the term “accurate” from sub-item a, and the term “adequate” from sub-item c. The term “accurate” implies that there may be testing, or other verification methods, required at cold weather conditions to verify design parameters. The term “adequate” bring into question of who determines the adequacy? SRP recommends the term “accurate” removed and the terms “periodic adequate” be replaced with “preventative” in the sub-items in deliverable 1.

Furthermore, deliverable 1 states that the cold weather preparedness plans, procedures and training “may include” the sub-items; but deliverable 2 specifically requires sub-item d.

Likes 1

Northern California Power Agency, 5, Hostler Marty

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

No

Document Name

Comment

Reclamation agrees with the change from all ambient weather back to only cold weather; however, Reclamation still does not support a nationwide cold weather standard that would apply to Generator Owners or Operators. Reclamation asserts that the increased costs, labor hours, and administrative compliance burden of a nationwide cold weather standard on Generator Owners and Operators would be better served with proper enforcement of existing standards and market rules at the Balancing Authority, Reliability Coordinator, Regional Transmission Organization, and/or Regional Entity level.

Reclamation appreciates the inclusion of “The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather” into deliverable 1.a.; however, due to the power facilities of concern being natural gas or dual fuel facilities that are not designed for extreme cold weather operations, Reclamation does not agree with a nationwide standard or any cold weather standard that would apply to hydroelectric generators.

In accordance with the intent stated in SAR Footnote 2, Reclamation would support cold weather requirements contained in a SERC and/or MRO regional variance.

Reclamation appreciates the inclusion of “In implementing the project scope, the preference is for the Standards Drafting Team to utilize and revise, to the extent possible, the current Operating and Planning Suite of mandatory Reliability Standards subject to enforcement and create a new standard only if necessary and appropriate.” Reclamation recommends that existing standards, such as IRO-010, TOP-003, and/or EOP-011 be revised with regional variances to address the areas of concern. A new standard is unnecessary and cold weather requirements should not apply to hydroelectric generators.

Where appropriate, Reclamation agrees with the inclusion of Transmission Operator as an applicable entity. A Transmission Operator should be added as an applicable entity only if the role of the Transmission Operator would change under cold weather conditions.

Reclamation supports the comments provided by the North American Generator Forum.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer No

Document Name

Comment

Talen energy supports the comments of the North American Generator Forum (NAGF) and of the Edison Electric Institute (EEI), and we have the following additional comments:

- TOs should be included among the applicable entities for any standard on the subject of cold weather reliability, since they must prepare for winter much the same as GO/GOPs do.

- Starting-up generation units in the teeth of a winter storm is immensely more difficult than keeping already-running units online. Starting units out-of-merit due to forecasted perils, as was done in our area when Hurricane Sandy was approaching for example, does far more for BES reliability than trying to analytically predict if and when weather-related issues will occur.

- Accurate prediction of cold weather-caused outages is impractical, due to the limited significance of design specifications and the dependence of historical performance on multitudinous factors with undefinable interrelationships (minimum temperature experienced, duration of unusually low temperature, maximum wind speed, duration of unusually high wind speed, variation of wind speed with temperature, peak snowfall rate, duration of unusually heavy snowfall, etc). Successful wintertime reliability-enhancement initiatives (e.g. the market regulations in PJM Manual 14D Att. N) emphasize instead continuous improvement.

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer No

Document Name

Comment

These comments represent the MRO NSRF membership as a whole but would not preclude members from submitting individual comments”.

The NSRF believes that the only item needed within the Technical Justification Section is: “The deliverable will be new or revised Reliability Standards, as appropriate, to promote reliability of the BES during cold weather and maximize to ensure that cold weather performance plans for BES generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within performance capabilities or operating limitations”. Webster defines justification as, “an acceptable reason for doing something : something that justifies an act or way of behaving”.

All items under this sections’s 1, a, b, c, and d, are all too prescriptive to be in the SAR and are solely restating what was in the 2019 FERC and NERC report.

Items in section 2, 3, and 4 are also prescriptive in nature and do not provide "justification" to create or revise a Reliability Standard. Transmission Operator should be added to the Industry Need Section.

Recommend the above items in sections 1, 2, 3, and 4 be deleted. This will allow the Standards Drafting Team with how to move forward with a continent wide Standard (new or revised) that mitigates the issues within the FERC and NERC report.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6, Group Name OKGE

Answer

No

Document Name

Comment

Oklahoma Gas & Electric supports Edison Electric Institute's (EEI) response to this third revision of the SAR.

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6, Group Name Dominion

Answer

No

Document Name

Comment

Dominion Energy does not support the current version of the proposed SAR. Dominion Energy supports the comments of both EEI and NAGF.

Dominion Energy supports the concepts behind the development of the proposed SAR but is of the opinion that the SAR proposes a scope that places undue compliance requirements on generator owners. The joint NERC/FERC report emphasizes that communication between the RC, BA and GO/GOP should be improved while the SAR appears to be focused on creating new reporting requirements for the GO/GOP. Dominion Energy supports the direction both EEI and NAGF recommend in their comments for appropriately scoping this project, specifically:

1. Item 1a of the detailed description is problematic as it specifies types of data a GO/GOP would be required to use for its cold weather program. Dominion Energy agrees that this should be removed from the scope of the SAR or use the following language: The need for cold weather performance or operating limitations.
2. Item 1d of the detailed description should be removed from the SAR. The joint report does not recommend that a standard be developed to address this issue but rather addresses gas generator firm fuel supply, which is clearly a market issue. If an RC or BA requires information on a

generators ability to perform for cold weather conditions, both IRO-010-2 and TOP-003-3 provide an existing mechanism to obtain this information. If the standard is unclear, Implementation Guidance could be developed to clarify the data specification requirements in these standards.

Likes 0

Dislikes 0

Response

Wayne Sipperly - NAGF - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

No

Document Name

Comment

Comments: The North American Generator Forum (NAGF) does not support the latest iteration of the Cold Weather SAR. The NAGF understands that an approved SAR will document the scope and reliability benefit of a proposed project and therefore serves as the blue-print for a Standard Drafting Team to follow when determining modifications to existing or the development of new Reliability Standards. Due to the nature of this "blueprint", the NAGF respectfully declines to support this SAR as written. The changes in the previous two SAR revisions are cosmetic in nature and do not address the root issues the NAGF finds with the requirements of this SAR.

As stated in previous comments, the NAGF supports communication between functional entities when generator availability is expected to be affected by weather conditions. These communication requirements are already addressed via existing standards IRO-010 and TOP-003. All GO / GOP's must satisfy the obligations of documented specifications to assist in Real-time monitoring and planning assessments. The NAGF does not feel a continent-wide Winter-Preparation standard will enhance reliability as the lack of winter preparation cited in the FERC / NERC staff report occurred only in certain regions (MISO in particular). Adding a second, potentially conflicting layer of regulatory requirements to existing well-functioning regions will most likely be counter-productive and difficult to audit consistently.

- Section 1.a.: The NAGF recommends that this section be deleted in its entirety. Basing Cold Weather reliability requirements on prior generator performance (historical) during cold weather is subject to results of questionable value and bias due to the following:
 - o Factors other than weather impact a unit's performance
 - o Historical maintenance conditions are dynamic
 - o Economic dispatch considerations

Providing "Cold Weather" design data is problematic and complex and does not take into consideration the Cold Weather preparation such as wind breaks and heaters used by GO/GOPs to assure vulnerable areas are protected. Temperature and wind speed design values stated on heat tracing drawings are inputs to calculations and often do not correspond to actual cold weather capabilities of generating units.

- Section 1.b.: What is the difference between the opening statement of Section 1, "...develops and implements cold weather preparedness plans, procedures, and awareness training..." and 1.b., "Implementing freeze protection measures"?
- Section 1.c.: The NAGF respectfully requests "periodic" and "adequate" to be clearly defined as SAR revision(s) occur. Leaving auditors to determine the meanings will create issues for GO/GOP's to maintain adequate controls and close gaps when managing NERC registrations across different Regions.
- Section 1.d.: The NAGF has stated before that this requirement is already required as part of the daily communication to BA's, RC's and /or TOP's. However if there is an issue in particular with understanding unit curtailments due to fuel availability, the NAGF suggests revising to read: "GO / GOP's to communicate notice of natural gas curtailments (gas-line pressure reductions and/or reduced volume) to the applicable Reliability Coordinator, Balancing Authority and Transmission Operator ." This clarity belongs in a revision of IRO-010 and / or TOP-003.

- Section 2 should be deleted in its entirety for the same reasons as Section 1.a. Planning for the exceedingly complex matter of winter storm survivability cannot simply be predicated on “design specifications or historical demonstrated performance and operating limitations.” Generator Operators use of additional freeze protection equipment during extreme cold weather illustrates that the generators are already being operated outside of their design specifications (assuming adequate maintenance is performed on insulation and heat tracing) in order to provide safe and reliable power during winter events.
- Sections 3 and 4 appear to duplicate existing requirements in existing standards. GO / GOPs are already required to communicate generating unit availability and reasons for limitations on a twice daily and weekly look-ahead basis. RC, BA and TOPs are required to use that information to perform their respective Planning Analysis’ and update as required. RC’s and BA’s do not yet use the most powerful countermeasure available to them: placing generators (especially those with low capacity factors or long start-up times) online early in the interest of BES reliability.
- The NAGF requests that each process requiring the GO/GOP to communicate Cold Weather Availability data or information to the RC, BA and/or TOP requires those entities to document in writing and communicate their specific process to the GO/GOP. To clarify, each RC, BA and TOP should document communication methods (telephone, ticket entry etc.) for the GO / GOP to follow when requested generating information is required. Additionally, any data requests from the RC, BA and TOP should be clearly defined and documented in a procedure or manual for the GO/GOP to follow for timely submittal.
- The NAGF supports the comments submitted by the Edison Electric Institute (EEI).

Likes 1 Tacoma Public Utilities (Tacoma, WA), 1,3,4,5,6, Wike Jennie

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer No

Document Name

Comment

Black Hills Corporation (BHC) understands the importance of this SAR, but we continue to not agree with the following:

- The deliverables should be to revise current standards (as mentioned, i.e. IRO-010, TOP-003, EOP-011) where needed . Additionally our Transmission Operator (TOP) stated that many of the items in the SARs deliverable are already addressed by the mentioned standards and TOP-003-4 for Operations Planning & Analysis for the TOP, as well as specific RC processes (which can vary from 1 to another).
- BHC continues to feel that “additional mandatory training” on Cold weather is not needed. This is an added burden to most generator operators whom already deal with preperations and implement freeze protection to their equipment/systems.
- BHC already does “periodic adequate” maintenance & inspection of equipment for cold weather (freeze) protection as our generators are all designed & in areas for very cold ambient temperatures. it is believed most generation facilities in the upper half of the USA are of the same removing the need to have additional mandatory requirments for something that is only affecting southern states.
- Adding the Transmission Operator is ok, but they already communicate outage information via the TOP standards to the BA/RC’s. As for the GO/GOP advising the BA/RC & TOP outage type of communication is already being done; just not to the extent of specifying “curtailment of natural gas”. In BHC’s case – we are getting this information to our TOP at this time, just unsure of other industry peers processes to this level.

Likes 1 Tacoma Public Utilities (Tacoma, WA), 1,3,4,5,6, Wike Jennie

Dislikes 0

Response

Andy Fuhrman - Minnkota Power Cooperative Inc. - 1 - MRO

Answer No

Document Name

Comment

Minnkota Power supports comments submitted by the MRO NERC Standards Review Forum (NSRF).

Likes 0

Dislikes 0

Response

Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable

Answer No

Document Name

Comment

TAPS does not support creating a continent-wide standard to address a very specific regional issue, particularly given that, as stated in previous comments, existing Reliability Standards already cover most of the issues this SAR attempts to address. It is neither feasible nor desirable for Reliability Standards to specifically call out each and every ambient condition or operational situation that could occur across North America; attempting to do so requires the industry to spend valuable resources and our customers' money on non-stop standards projects.

There is no need for a new or revised standard "to ensure communications between functional entities of cold weather impacts to generator unit availability" (revised SAR at 1); such communications are already required by existing standards. In response to the comments submitted by TAPS on the prior posting of this SAR, the drafting team stated that "it is not clear that the conditions of [IRO-010 and TOP-003] focus on data specific to cold weather issues." The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 *already* require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because *the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data.*" Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach—listing each type of data that must be provided—will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Much more recently, NERC stated in its April 6, 2020 comments on FERC's NOPR regarding the Phase 1 SER retirements (RM19-16 and RM19-17, at 9 (emphasis added)):

Reliability Standards MOD-032-1, IRO-010-2, and TOP-003-3 provide the entities responsible for the reliable modeling, planning, and operation of the BPS with the authority to obtain the information they need from Generator Owners and Transmission Owners to complete their reliability tasks, which

may include next most limiting equipment information. *Now that these broader data specification standards are in place, NERC has identified no reliability need to maintain additional requirements expressly requiring the provision of this data in the FAC-008 standard.*

It is counterproductive to add specific requirements with respect to cold weather data at the same time that the industry and NERC are proposing to retire analogous requirements with respect to next most limiting equipment information. If the SAR drafting team maintains the position that additional clarity with respect to cold weather is needed, then a better use of industry resources would be development of Implementation Guidance to provide examples for implementing these standards to address cold weather events.

Finally, to the extent that clarifications to TOP-003 and IRO-010 *are* needed, we note that a draft SAR developed by the SER Phase 2 team proposes to clarify those standards—in a holistic manner—as to the scope and format of data specifications. TAPS supports the SER effort, and urges the Cold Weather drafting team not to spend resources developing piecemeal requirements to address an issue that can be handled more efficiently and effectively by the SER project.

With respect to the SAR's other prong—"To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions" (SAR at 1)—we refer the drafting team to our comments on that issue in response to the previous posting of this SAR, to which the drafting team did not respond. If this SAR proceeds, the SDT should take care to draft a results-based standard, avoiding unnecessary administrative burdens. In addition, the SDT should recognize that it would be uneconomic and inappropriate to require that every generator on the continent plan to operate under all conditions; generators must be permitted to identify their ambient design parameters and decline to make themselves available outside those parameters.

Likes 0

Dislikes 0

Response

Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1,3

Answer

No

Document Name

Comment

PNMR supports the comments of EEI made in their Q1 SAR response, as follows:

Industry Need Statement: EEI agrees with the Industry Need statement, as currently written.

Purpose or Goal Statement: EEI generally agrees with the Purpose or Goal Statement but does not support the use of the phrase "ensure optimal reliability" in the opening sentence. The purpose of a NERC Reliability Standard to ensure an Adequate Level of Reliability in coordination with all of the other factors used in ensuring the efficient and reliable operation of the BES.

Project Scope Statement: EEI does not agree that all parts of Recommendation 1 from the South-Central United States Cold Weather BES Event Report (Cold Weather Report) should or were intended to be included in a new or revised NERC Reliability Standard. In the Cold Weather Report, it offered a three-prong approach that included 1) new and/or revised Reliability Standards, 2) enhanced outreach to GO/GOPs and 3) market rules. For this reason, we offer the following modified scope statement that we believe more closely aligns with the intent of the Cold Weather Report.

The project scope will address **those parts of** Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; **that are appropriate for inclusion in a** new or revised NERC Reliability Standards **addressing** activities, such as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes **that ensure effective communications between** registered entities on known events that could impact BES reliability.

Detailed Description: EEI appreciates many of the changes made to the detailed description but still has the following concerns:

1. EEI remains concerned with the statement “historical demonstrated performance” in item 1.a of this section because this information does not always yield accurate estimates of resource performance. While this type of information, if accurate for the current facts and circumstances, may prove useful to RCs and BAs, it may also represents both a reliability risk if inappropriately used and a compliance risk for GOs. While a GO can provide historical operating data, that data is based both on the specific weather conditions and unit specifications at a previous point in time that may be different from current conditions. GOs should not be held accountable for the results of this data being used by the RC, BA, or TOP in operational and planning studies. For this reason, we ask that item 1.a be modified to emphasize the communications aspect, while noting the potential accuracy aspect of historical demonstrated performance and operating limits during cold weather.
2. EEI remains concerned with the inclusion of gas supply availability as a specific notification requirement and recommends its removal from the scope of the SAR. Such a requirement will create an unnecessary compliance obligation for GOs, who may not be the entity with the most timely information on natural gas curtailments if they are operating within an organized wholesale market. It is also important to recognize that gas curtailments can have significant impacts on these markets and as such are more appropriately addressed through market rules rather than NERC Reliability Standards, particularly in these areas. Additionally, EEI understands that most RTO/ISOs are already establishing processes and forming relationships with gas suppliers to ensure the most current fuel supply information is available to responsible RCs and BAs. For this reason, a one size fits all solution should not be applied through a NERC Reliability Standard. EEI is also not convinced that this issue cannot be solved through the effective use of tools that already exist within NERC Reliability Standards (i.e., TOP-003-3 and IRO-010-2). From this perspective, it may be more useful to the industry if rather than requirements in a SAR NERC should encourage the development of Implementation Guidance for TOP-003-3 and IRO-010-2 that can be tailored to address these regional differences, rather than creating new nationwide regulatory obligations that are unnecessary and not likely to address how gas curtailments should be communicated in different regions.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

No

Document Name

Comment

Duke Energy endorses EEI and NAGF comments communicated in their respective SAR Responses and specifically suggests the following changes:

Line Item #2:

(a) Suggestion:

- Delete “Generator Owner”;
- Add “Transmission Operators,”;
- Substitute “or Reliability Coordinators, as applicable” for “and Reliability Coordinators”.

Basis: Regional operational and communication protocols vary – a Generator Operators communication hierarchy may be limited to a Transmission Operator, Balancing Authority, or Reliability Coordinator, as applicable.

Suggested Text: Generator Operator communicates with the “Transmission Operators,” Balancing Authorities”, “or” Reliability Coordinators”, as applicable,” the generating unit’s...

(b) Suggestion: Delete “or historical demonstrated performance”.

Basis: Duke Energy adopts the EEI position regarding this item. Basing a Reliability Standard requirement on prior generator unit performance during cold weather is both challenging and subject to results of questionable value and bias. For example, “historical demonstrated performance” is impacted by: 1 - factors other than weather impact a unit’s performance, 2 - historical maintenance conditions are dynamic, and 3 - economic dispatch considerations.

Suggested Text: ...the BES generating unit’s associated design specification “ “ and operating limitations during cold weather, including as required by deliverable 1d.

(c) Suggestion: Add “s” to specification.

Basis: Generating unit equipment may have multiple design specifications depending on vendor, type of equipment, etc., and therefore not have a single design specification (assuming a design specification is available - it may be difficult if not impossible to determine design specification information for older units).

Suggested Text: ...the BES generating unit's associated design specification”s”...

Line Item #3:

(a) Suggestion: Substitute an “or” for “and”.

Basis: Regional operational and communication protocols vary – a Generator Operator’s communication hierarchy may be limited to a Transmission Operator.

Suggested Text: Generator Owner/Generator Operator communicates with the Balancing Authorities, Reliability Coordinators, “or” Transmission Operators...

Line Items #2 and #3:

(a) Suggestion: Eliminate requirement to exchange information between Transmission Operators (TOP), Balancing Authorities (BA), and Reliability Coordinators (RC).

Basis: Mechanisms are already in place for the exchange of information between TOPs, BAs, and RCs in the Functions’ Real-time Monitoring and Operational Planning Analysis as part of the TOP, BA and RC Data Specifications currently required by TOP-003 and IRO-010. Having the Generator Operator (GOP) utilize communication methods already established will reduce the GOP’s compliance burden while maintaining an effective message delivery.

Line Item #4:

(a) Suggestion: Eliminate requirement for Transmission Operator (TOP), Balancing Authorities (BAs), and Reliability Coordinators (RC) to perform their respective Operational Planning Analysis, develop an Operating Plan (OP) or determine expected availability of contingency reserves for the appropriate next day operation horizon.

Basis: Mechanisms are already in place for the RC to incorporate its TOP and BA OPs as part of their Operating Plan Analysis (OPA) process. Specifically, IRO-008 R2 requires the RC to consider the OPs of its BAs and TOPs in the development of its OP. Additionally, data

specifications for the TOP, BA, and RC detail the information exchanged for each Function to perform its OPA. Further, the OPA definition requires “applicable inputs including, but not limited to, load forecast; generation output levels; Interchange; known Protection System and Special Protection System status or degradation; Transmission outages; generation outages;”, etc. Finally, OPAs already have the requirement to include expected generator outages/output levels which would be communicated as part of the BAs OP and exchanged via the RC and TOP data specifications.

Likes 0

Dislikes 0

Response

Rodney Warner - PNM Resources - Public Service Company of New Mexico - 3 - WECC

Answer

No

Document Name

Comment

PNMR supports EEI comments

Likes 0

Dislikes 0

Response

Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6

Answer

No

Document Name

Comment

Madison Gas and Electric (MGE) does not support creating a continent-wide standard to address a very specific regional issue, particularly given that, as stated in previous comments, existing Reliability Standards already cover most of the issues this SAR attempts to address. It is neither feasible nor desirable for Reliability Standards to specifically call out each and every ambient condition or operational situation that could occur across North America; attempting to do so requires the industry to spend valuable resources and our customers’ money on non-stop standards projects.

MGE supports the TAPS Comments.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer	No
Document Name	
Comment	
<p>CAISO does not support the current redline version of the proposed SAR. We recommend the references to Reliability Coordinator be removed from SAR bullets #1d, 2 and 3.</p> <p>We agree with the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively.</p> <p>The flow of information needs to be from the Generator Owner/ Operator to Balancing Authority then to the Reliability Coordinator. The Balancing Authority will inform Reliability Coordinator of the Generator Owner/ Operator's information via the already well established processes between the Balancing Authority and Reliability Coordinator. As stated in the Functional Model, "The Balancing Authority has the responsibility for generation-demand-interchange balance in the Balancing Authority Area. The Reliability Coordinator may direct a Balancing Authority within its Reliability Coordinator Area to take whatever action is necessary to ensure that this balance does not adversely impact reliability."</p>	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	No
Document Name	
Comment	
<p>PacifiCorp supports the comments submitted by NSRF.</p>	
Likes 0	
Dislikes 0	
Response	
Carl Pineault - Hydro-Quebec Production - 1,5	
Answer	No
Document Name	
Comment	

HQP would like to reiterate its concerns about this SAR. Maintaining the requirement that all BES generating units would be required to develop and implement cold weather preparedness plans continues to put an unnecessary compliance burden on the generating units that already operate in historically cold climates without an appreciable increase in reliability.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

No

Document Name

Comment

EEl supports many improvements made to the SAR but there are still important issues that need to be addressed. We offer the following comments and suggestions:

Industry Need Statement: EEl agrees with the Industry Need statement, as currently written.

Purpose or Goal Statement: EEl generally agrees with the Purpose or Goal Statement but does not support the use of the term "optimal" in the opening sentence and recommends its removal.

Project Scope Statement: EEl does not agree that all parts of Recommendation 1 from the South-Central United States Cold Weather BES Event Report (Cold Weather Report) should or were intended to be included in a new or revised NERC Reliability Standard. The Cold Weather Report offered a three-prong approach that included 1) new and/or revised Reliability Standards, 2) enhanced outreach to GO/GOPs and 3) market rules. For this reason, we offer the following modified scope statement to more closely align with the intent of the Cold Weather Report.

The project scope will address **those parts of** Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; **that are appropriate for inclusion in a** new or revised NERC Reliability Standards **addressing** activities, such as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes **that ensure effective communications between** registered entities on known events that could impact BES reliability.

Detailed Description: EEl supports many of the changes made to the detailed description but has the following remaining concerns:

1. The language used in item 1.a of this section is problematic because resource owners cannot guarantee the accuracy of cold weather resource performance information regardless of whether it was derived from design specifications or historical demonstrated performance. While this type of information is useful to RCs and BAs for projecting resource performance during cold weather events, it may also represent both a reliability risk if inappropriately used and a compliance risk for GOs if they are held to the accuracy of the data provided. While a GO can provide the specified data, that data can and does often change over time for a wide variety of reasons. Therefore, GOs should not be held accountable for the results of this data when used by the RC, BA, or TOP in operational and planning studies. For this reason, we ask that item 1.a be modified to the following:

The need for **projected** accurate cold weather temperature performance and operating limitations during cold weather; (**EEl also struck "design specifications or historical demonstrated performance,"**)

2. EEl recommends removal of the inclusion of gas supply availability as a specific notification requirement from the scope of the SAR. Such a requirement will create an unnecessary compliance obligation for GOs without commensurate reliability benefits since they may not be the entity with the most timely information on natural gas curtailments if they are operating within an organized wholesale market. It is also important to recognize that gas curtailments can have significant impacts on these markets and as such are more appropriately addressed through market rules rather than NERC

Reliability Standards, particularly in these areas. Additionally, EEI understands that most RTO/ISOs are already establishing processes and forming relationships with gas suppliers to ensure the most current fuel supply information is available to responsible RCs and BAs. For this reason, a one size fits all solution should not be applied through a NERC Reliability Standard. It would be more appropriate to solve this issue through the effective use of tools that already exist within NERC Reliability Standards (i.e., TOP-003-3 and IRO-010-2). One option to address this issue could be for the Standards Drafting Team to develop Implementation Guidance for TOP-003-3 and IRO-010-2 that can be tailored to address these regional differences, rather than creating new nationwide regulatory obligations that are unnecessary and not likely to address how gas curtailments should be communicated in different regions.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC

Answer

No

Document Name

Comment

The Taunton Municipal Lighting Plant ("TMLP") does not support creating a new Reliability Standard to address the Cold Weather SAR as there are already existing Reliability Standards that could be leveraged to accomplish these goals. In response to the comments submitted by TMLP on the prior posting of this SAR, the drafting team stated that "it is not clear that the conditions of [IRO-010 and TOP-003] focus on data specific to cold weather issues." While we recognize that the SAR drafting team has included their intent for the SDT (once formed) to review the requirements within IRO-010 and TOP-003, we note that the standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions. There is no indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. *This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data.*" Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach—listing each type of data that must be provided—will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

In addition, NERC stated in its April 6, 2020 comments on FERC's NOPR regarding the Phase 1 SER retirements (RM19-16 and RM19-17, at 9 (emphasis added):

Reliability Standards MOD-032-1, IRO-010-2, and TOP-003-3 provide the entities responsible for the reliable modeling, planning, and operation of the BPS with the authority to obtain the information they need from Generator Owners and Transmission Owners to complete their reliability tasks, which may include next most limiting equipment information. *Now that these broader data specification standards are in place, NERC has identified no reliability need to maintain additional requirements expressly requiring the provision of this data in the FAC-008 standard.*

It is counterproductive to add specific requirements with respect to cold weather data at the same time that the industry and NERC are proposing to retire analogous requirements with respect to next most limiting equipment information. If the SAR drafting team maintains the position that additional clarity with respect to cold weather is needed, then a better use of industry resources would be development of Implementation Guidance to provide examples for implementing these standards to address cold weather events.

If this SAR proceeds, the SDT should take care to draft a results-based standard, avoiding unnecessary administrative burdens. In addition, the SDT should recognize that it would be uneconomic and inappropriate to require that every generator on the continent plan to operate under all conditions; generators must be permitted to identify their ambient design parameters and decline to make themselves available outside those parameters.

Likes 0

Dislikes 0

Response

Robert Blackney - Edison International - Southern California Edison Company - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

Please see comments submitted by the Edsion Electric Institute.

Likes 0

Dislikes 0

Response

Martin Sidor - NRG - NRG Energy, Inc. - 5,6

Answer

No

Document Name

Comment

Comments: NRG Energy, Inc. (NRG) generally agrees with the changes made to the SAR but feels more improvements can be made. NRG supports the observations, comments and recommendations submitted by the NAGF and EEI that focus the SAR scope on items that should be addressed in NERC Reliability Standards and removing those that are better addressed in markets or through other means.

Likes 0

Dislikes 0

Response

Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL

Answer

No

Document Name

Comment

Westar Energy / Kansas City Power & Light (Evergy companies) incorporate by reference the Edison Electric Institute's (EEI) response to Question 1.

Likes 0

Dislikes 0

Response

Truong Le - Florida Municipal Power Agency - 4 - SERC

Answer

No

Document Name

Comment

We support the comments TAPS made to this SAR. FMPA would like to highlight that the BA/RCs already have the right to request specific pertinent operational data in IRO-010 & TOP-003 data specification requirements. This topic should be addressed within those standards as a regional-specific example of weather-related data specification for generator operation and it should be up to the BA/RCs to determine whether they need such information. Additionally, moving forward with this SAR would be contrary to the SER efforts that NERC is currently engaged in. All of this was stated by TAPS in the last posting of this SAR. We at FMPA would like to echo the comments TAPS has made. Thank you.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 1,3,6

Answer

No

Document Name

Comment

Ameren agrees with and supports EEI comments.

Likes 0

Dislikes 0

Response

Devin Shines - PPL - Louisville Gas and Electric Co. - 3,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company

Answer

No

Document Name

Comment

LG&E/KU appreciates the Drafting Team's work towards refining the scope of the 2019-06 Cold Weather SAR in order to best address the recommendations of the South-Central United States Cold Weather BES Event Report.

We agree with the substance of the points made in EEI's comments. However, whereas EEI does not primarily ask for removal of language in the SAR stating that Standards be created or revised in order to address the problems cited in the Cold Weather Report, LG&E/KU recommends that NERC address the Report's recommendations through the development of Implementation Guidance for relevant existing Reliability Standards rather than creating or revising Standards. Therefore, we would recommend the Standards Committee reject the SAR and the development work of any Standards in response to the Report in accordance with Section 4.2 of the Standards Process Manual Rules of Procedure, Appendix 3A.

The changes requested in the Recommendations of the Cold Weather Report can be addressed efficiently through existing NERC Reliability Standards such as TOP-003-3 and IRO-010-2. These Standards already address the communication of generating unit availability and capability. The development of Implementation Guidance for the existing Reliability Standards could properly address existing issues while also accounting for regional variations. This approach allows for existing issues with communications to be addressed where they exist without creating duplicative Standards, unnecessary compliance obligations, and administrative burdens.

If the Standards Committee does not reject the SAR and choose to address the Cold Weather Report's recommendations through the development of Implementation Guidance, we support EEI's proposed revisions to the Project Scope and Detailed Description sections of the SAR. Specifically, we agree that:

- (1) The Project Scope should be narrowed to specifically state that any revisions or new Standards will focus on ensuring communications between registered entities with regard to events that could impact reliability. This would more directly address the issues raised in the Cold Weather Report; and
- (2) Section 1.a of the Detailed Description should not specifically require GO/GOPs to use design specifications or historical demonstrated performances in their planning and procedures. While the GO/GOP may provide this data to the RC, BA, or TOP for use, the information can vary and may not provide reliable information to use in operational and planning studies.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5

Answer

No

Document Name

Comment

DTE Esupports those comments made by the North American Generator Forum (NAGF). Please see the NAGF's response for the full extent of the comments. The NAGF respectively declines to support this SAR as written.

Likes 0

Dislikes 0

Response

Jamie Monette - Allele - Minnesota Power, Inc. - 1

Answer No

Document Name

Comment

Minnesota Power agrees with the following aspects of MRO's NERC Standards Review Forum's (NSRF) comments:

All items under this sections's 1, a, b, c, and d, are all too prescriptive to be in the SAR and are solely restating what was in the 2019 FERC and NERC report.

Items in section 2, 3, and 4 are also prescriptive in nature and do not provide "justification" to create or revise a Reliability Standard. Transmission Operator should be added to the Industry Need Section.

Recommend the above items in sections 1, 2, 3, and 4 be deleted. This will allow the Standards Drafting Team with how to move forward with a continent wide Standard (new or revised) that mitigates the issues within the FERC and NERC report.

Likes 0

Dislikes 0

Response

Jennie Wike - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6 - WECC

Answer No

Document Name

Comment

Tacoma Power appreciates the SAR Drafting Team's (DT) consideration of our comments and allowing the opportunity to provide suggestions. While we concur with the changes the DT incorporated into the SAR as a result of our comments, additional information or changes to the project scope is needed to address our concerns.

The central concern behind Tacoma Power's initial comments was that sufficient justification for modifying the existing regulatory framework was not provided in either the SAR or the 2019 FERC and NERC report. This concern is echoed in multiple other comments submitted by SRP, CHPD, Reclamation, Pend Orielle PUD, City Utilities of Springfield and IMPA. Without this detailed regulatory gap analysis, Tacoma Power cannot determine what is missing in the current framework and if the scope proposed in the SAR is adequate to address these gaps. Additionally, the information provided by AEP and other entities regarding conflicts with the Market Interface Principles is concerning, and we would like to see these concerns addressed prior to approving the SAR.

In addition to our original comments, we share the concerns expressed by City Utilities of Springfield and the U.S. Bureau of Reclamation that this project is seeking a continent-wide Standard to address a regional issue. Updating the SAR to limit the project scope to cold weather conditions instead of all ambient conditions is a step in the right direction. However, the SAR DT should consider changing the scope of this project to issuing a regional variance or regional Standard, as suggested by Reclamation. Alternatively, the applicability of these new requirements should be limited to units not located in historically cold climates and to exclude certain generation types (i.e. hydroelectric), as suggested by Reclamation and CHPD.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NERC Standards Review Forum.

Likes 0

Dislikes 0

Response

Colleen Campbell - AES - Indianapolis Power and Light Co. - 3

Answer Yes

Document Name

Comment

IPL agrees with the current SAR revisions and has no further comments.

Likes 0

Dislikes 0

Response

Wayne Guttormson - SaskPower - 1

Answer Yes

Document Name

Comment

For "Generator Owner/Generator Operator communicates with the Balancing Authorities, Reliability Coordinators, and Transmission Operators the BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather, "; is the expectation that the PC/TP will have to add this to their MOD data request of GOs (or the BA's) to get access to this information being sent to the BA, RC, and TOP?

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 1,5

Answer

Yes

Document Name

Comment

None

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

No Comments.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1,3,5,6

Answer

Yes

Document Name

Comment

Exelon concurs with the EEI comments and offers the following additional comments:

1. Exelon supports the use of historical cold weather performance data. Exelon has prior experience with determining cold weather operating limits based on either design or historical experience, and has found the historical data to be superior, i.e., more easily determined and less subject assumptions. Exelon does not object to the inclusion in the SAR of design information as a basis for cold weather operating limits for those generators that can use it, but any eventual changes to Standards for cold weather operation should allow the flexibility of using historical data.

2. Exelon supports EEl recommendation to remove the inclusion of gas supply availability as a specific notification requirement. As EEl states the organized wholesale market are more appropriately positioned to respond through established market rules.

Likes 0

Dislikes 0

Response

Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC

Answer

Yes

Document Name

Comment

The ISO/RTO Council's Standards Review Committee members PJM, NYISO, MISO, ISONE, IESO and SPP agree with and support the redline modifications.

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter

Answer

Yes

Document Name

Comment

None

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee

Answer

Yes

Document Name

Comment

Purpose or Goal: We suggest removing the word "optimal" since reliability does not need to be described within the SAR. NERC has defined "Adequate Level of Reliability" which is used primarily to guide NERC Reliability Standards development.

Likes 0

Dislikes 0

Response

Lisa Martin - Austin Energy - 1,3,4,5,6

Answer

Yes

Document Name

Comment

City of Austin dba Austin Energy encourages this effort to align with existing, successful ISO/RTO cold weather requirements such as those already in place in the ERCOT region.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

Overall, MISO supports the IRC SRC comments and modifications made to the SAR. Specifically, MISO supports the following changes:

- Reduction in scope to focus on cold weather conditions only
- Added flexibility for design specifications as an alternative to historical performance information
- Added specificity for unit performance capability
- Addition of the Transmission Operator function
- Recommendation to utilize and revise existing Reliability Standards and create a new standard only if necessary and appropriate.

We thank the SAR Drafting Team for its efforts.

Likes 0

Dislikes 0

Response

LaTroy Brumfield - American Transmission Company, LLC - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Document Name

Comment

ERCOT generally agrees with the proposed SAR, including its recommendation to use existing Reliability Standards to the extent possible and to “create a new standard only if necessary and appropriate.” Because IRO-010 and TOP-003 already address data specifications required by RCs, BAs, and TOPs for their Operational Planning Analyses (OPA), ERCOT sees no need to propose new requirements specifying procedures and formats for submission of the data contemplated under this SAR, although it may be necessary to create a new requirement for GOs/GOPs to provide that data. ERCOT also agrees with the SAR that existing requirements in EOP-011—especially R 2.2.3.1—should be considered in evaluating the need for additional standards or requirements.

Nevertheless, ERCOT recommends several further revisions to the SAR:

1. If the SAR continues to include deliverable 4 in the detailed description (contemplating a requirement for RCs, BAs, and TOPs to incorporate into their OPAs the information provided by GOs/GOPs), it should allow the RC, BA, or TOP to specify the format of the information provided by the GO/GOP, since it is the RC, BA, or TOP that would need to use the information in its OPA, and since it is likely that GOs/GOPs would provide different information in a variety of formats unless the format of the submission were standardized in some way. If the existing data specification constructs in IRO-010 and TOP-003 are used, the data would need to be provided to the RC, BA, or TOP in a “mutually agreeable format,” which could also achieve this standardization function.
2. ERCOT questions the SAR’s proposal in deliverable 2 to require GOs/GOPs to provide design specifications (such as a manufacturer’s minimum ambient operating temperature) or historical cold-weather performance information to RCs, BAs, and TOPs. In ERCOT’s experience, generator manufacturers do not always provide minimum ambient operating temperatures, and for those that do, the values provided are often overly conservative. Also, manufacturers have no control over whether GOs/GOPs will install additional weatherization measures that would substantially improve the generator’s ability to continue generating during extremely cold situations, making manufacturer information about minimum operating temperatures even less useful. Similarly, historical performance information will be inaccurate to the extent it fails to consider weatherization improvements that may have been made by generators during the period of historical evaluation. Given the unreliability of this information, ERCOT recommends against requiring GOs/GOPs to provide temperature-related design information or historical cold-weather performance information to RCs, BAs, and TOPs.
3. Although ERCOT agrees with deliverable 3’s general purpose to require GOs/GOPs to notify RCs, BAs, and TOPs of generator limitations due to cold weather, ERCOT recommends several revisions to this deliverable.
 - a. ERCOT recommends that the SAR replace the reference to “performance” with “capability.” This change, coupled with the existing references to “availability,” would align the language in the SAR with the reference to “capability and availability” in EOP-011 R 2.2.3.1, which addresses a similar concept.
 - b. ERCOT recommends that the GO’s/GOP’s obligation to provide notice of natural gas curtailments—currently reflected in deliverable 1.d.—should instead be integrated into deliverable 3, as this deliverable more appropriately captures the GO/GOP communications with RCs, BAs, and TOPs concerning capability and availability. To address this concern, deliverable 3 should be modified to propose a requirement that the GO/GOP notify the BA, RC, and TOP when “local forecasted cold weather conditions or natural gas curtailments limit BES generating unit capability or availability.”
 - c. The deliverable should also clarify the time horizons in which the GO/GOP should be required to notify the BA, RC, and TOP of impacts to generator capability or availability due to cold weather. Specifically, the SAR should clarify that this duty applies in the Operations Planning, Same-Day Operations, and Real-Time Operations Horizons. This is because the capability and or availability can change between the OPA timeframe and Real-time operations, often as the weather forecast changes.

Likes 0

Dislikes 0

Response

Answer

Document Name

Comment

Texas RE provided the comments below for the second posting of the SAR, to which the SAR DT responded “(1) The SAR DT notes the situational aware part of recommendation #1.” Texas RE is requesting a response regarding how this concern will be addressed within the SAR or why it will not be addressed within the SAR.

- Texas RE recommends the SAR include utilization of Real-time data. The SAR discusses RC and BA utilization of parameter in operation planning studies (OPA, Operating Plans, reserves for next day operating horizon), but does not address utilization of parameters in Real-time (RTA, Real-time monitoring). By ignoring Real-time analysis and monitoring, the SAR does not address cold weather events where actual temperatures are more severe than forecasted temperatures and actions are needed in Real-time to account for these unexpected conditions.

For example, the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 states “*The forecasts improved somewhat, but even the forecasts for January 15 (two days ahead) were 3 to 8 degrees higher than the minimum temperature observed on January 17.*” Additionally, the report states “*The analyses and resulting next-day Operating Plans were completed by late afternoon on January 16, and thus could not reflect the significant amount of additional unplanned generation outages, derates and failures to start which occurred overnight, and the impacts of the higher power transfer levels and decreased system voltage levels resulting from those losses.*” Together, these facts support the need to include consideration of these parameters for Real-time analysis and monitoring in addition to day-ahead studies.

Texas RE has the following additional comments:

- Texas RE recommends Deliverable 1d include notification to the TOP. Notification to the TOP is important to ensure the TOP has sufficient information to perform its OPA and is utilizing information in its OPA that is consistent with the information utilized by the RC. Inconsistent OPA results between the TOP and RC can lead to uncertainty regarding existence of reliability issues and actions needed to address the reliability issues.
- TOPs should also be added in the Industry Need section for completeness. The drafting team could consider the following verbiage: “Additionally, to ensure effective communications between functional entities regarding cold weather impacts to generator unit availability.
- In the “Detailed Description” section Texas RE requests consistency in the use of Transmission Operator(s) as some GO/GOPs may have multiple TOPs (even at a single location).
- There is a section that starts with “Are there any related standards or SARs...” that should include references to the TOPs in the phrase “applicable to Generator Owners, Generator Operators....”
- Texas RE recommends cold weather preparedness include seasonal operations planning as well because “**Operations Planning** - operating and resource plans from day-ahead up to and including seasonal.” The winter season study should be performed in fall with best available data provided by GO and GOP as identified in deliverables 1 and 2. Additionally, incorporating seasonal study in deliverables 3 and 5 is

recommended to ensure impact of cold weather on generations fleet is studied and understood way ahead of time before Real-time and Next-day studies are performed.

Likes 0

Dislikes 0

Response

Consideration of Comments

Project Name: 2019-06 Cold Weather | Standard Authorization Request (Third Posting)
Comment Period Start Date: 4/22/2020
Comment Period End Date: 5/21/2020

There were 51 sets of responses, including comments from approximately 141 different people from approximately 108 companies representing 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, contact Vice President of Engineering and Standards [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. Do you agree with the redline modifications made to the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
MRO	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Andy Crooks	SaskPower Corporation	1	MRO
					Bryan Sherrow	Kansas City Board of Public Utilities	1	MRO
					Bobbi Welch	Omaha Public Power District	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Bobbi Welch	Midcontinent ISO	2	MRO
					Douglas Webb	Kansas City Power & Light	1,3,5,6	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Fred Meyer	Algonquin Power Co.	1	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					James Williams	Southwest Power Pool, Inc.	2	MRO
					Jamie Monette	Minnesota Power / ALLETE	1	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Sing Tay	Oklahoma Gas & Electric	1,3,5,6	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Troy Brumfield	American Transmission Company	1	MRO
PPL - Louisville Gas and Electric Co.	Devin Shines	3,5,6	RF,SERC	Louisville Gas and Electric Company and Kentucky	Charles Freibert	PPL - Louisville Gas and Electric Co.	3	SERC
					JULIE HOSTRANDER	PPL - Louisville Gas and Electric Co.	5	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
				Utilities Company	Linn Oelker	PPL - Louisville Gas and Electric Co.	6	SERC
Westar Energy	Douglas Webb	1,3,5,6	MRO,SPP RE	Westar-KCPL	Doug Webb	Westar	1,3,5,6	MRO
					Doug Webb	KCP&L	1,3,5,6	MRO
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
	Mark Holman	2		SRC	Brandon Gleason	Electric Reliability	2	Texas RE

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
PJM Interconnection, L.L.C.						Council of Texas, Inc.		
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	SERC
					Ali Miremadi	California ISO	2	WECC
					Helen Laines	Independent Electric System Operator	2	NPCC
					Kathleen Goodman	ISO New England	2	NPCC
					Mark Holman	PJM Interconnection	2	RF
					Terry Bilke	Midcontinent Independent System Operator	2	RF
					Gregory Campoli	New York Independent System Operator	2	NPCC
Northern California Power Agency	Marty Hostler	3,4,5,6		NCPA	Michael Whitney	Northern California Power Agency	3	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Scott Tomashefsky	Northern California Power Agency	4	WECC
					Dennis Sismaet	Northern California Power Agency	6	WECC
					Marty	Northern California Power Agen	5	WECC
Public Utility District No. 1 of Chelan County	Meaghan Connell	1,3,5,6		PUD No. 1 of Chelan County	Ginette Lacasse	Public Utility District No. 1 of Chelan County	1	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Davis Jelusich	Public Utility District No. 1 of Chelan County	6	WECC
Southern Company - Southern	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern	1	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Company Services, Inc.						Company Services, Inc.		
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					William D. Shultz	Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards Committee	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Helen Lainis	IESO	2	NPCC
					John Pearson	ISO-NE	2	NPCC
					David Kiguel	Independent	7	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
					Salvatore Spagnolo	New York Power Authority	1	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Shivaz Chopra	New York Power Authority	5	NPCC
					Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Cristhian Godoy	Con Ed - Consolidated Edison Co. of New York	6	NPCC
					Nicolas Turcotte	Hydro-Quebec TransEnergie	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Nurul Abser	NB Power Corporation	1	NPCC
					Randy MacDonald	NB Power Corporation	2	NPCC
					Jim Grant	NY-ISO	2	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Silvia Parada Mitchell	NextEra Energy, LLC	4	NPCC
					Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
					Vijay Puran	NYSPS	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					John Hasting	National Grid USA	1	NPCC
					Michael Jones	National Grid USA	1	NPCC
					Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Dominion - Dominion Resources, Inc.	Sean Bodkin	3,5,6		Dominion	Connie Lowe	Dominion - Dominion Resources, Inc.	3	NA - Not Applicable
					Lou Oberski	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
					Larry Nash	Dominion - Dominion Virginia Power	1	NA - Not Applicable
					Rachel Snead	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	1,3,5,6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO

1. Do you agree with the redline modifications made to the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer No

Document Name

Comment

City Utilities of Springfield continues to have concerns with creating a continent-wide standard to address a very specific regional issue. As stated in previous comments, we believe the current suite of Reliability Standards already cover most of the issues this SAR attempts to address. If Reliability Standards have to specifically call out each and every ambient condition or operational situation that could occur across North America to be effective, then we're going to continue spending valuable industry resources and our customer's money on non-stop standards projects. We don't believe that's the case and the current EOP, IRO and TOP standards are adequate to address the responsibilities of the RC, BA and TOP to collect information, prepare and operate the Bulk Electric System under all conditions, including cold weather. Therefore, we recommend removing items 2-4 in the Detailed Description of the SAR. If the SAR drafting team maintains the position that we need clarity on these items, then a better use of industry resources would be development of Implementation Guidance to provide examples for implementing these standards to address cold weather events. Perhaps some of the guidelines already developed around this issue would be a good place to start.

Therefore, the only thing we can support is item #1 in the Detailed Description of the SAR i.e., the development of new or revised requirements for Generator Owners to identify their ambient (cold weather) design parameters and for Generator Operators to provide a plan to their respective RC, BA and TOP to operate (or not) outside those parameters.

Likes 1 Northern California Power Agency, 5, Hostler Marty

Dislikes 0

Response: Thank you for your comment.

1. The SAR DT understands that the FERC report does not clearly state the need for a Continent-Wide NERC Cold Weather Standard, however, the SAR DT believes that different levels of cold weather preparation and programs will be needed across the ERO due to varying cold weather conditions. As an example, US northeast-based BES generating units will require a more extensive and comprehensive cold weather preparation plan as compared to US southwest-based BES generating units. Additionally, any new or revised Standard that addresses generator winter preparation will take into consideration geographic differences and plant configurations. The cold weather guidelines have been in place for many years and based on the data, there have been 50% of outages over the past 6 of 12 years from cold weather; therefore, strictly utilizing Guidelines at this point is not a viable option.

2. The SAR DT understands that the relevant EOP, IRO and TOP standards respectively address: (1) reliability impacts of extreme weather conditions in Operating Plans, (2) data needed to monitor and assess operation of the BES, and (3) data needed to fulfill operational and planning responsibilities; however, it is clear that the reliability impacts of extreme weather conditions was not thoroughly considered, insufficient data existed or the data was not effectively utilized prior to or during the January 2018 South Central Cold Weather Event. Please see the modified bullets 2 and 3 of the SAR. The standards drafting team (SDT) when formed will review these standards to determine whether these standards are adequate, or whether further clarification to these standards is needed, to address the responsibilities delineated in the January 2018 Cold Weather Report. Implementation Guidance can be drafted based on modifications made to the requirements and will be up to the SDT for development in addition to the requirements of the standard. The SAR DT will recommend to the SDT to consider the development of Implementation Guidelines for the new standard.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1,3,5,6

Answer	No
Document Name	
Comment	
A standard of this type is not needed. There is sufficient guidance and market pressures to encourage entities to properly plan oin extreme weather events. A standard of this type is overly burdensome to most entities in an effort to get marginal entities to perform.	
Likes 1	Northern California Power Agency, 5, Hostler Marty
Dislikes 0	

Response: Thank you for your comment. Since the results of the 2018 South Central Cold Weather Event clearly demonstrate that there was insufficient guidance and market pressures (where a market existed) to encourage entities to properly plan for extreme weather events, Recommendation 1, Item 1 of the 2018 South Central Cold Weather Event report identified the need for development or enhancement of one or more NERC Reliability Standards; and Recommendation 1, Item 3 addresses market (Independent System Operators/Regional Transmission Organizations) rules where appropriate to ensure GOs/GOPs, RC's and BA's prepare for cold weather conditions.

Marty Hostler - Northern California Power Agency - 3,4,5,6, Group Name NCPA

Answer No

Document Name

Comment

NCPA does NOT support this SAR. NCPA DOES support TAPS' SAR comments.

The FERC report does not justify a Continent-Wide NERC Cold Weather Standard. The following two LiveWire Compliance Articles explain the issues mentioned in the 2018 FERC report, and are suggested reading prior to balloting and commenting. They are related to enforcement of Market Rules, Interconnection Agreements, and/or Regional PUC rules.

https://mcusercontent.com/81c75744170760af3b43dad9c/files/8350bfca-81c1-462f-9674-22e933856d8d/Spotlight_2020_04_28_Cold_Weather_SAR_Controversy.pdf

https://mcusercontent.com/81c75744170760af3b43dad9c/files/85a60b10-5ed2-45b7-96a2-b5febb45b961/Spotlight_2020_05_12_Project_2019_06_Cold_Weather_SAR_Draft_3.pdf

The following draft SAR and 2018 FERC event report comments are offered, along with Regional improvement suggestions, in lieu of a Continent-Wide NERC Standard.

2018 FERC Cold Weather Event Report Recommendation 1:

A. Development/enhancement of NERC Reliability Standards where appropriate

- Continent-Wide new Standards are NOT appropriate nor justified by the FERC report.
- The FERC Report does NOT identify any BES synchronized unit that tripped off-line.
- Contrary to SAR drafting team members' verbal comments, FERC's Report does not rule out regional standard(s) only; nor, implementing recommendations 2 and/or 3 only (B and C in these comments).
- IRO, TOP, and MOD Standards are not broken. They are, under used and/or not enforced.
- FERC staff and/or SAR drafting team members did not know, or will not accept, that existing NERC Standards already allow BA and RCs the ability to create a data specification(s) for Generator Facility information they need. BA/RCs can provide GO/GOP information, to each other and PA, TP, and TOPs.
- Numerous GO/GOPs, in several different BA/RC areas, informed FERC, NERC, and SAR drafting team members of the aforementioned facts, in SAR comments; and prior NERC documents filed with FERC (see TAPS comments for references to said NERC documents).
- BA/RCs involved in the 2018 FERC report event should have already requested design and other said information from GO/GOPs. It is a Standards Compliance or Market Enforcement issue if a GO/GOP does not provided requested information. This situation does NOT warrant enormous amounts of industry time and effort to develop a new standard.
- What is the status of BA/RCs, in the impacted area, requesting and receiving GO/GOP data?
- See EEI comments related to Gas Supply.

B. Market (ISO/RTO) rules where appropriate:

- Cold Weather Preparation issues are best suited for Market solutions. Existing Market rules are fair and penalize all Market Participants, GOPs and non-GOPs, equally.
- Enforce existing Market rules/penalties if a generating unit that bids into the Market does not perform; or the GOP failed to submit a timely outage card/notice.
- If aforementioned Rules do not exist, BA/RTO should developed similar rules.

- BA/RCs develop incentives for Cold and/or extreme (hot) weather unit availability.
- This SAR is counter to NERC Market Interface Principle “A reliability standard shall not give any market participant an unfair competitive advantage”. Current California ISO (CAISO) Market rules do not allow GOPs to recover fixed cost for unfunded FERC reliability mandates. Non-GOP Market Participants have no said obligation(s) cost(s).
- If this SAR is to move forward FERC needs to level the playing field and first order BAs to compensate GO/GOPs for fixed NERC Compliance Costs. Otherwise this proposed Standard, among others, results in unfair Market competitive advantages for non-GOP generator Market Participants in the CAISO BA, and maybe others too.
- Another Market Interface Principle states “Standards shall not define an adequate amount of, or require expansion of, bulk power system resources or delivery capability.” This SAR and FERC report recommendations run afoul with said principle; both seek forcing BA/RTO bid stack/resource increases. Also see AEPs comments and link: http://www.nerc.com/pa/Stand/Resources/Documents/Market_Principles.pdf

C. Enhanced outreach to GO/GOPs

- FERC, NERC, SAR drafting team and Industry all agree existing outreach has been working and improving; kudos to everyone.
- Increase Outreach to GO/GOPs, especially those in the event area that did not have plans, who do not know their design ratings, and those that had unplanned outages. Assist them with developing and maintaining Cold Weather plans and annual preparation. In addition, assist them with determining equipment ratings that BA/RC Planners and dispatchers will actually use.

Other Suggestions:

- Increase Spinning Reserves during Cold Weather.
- Warm up Generators Units long before anticipated cold weather to prepare for higher load demand and avoid additional unit startup stresses during Extreme Cold Weather.
- Do not include non-Market participant’s resources in Loads and Resources Plan. During SAR drafting team meetings, it was mentioned, that some BA/RTOs had issues with non-market participants not starting up when called upon. Why did BA/RTOs call on said units to start up, or include them in Loads and Resources Plans?

- If GOP, Market Participant, does not submit a bid, nor an outage notice, do not assume their unit is available or ready to start; especially in extreme cold, call/email, and/or verify.
- Improve load and weather forecasting.
- Detail what data is really needed and if will actually be used by Planners or Dispatchers.
- BA or RC communicate directly with Gas Pipeline Owners/Operators.

The FERC Report does NOT mention:

- The primary cause of the event was extreme Cold Weather, not unplanned generation outages. Extreme Cold Weather was not forecasted by BAs, RCs, RTO, nor GOPs. Weather forecasts were inaccurate which caused load forecasts to be more inaccurate than they already were. Which required BA, RC, and RTOs to need more generation and reserves than forecasted.
- GO/GOPs communicated de-rates to BA, RTO, and RCs.
- BA/RCs need to ask for information, instead of saying standards do not allow.
- It is unclear if BA and RTOs' day-ahead, or beyond, loads and resources plans included Generation that had not bid into their Market(s) or non-Market Participant Generation.
- During SAR drafting team meetings BA/RTO people mentioned they were having issues with non-Market participants. Simple: do not include non-Market Participant generation in resource plans.
- To definitively conclude generation facilities were within their designed operating ratings, more detailed analysis necessary. It does not appear that units were within their designed operating temperature when BA/RTO finally called on them to start.
- Actual temperatures at each generating facility are not provided. The report identifies ranges of impacted area ambient temperatures that could have been in load area.
- Actual wind chill, icing, etc. adjusted temperatures at each generator is not in the report.

- It appears that BA/RTO waited too long, until it got too cold in load center areas, before requesting additional generation to come on line. Warming up units before temperatures dropped would have helped a lot.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although the SAR DT understands that the FERC report does not clearly state the need for a Continent-Wide NERC Cold Weather Standard, the SAR DT believes that different levels of cold weather preparation and programs will be needed across the ERO due to varying cold weather conditions. As an example, US northeast-based BES generating units will require a more extensive and comprehensive cold weather preparation plan as compared to US southwest-based BES generating units. Additionally, any new or revised Standard that addresses generator winter preparation will take into consideration geographic differences.

The SAR DT appreciates and understands the opinions of these articles especially related to Market Rules, Interconnection Agreements, and/or Regional PUC rules; Recommendation 1 of the 2018 South Central Cold Weather Event report clearly explains the three-pronged approach to prepare for cold weather conditions which includes as Item 1, development or enhancement of one or more NERC Reliability Standards; and under Item 3, market (Independent System Operators/Regional Transmission Organizations rules where appropriate. Market Rules, Interconnection Agreements and/or Regional PUC rules fall under Item 3 and are outside the scope, responsibility and authority of the SAR DT.

- **The SAR DT has determined that a new standard is required after evaluating the conditions and requirements of other relevant NERC Reliability Standards such as EOP, FAC, IRO, and TOP.**
- **The FERC Report does identify that generator forced outages, derates or failures to start (FTS) occurred (See Pages 10, 43 and 81).**
- **The SAR DT understands that a Regional Standard can be developed at any time by a Regional Entity, this type of standard only supplements but cannot replace a NERC Reliability Standard and must include conditions and requirements that are typically more restrictive.**
- **Based on Regional Entity input, the IRO, TOP, and MOD Standards are: (1) considered in evaluating an entity's inherent risk to the BES, (2) are monitored or audited as determined by the outcome of the inherent risk assessment, (3) enforced as required by self-reports or Possible Non-Compliance (PNCs) as identified in the audit process.**

- Although the SAR DT understands that the relevant EOP, IRO and TOP standards respectively address: (1) reliability impacts of extreme weather conditions in Operating Plans, (2) data needed to monitor and assess operation of the BES, and (3) data needed to fulfill operational and planning responsibilities; it appears that the reliability impacts of extreme weather conditions was not thoroughly considered, insufficient data existed or the data was not effectively utilized prior to or during the January 2018 South Central Cold Weather Event. Additionally, any new or revised Standard that addresses generator winter preparation will take into consideration geographic differences.
- The SAR DT with FERC and NERC support, has attempted and will continue to address the concerns of numerous GO/GOPs from several different BA/RC areas in their previous SAR comments.
- The SAR DT understands that: (1) the BA/RCs involved in the 2018 FERC report event should have already requested design and other said information from GO/GOPs and (2) it may be a compliance or Market Enforcement issue if a GO/GOP has/does not provide the requested information. Both of these areas are outside the scope, responsibility and authority of the SAR DT. The January 2018 South Central Cold Weather Event warrants whatever time and effort is required to prevent another cold weather event.
- It is outside the scope, responsibility and authority of the SAR DT to pursue if the BA/RCs in the impacted areas are requesting and receiving GO/GOP data.
- See EEI comments related to Gas Supply. Item 1d has been removed from the SAR.

Thomas Foltz - AEP - 3,5

Answer	No
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Document Name	
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Comment

AEP once again appreciates the efforts of the standards drafting team, and thanks them for their continued willingness to consider our feedback and to take it into account as they've further revised the SAR. While AEP's comments in response to this latest SAR revision

build upon our previous feedback, we begin by supplementing additional concerns related to the SAR's potential impact on energy markets.

It is apparent by the SAR's inclusion of market based principles, that NERC recognizes the potential interaction between Reliability Standards and energy markets, and seeks to ensure that the SAR follows the Market Interface Principles. While we recognize that reliability standards do impact the energy markets, the markets themselves (especially RTOs/ISOs) specifically design energy products to incent reliable operations. AEP is unable to support this SAR, as any standard that directs activities to improve cold weather performance directly runs afoul of the Market Interface Principles, specifically: "Standards shall not define an adequate amount of, or require expansion of, bulk power system resources or delivery capability."

http://www.nerc.com/pa/Stand/Resources/Documents/Market_Principles.pdf Further, AEP believes that there are sufficient market constructs to ensure resources are prepared for any weather conditions, as it is in their best interest to produce energy. This is especially true during challenging weather conditions, as energy prices will typically reflect any shortage condition, and compensate resources for their efforts to ensure operability during these conditions.

Despite our stated objections, AEP does acknowledge the need for effective communication of resource capabilities, and believes that this communication regularly takes place in the markets where we operate (ERCOT, PJM, SPP). Generation limits can be submitted as far out as seven days in advance, with updates provided as system conditions change (e.g. weather, transmission topography, unit status, fuel, hydro, wind, and solar availability, etc.). Obviously, as the time horizon to real-time operations draws closer, the forecast accuracy of all of these inputs increases, and updates are provided to the RTO. Of course, there is always an emphasis on ensuring the accuracy of Day Ahead and Real Time limits, as these are the most critical to the reliable operation of the grid. Again, this is why there are market incentives to ensure this information is correct. (e.g. operating reserve charges, balance energy, etc.) As such, AEP has significant concern with developing any standard which would create an additional set of reporting criteria. A second set of reporting criteria would at best, cause confusion, and even worse, could potentially be called into question by Market Monitoring Units within the markets, and other regulating bodies, when reviewing an entity's market behavior, simply due to any differences in timing and reporting requirements.

While we are appreciative of the efforts of the SAR drafting team, AEP still does not believe the proposed SAR is the appropriate mechanism for addressing the concerns associated with cold weather and unit reliability. While the proposed efforts for both preparedness and communication as suggested in the draft SAR appear to be reasonable in and of themselves, AEP does not believe creating NERC obligations for them is the correct path to take. As a result, AEP would like to revise and restate our previous feedback and concerns as provided below.

AEP takes cold weather preparedness very seriously, and has developed and implemented procedures to ensure unit reliability for cold weather. In addition, NERC's own Reliability Guideline "Generating Unit Winter Weather Readiness", has been in effect for some time now. In its own words, this document provides a "framework for developing an effective winter weather readiness program for generating units throughout North America" and guidance "on maintaining individual unit reliability and preventing future cold weather related events." In addition, EOP-011 already addresses weather preparedness in an appropriate manner. Functional Entities, such as the TOP and BA, have checklists and attestations required for Generator weatherization. Significant improvements to weather preparedness have been made since 2011, with increased awareness and action plans driven by NERC recommendations.

Beyond the concerns provided above, is the impact of administrative burden to prove compliance of any revised or new NERC standards. While a majority of entities are likely already following the obligations being considered (for the RTOs, as mentioned previously) the impact on entities to prove compliance in addition to that already required for the RTOs, cannot be understated. Similarly, the proposed methodology of the draft SAR runs counter to that of both Paragraph 81 criteria (specifically that of Criteria B) and those which justified the retirements recently proposed in Project 2018-03 (Standards Efficiency Review Retirements). Paragraph 81 considerations continue to be an essential aspect of routine periodic reviews of existing standards subject to enforcement, as provided in Attachment 2 of NERC's Periodic Review Template shown here. It would be ill-advisable for this project to pursue development of new obligations, which from their inception, would likely be flagged for later review for potential retirement under Paragraph 81. Once again, we believe many entities are already following prudent, localized strategies in preparing for cold weather, and are already incentivized to develop and execute prudent procedures based on existing market demands. AEP does not see any reliability benefit of developing new or revised standards which would eventually be flagged for retirement under either Paragraph 81 Criterion B or Standards Efficiency Review.

Rather than the course proposed in the draft SAR, AEP believes the best path forward involves the RTOs (presumably serving as the Balancing Authority) working directly with generating entities within their footprint to determine and monitor the preparatory steps necessary, and to follow up when issues are identified. RTOs are in the best position to provide this service, as they fully understand the system constraints, geography, weather patterns, and customers for their area. RTOs often provide their own guidance in this regard, for example, PJM's Manual 14D Attachment N: Cold Weather Preparation Guideline and Checklist. This is one of several guidance documents that is already available, and which emphasizes the reviewing of lessons learned after each event and implementations of defenses to prevent recurrence. Once in place, this creates an living effort that focuses improvements in areas of specific need that directly translates to continual improvement of the process that is in place. ERCOT already has a suitable mechanism in place, which has proven itself in practice. We are now seeing that REs are heading in a similar direction as well. AEP believes these established processes have proven their effectiveness, and will continue to be valuable going forward as well. Not only does this relationship between the RTOs and their generating entities help to develop prudent preparatory steps in regard to cold weather, it also allows the RTO to work more closely with

those generators who may need to improve the methods they already have in place. Such a working relationship naturally fosters a good communication between the generator and the BA and/or RC which we believe the SAR drafting team is actively seeking.

Rather than pursue rule making that applies to all entities, many of which have prudent cold weather procedures already in place, RTOs should instead work more closely with those entities where preparatory improvements may need to be made. By doing so, the RTOs can more accurately determine exactly what deficiencies need to be addressed within these specific entities, and recommend appropriate entity-specific strategies accordingly.

Likes 1	Northern California Power Agency, 5, Hostler Marty
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Dislikes 0	
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Response: Thank you for your comment. While the SAR DT understands your concerns, the SAR DT has been tasked to consider the development or enhancement of one or more NERC Reliability Standards to ensure generator cold weather reliability is addressed as recommended in the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. The 2019-06 Cold Weather project is focused on the first prong of the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, which is Generator Cold Weather Reliability including the development or enhancement of one or more NERC Reliability Standards. The third prong is directed to market (ISO/RTO) rules which is outside the scope of the SAR.

Meaghan Connell - Public Utility District No. 1 of Chelan County - 1,3,5,6, Group Name PUD No. 1 of Chelan County

Answer	No
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Document Name	
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Comment

CHPD appreciates the consideration of comments the DT made in the third draft revision of the SAR. However, the language in the SAR maintaining the requirement that all BES generating units would be required to develop and implement cold weather preparedness plans continues to put an unnecessary compliance burden on the bulk of generating units that already operate reliably in historically cold climates. CHPD requests the DT add language providing an exemption for those units located in historically cold climates that already

operate reliably in routinely cold weather regions in order to not add unnecessary compliance paperwork and divert resources from valuable work in maintaining these systems.

Likes 0

Dislikes 0

Response: Thank you for your comment. While it is understood there are Generators in areas of the country that are well prepared for cold weather, the SAR is written to consider factors such as geographical location and plant configurations to allow the SDT, when formed, to provide requirements that would complement current cold weather programs and have minimal impact to current program in those areas. Exempted generator types or geographical locations would be considered by the SDT.

Scott Berry - Indiana Municipal Power Agency - 4 - RF

Answer

No

Document Name

Comment

A cold weather standard is not needed and IMPA does not support this SAR. The SAR is requested data that can be collected under MOD-032, IRO-010, and TOP-003 (some of it is being collected there today). The standard MOD-032 uses a data specification and intentionally lets the Planning Coordinators and Transmission Planners decide what data they needed to collect in the specification. The TOP-003 NERC standard lets the Transmission Operators and Balancing Authorities decide the necessary data to request in their data specifications. The IRO-010 standard lets the Reliability Coordinators collect their necessary data from entities. All three of these standards are written in a way to let the requesting entities decide the necessary data to collect from entities in order to do their required planning or work.

For item 3, the use of the wording “when local forecasted cold weather conditions are expected to limit BES generating unit performance” is vague and subject to many interpretations. In the case of a peaking unit, a GO/GOP can’t be expected to speculate if it knows of no problems prior to startup. If a new standard would require the GO/GOP to speculate, this could cause unnecessary calls during the winter season if the cold weather is “expected” to limit its BES generation. Do Reliability Coordinators, Balancing Authorities, and Transmission Operators really want the GO/GOP to guess and call them every time cold weather is “expected” to limit BES generation? If a generating unit located within the PJM area has a known derate, the GO/GOP would have to submit that to PJM. If the

cold weather is known to limit the BES generation, then a call makes sense but every time the cold weather is expected to limit BES generation is very different. If item 3 is kept in the SAR, IMPA recommends replacing “expected” with the wording similar to “is known to actually limit” the BES generation.

In addition to these comments, IMPA supports the comments submitted by Rebecca Baldwin (TAPS).

Likes 1	Northern California Power Agency, 5, Hostler Marty
Dislikes 0	

Response: Thank you for your comments. Please see the SAR DT’s response to TAPS. With regard to Item 3, the FERC report recommends the GO and GOP be expected to understand when its unit will be operationally limited by cold weather and notify the RC and BA of such possibility. The GO and GOP should include such awareness in its cold weather winterization plan and base it on design specifications or historical demonstrated performance.

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer No

Document Name

Comment

The thesis for our revised wording of the SAR is as follows.

1. Develop a cold weather preparedness plan and execute it
2. Establish a communication process between the GO/GOP and RC/BA for cold weather data

The accuracy of the data supplied should not be the focus, but rather the establishment of a communication/risk assessment process between the GO/GOP and RC/BA, along with a cold weather preparedness plan.

1. Generator Owner/Generator Operators develop and implement cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations should include but not limited to the following:
2.
 - i. Cold weather temperature unit design specifications or unit historical demonstrated performance and operating limitations during cold weather;
 - ii. Implementation of freeze protection measures;
 - iii. Performing periodic adequate maintenance and inspection of freeze protection measures
3. Reliability Coordinators/Balancing Authorities/Transmission Operators establish the expectations for the appropriate Generators Owner/Generator Operators to communicate the following, but not limited to:
4. Data in deliverable 1a
5. Notification of curtailments of natural gas once made available to the GO/GOP
6. Generating unit operating limitations in advance of a forecasted cold weather event

Likes 0

Dislikes 0

Response: Thank you for your comment. In regards to the development of a new NERC standard or revising current enforceable standards, the SDT will consider your comments that provide recommendations set forth to the NERC requirements and measures.

The SAR DT agrees with the communication of cold weather events would be a main focus of the SDT to provide adequate planning assessments.

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

SRP sees this SAR as overreaching. There are market penalties for lack of performance during cold weather and the necessary information can be requested by other means (TOP-003 and IRO-010).

Deliverable 1 should be revised to remove the term “accurate” from sub-item a, and the term “adequate” from sub-item c. The term “accurate” implies that there may be testing, or other verification methods, required at cold weather conditions to verify design parameters. The term “adequate” bring into question of who determines the adequacy? SRP recommends the term “accurate” removed and the terms “periodicadequate” be replaced with “preventative” in the sub-items in deliverable 1.

Furthermore, deliverable 1 states that the cold weather preparedness plans, procedures and training “may include” the sub-items; but deliverable 2 specifically requires sub-item d.

Likes 1	Northern California Power Agency, 5, Hostler Marty
Dislikes 0	

Response: Thank you for your comments. While market penalties do exist, there is a need for improving reliability with preparations and communication of cold weather. Cold weather has shown to pose a risk to BES reliability as stated in the 2019 FERC and NERC report, "The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018". While the IRO-010 and TOP-003 broadly cover the data needed to perform "its operational functions", this SAR is specific to cold weather data needed for TOP, BA, and RC to perform regional planning and operational analysis. The format of receiving this data is yet to be determined but would provide a reliability impact assessment specific to cold weather events following the recommendation in the 2019 FERC and NERC report, "The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018". The existing mandated NERC standards would be reviewed by the SDT for any inclusion of regional specifications of cold weather assessment requirements and revised if possible to reflect the information needed for regional reliability assessments.

The SAR DT determined that the word “accurate” would be appropriate for the SAR.

The importance for accuracy of data was an issue identified in the 2011 Southwest Cold Weather Event, the 2014 Polar Vortex and 2018 Cold Weather Event.

The SAR DT removed the word “adequate” from the deliverable 1.

The SAR DT removed 1d from the SAR.

Richard Jackson - U.S. Bureau of Reclamation - 1,5	
Answer	No
Document Name	
Comment	
<p>Reclamation agrees with the change from all ambient weather back to only cold weather; however, Reclamation still does not support a nationwide cold weather standard that would apply to Generator Owners or Operators. Reclamation asserts that the increased costs, labor hours, and administrative compliance burden of a nationwide cold weather standard on Generator Owners and Operators would be better served with proper enforcement of existing standards and market rules at the Balancing Authority, Reliability Coordinator, Regional Transmission Organization, and/or Regional Entity level.</p> <p>Reclamation appreciates the inclusion of “The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather” into deliverable 1.a.; however, due to the power facilities of concern being natural gas or dual fuel facilities that are not designed for extreme cold weather operations, Reclamation does not agree with a nationwide standard or any cold weather standard that would apply to hydroelectric generators.</p> <p>In accordance with the intent stated in SAR Footnote 2, Reclamation would support cold weather requirements contained in a SERC and/or MRO regional variance.</p> <p>Reclamation appreciates the inclusion of “In implementing the project scope, the preference is for the Standards Drafting Team to utilize and revise, to the extent possible, the current Operating and Planning Suite of mandatory Reliability Standards subject to enforcement and create a new standard only if necessary and appropriate.” Reclamation recommends that existing standards, such as IRO-010, TOP-003, and/or EOP-011 be revised with regional variances to address the areas of concern. A new standard is unnecessary and cold weather requirements should not apply to hydroelectric generators.</p> <p>Where appropriate, Reclamation agrees with the inclusion of Transmission Operator as an applicable entity. A Transmission Operator should be added as an applicable entity only if the role of the Transmission Operator would change under cold weather conditions.</p> <p>Reclamation supports the comments provided by the North American Generator Forum.</p>	

Likes	0
Dislikes	0
<p>Response: Thank you for your comment. The geographical location would be considered for SDT in providing a reliability impact assessment specific to cold weather events following the recommendation in the 2019 FERC and NERC report, "The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018". The existing mandated NERC standards would be reviewed by the SDT for any inclusion of regional specifications of cold weather assessment requirements and revised if possible to reflect the information needed for regional reliability assessments.</p> <p>1d has been removed from the SAR regarding natural gas.</p> <p>The type of generator for inclusion into the Standard would be considered by the SDT.</p> <p>Please see the SAR DTs response to NAGF.</p>	
<p>Donald Lock - Talen Generation, LLC - 5</p>	
Answer	No
Document Name	
<p>Comment</p> <p>Talen energy supports the comments of the North American Generator Forum (NAGF) and of the Edison Electric Institute (EEI), and we have the following additional comments:</p> <ul style="list-style-type: none"> - TOs should be included among the applicable entities for any standard on the subject of cold weather reliability, since they must prepare for winter much the same as GO/GOPs do. - Starting-up generation units in the teeth of a winter storm is immensely more difficult than keeping already-running units online. Starting units out-of-merit due to forecasted perils, as was done in our area when Hurricane Sandy was approaching for example, does far more for BES reliability than trying to analytically predict if and when weather-related issues will occur. 	

- Accurate prediction of cold weather-caused outages is impractical, due to the limited significance of design specifications and the dependence of historical performance on multitudinous factors with undefinable interrelationships (minimum temperature experienced, duration of unusually low temperature, maximum wind speed, duration of unusually high wind speed, variation of wind speed with temperature, peak snowfall rate, duration of unusually heavy snowfall, etc). Successful wintertime reliability-enhancement initiatives (e.g. the market regulations in PJM Manual 14D Att. N) emphasize instead continuous improvement.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to NAGF.

The SAR DT appreciates Talen's comments and recognizes that each winter scenario is different. NERC has published Reliability Guidelines and Cold Weather Training materials and provides on an annual basis, a reminder of these materials. The 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 specifically references voluntary efforts utilizing existing guidance and training materials available to industry and noted that extensive unplanned generation outages continue to occur during cold weather related events. It is not the intent of the SAR DT to add conflicting layers of regulatory requirements and included a preference within the SAR that the Standard Drafting Team revise existing standards, to the extent possible. It is outside the purview of the SAR Drafting Team to mandate market rules requiring wintertime reliability enhancement initiatives but the Standards Drafting Team will perform the appropriate due diligence associated with regional variances.

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

No

Document Name

Comment

These comments represent the MRO NSRF membership as a whole but would not preclude members from submitting individual comments".

The NSRF believes that the only item needed within the Technical Justification Section is: “The deliverable will be new or revised Reliability Standards, as appropriate, to promote reliability of the BES during cold weather and maximize to ensure that cold weather performance plans for BES generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within performance capabilities or operating limitations”. Webster defines justification as;” an acceptable reason for doing something : something that justifies an act or way of behaving”.

All items under this sections’s 1, a, b, c, and d, are all too prescriptive to be in the SAR and are solely restating what was in the 2019 FERC and NERC report.

Items in section 2, 3, and 4 are also prescriptive in nature and do not provide “justification” to create or revise a Reliability Standard. Transmission Operator should be added to the Industry Need Section.

Recommend the above items in sections 1, 2, 3, and 4 be deleted. This will allow the Standards Drafting Team with how to move forward with a continent wide Standard (new or revised) that mitigates the issues within the FERC and NERC report.

Likes	0
Dislikes	0

Response: Thank you for your comment. In sections 1, 2,3, and 4, the SAR provides a degree of clarity to the industry on where the SAR Drafting Team sees specific gaps in the current standards that the Standard Drafting team will address through new or revised Reliability Standards. By including this level of detail in the SAR, the SAR Drafting Team is providing industry some preliminary detail on specific gaps that new or revised standards will need to address to promote reliability of the BES during cold weather and to ensure that cold weather performance plans for BES generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within performance capabilities or operating limitations. It is the SAR Drafting Team's opinion that removing this detail would provide additional uncertainty to industry.

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 1,3,5,6, Group Name OKGE

Answer	No
Document Name	
Comment	

Oklahoma Gas & Electric supports Edison Electric Institute's (EEI) response to this third revision of the SAR.

Likes 0

Dislikes 0

Response: Please see the SAR DT's response to EEI.

Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6, Group Name Dominion

Answer No

Document Name

Comment

Dominion Energy does not support the current version of the proposed SAR. Dominion Energy supports the comments of both EEI and NAGF.

Dominion Energy supports the concepts behind the development of the proposed SAR but is of the opinion that the SAR proposes a scope that places undue compliance requirements on generator owners. The joint NERC/FERC report emphasizes that communication between the RC, BA and GO/GOP should be improved while the SAR appears to be focused on creating new reporting requirements for the GO/GOP. Dominion Energy supports the direction both EEI and NAGF recommend in their comments for appropriately scoping this project, specifically:

1. Item 1a of the detailed description is problematic as it specifies types of data a GO/GOP would be required to use for its cold weather program. Dominion Energy agrees that this should be removed from the scope of the SAR or use the following language: The need for cold weather performance or operating limitations.
2. Item 1d of the detailed description should be removed from the SAR. The joint report does not recommend that a standard be developed to address this issue but rather addresses gas generator firm fuel supply, which is clearly a market issue. If an RC or BA requires information on a generators ability to perform for cold weather conditions, both IRO-010-2 and TOP-003-3 provide an existing mechanism

to obtain this information. If the standard is unclear, Implementation Guidance could be developed to clarify the data specification requirements in these standards.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT’s response to EEI and NAGF.

1a cannot be removed as it is a part of the FERC/NERC report. demonstrated historical period so it could serve as a proxy in the event the design temperature is not available.”

The SAR DT removed 1d from the SAR.

Wayne Sipperly - NAGF - 1,2,3,6 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

No

Document Name

Comment

Comments: The North American Generator Forum (NAGF) does not support the latest iteration of the Cold Weather SAR. The NAGF understands that an approved SAR will document the scope and reliability benefit of a proposed project and therefore serves as the blueprint for a Standard Drafting Team to follow when determining modifications to existing or the development of new Reliability Standards. Due to the nature of this “blueprint”, the NAGF respectfully declines to support this SAR as written. The changes in the previous two SAR revisions are cosmetic in nature and do not address the root issues the NAGF finds with the requirements of this SAR.

As stated in previous comments, the NAGF supports communication between functional entities when generator availability is expected to be affected by weather conditions. These communication requirements are already addressed via existing standards IRO-010 and TOP-003. All GO / GOP’s must satisfy the obligations of documented specifications to assist in Real-time monitoring and planning assessments. The NAGF does not feel a continent-wide Winter-Preparation standard will enhance reliability as the lack of winter preparation cited in the FERC / NERC staff report occurred only in certain regions (MISO in particular). Adding a second, potentially

conflicting layer of regulatory requirements to existing well-functioning regions will most likely be counter-productive and difficult to audit consistently.

- Section 1.a.: The NAGF recommends that this section be deleted in its entirety. Basing Cold Weather reliability requirements on prior generator performance (historical) during cold weather is subject to results of questionable value and bias due to the following:
 - o Factors other than weather impact a unit's performance
 - o Historical maintenance conditions are dynamic
 - o Economic dispatch considerations

Providing "Cold Weather" design data is problematic and complex and does not take into consideration the Cold Weather preparation such as wind breaks and heaters used by GO/GOPs to assure vulnerable areas are protected. Temperature and wind speed design values stated on heat tracing drawings are inputs to calculations and often do not correspond to actual cold weather capabilities of generating units.

- Section 1.b.: What is the difference between the opening statement of Section 1, "...develops and implements cold weather preparedness plans, procedures, and awareness training..." and 1.b., "Implementing freeze protection measures"?
- Section 1.c.: The NAGF respectfully requests "periodic" and "adequate" to be clearly defined as SAR revision(s) occur. Leaving auditors to determine the meanings will create issues for GO/GOP's to maintain adequate controls and close gaps when managing NERC registrations across different Regions.
- Section 1.d.: The NAGF has stated before that this requirement is already required as part of the daily communication to BA's, RC's and /or TOP's. However if there is an issue in particular with understanding unit curtailments due to fuel availability, the NAGF suggests revising to read: "GO / GOP's to communicate notice of natural gas curtailments (gas-line pressure reductions and/or reduced volume) to the applicable Reliability Coordinator, Balancing Authority and Transmission Operator ." This clarity belongs in a revision of IRO-010 and / or TOP-003.
- Section 2 should be deleted in its entirety for the same reasons as Section 1.a. Planning for the exceedingly complex matter of winter storm survivability cannot simply be predicated on "design specifications or historical demonstrated performance and operating limitations." Generator Operators use of additional freeze protection equipment during extreme cold weather

illustrates that the generators are already being operated outside of their design specifications (assuming adequate maintenance is performed on insulation and heat tracing) in order to provide safe and reliable power during winter events.

- Sections 3 and 4 appear to duplicate existing requirements in existing standards. GO / GOPs are already required to communicate generating unit availability and reasons for limitations on a twice daily and weekly look-ahead basis. RC, BA and TOPs are required to use that information to perform their respective Planning Analysis' and update as required. RC's and BA's do not yet use the most powerful countermeasure available to them: placing generators (especially those with low capacity factors or long start-up times) online early in the interest of BES reliability.
- The NAGF requests that each process requiring the GO/GOP to communicate Cold Weather Availability data or information to the RC, BA and/or TOP requires those entities to document in writing and communicate their specific process to the GO/GOP. To clarify, each RC, BA and TOP should document communication methods (telephone, ticket entry etc.) for the GO / GOP to follow when requested generating information is required. Additionally, any data requests from the RC, BA and TOP should be clearly defined and documented in a procedure or manual for the GO/GOP to follow for timely submittal.
- The NAGF supports the comments submitted by the Edison Electric Institute (EEI).

Likes 1

Tacoma Public Utilities (Tacoma, WA), 1,3,4,5,6, Wike Jennie

Dislikes 0

Response: Thank you for your comment. It is not the intent of the SAR DT to add conflicting layers of regulatory requirements and included a preference within the SAR that the Standard Drafting Team revise existing standards, to the extent possible. Additionally, any new or revised Standard that addresses generator winter preparation will take into consideration geographic differences.

1a cannot be removed as it is a part of the FERC/NERC report. demonstrated historical period so it could serve as a proxy in the event the design temperature is not available.

Section 1 addresses the development of plans, procedures and awareness training while 1.b is an element to be considered when developing those plans, procedures and awareness training.

1c: "Periodic" and "adequate" are terms specifically used in the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018. The terms, as universally defined, provide flexibility to industry to determine appropriate maintenance and inspection intervals and approaches in the development of their specific plans and procedures.

1d. has been removed from the SAR.

The SAR DT appreciates NAGF’s comments. The team kept the original language and did not make modifications. (add EEI response here for why team did not add it.)

The SAR DT appreciates NAGF’s comments and understands that some of the items covered in the SAR may be addressed in existing Standards. The SAR DT included a preference within the SAR that the Standard Drafting Team revise existing standards, to the extent possible. It is outside the purview of the SAR Drafting Team to mandate market rules for RCs and BAs to address when to bring generators online.

The SAR DT appreciates NAGF’s comments. The Standard Drafting Team will ensure requirements for communication by GO/GOP to RC, BA and/or TOP are appropriately addressed similar to the data specifications in IRO-010 and TOP-003.

The SAR DT appreciates NAGF’s comments and support of EEI’s comments. Please see the teams response to EEI.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer	No
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Document Name	
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Comment

Black Hills Corporation (BHC) understands the importance of this SAR, but we continue to not agree with the following:

- The deliverables should be to revise current standards (as mentioned, i.e. IRO-010, TOP-003, EOP-011) where needed . Additionally our Transmission Operator (TOP) stated that many of the items in the SARs deliverable are already addressed by the mentioned standards and TOP-003-4 for Operations Planning & Analysis for the TOP, as well as specific RC processes (which can vary from 1 to another).
- BHC continues to feel that “additional mandatory training” on Cold weather is not needed. This is an added burden to most generator operators whom already deal with preparations and implement freeze protection to their equipment/systems.

- BHC already does “periodicadequate” maintenance & inspection of equipment for cold weather (freeze) protection as our generators are all designed & in areas for very cold ambient temperatures. it is believed most generation facilities in the upper half of the USA are of the same removing the need to have additional mandatory requirments for something that is only affecting southern states.
- Adding the Transmission Operator is ok, but they already communicate outage information via the TOP standards to the BA/RC’s. As for the GO/GOP advising the BA/RC & TOP outage type of communication is already being done; just not to the extent of specifying “curtailment of natural gas”. In BHC’s case – we are getting this information to our TOP at this time, just unsure of other industry peers processes to this level.

Likes 1

Tacoma Public Utilities (Tacoma, WA), 1,3,4,5,6, Wike Jennie

Dislikes 0

Response: Thank you for your comment. While the IRO-010 and TOP-003 broadly cover the data needed to perform "its operational functions", this SAR is specific to cold weather data needed for TOP, BA, and RC to perform regional planning and operational analysis. The format of receiving this data is yet to be determined but would provide a reliability impact assessment specific to cold weather events following the recommendation in the 2019 FERC and NERC report, "The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018". The existing mandated NERC standards would be reviewed by the SDT for any inclusion of regional specifications of cold weather assessment requirements and revised if possible to reflect the information needed for regional reliability assessments.

While it is understood there are Generators in areas of country that are well prepared for cold weather, the SAR is written to consider factors such as geographical location and plant configurations to allow SDT to provide requirements that would complement current cold weather programs and have minimal impact to current program in those areas.

SDT would review current NERC standards for communication of cold weather curtailments and reliability risks due to cold weather. The current processes that provide communication of Generator cold weather derates and curtailments would be reviewed by SDT for additional information such as pre-outage data and communication that would strengthen the planning of cold weather events.

Andy Fuhrman - Minnkota Power Cooperative Inc. - 1 - MRO

Answer	No
Document Name	
Comment	
Minnkota Power supports comments submitted by the MRO NERC Standards Review Forum (NSRF).	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. Please see the SAR DT's response to MRO NSRF.	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	No
Document Name	
Comment	
<p>TAPS does not support creating a continent-wide standard to address a very specific regional issue, particularly given that, as stated in previous comments, existing Reliability Standards already cover most of the issues this SAR attempts to address. It is neither feasible nor desirable for Reliability Standards to specifically call out each and every ambient condition or operational situation that could occur across North America; attempting to do so requires the industry to spend valuable resources and our customers' money on non-stop standards projects.</p> <p>There is no need for a new or revised standard "to ensure communications between functional entities of cold weather impacts to generator unit availability" (revised SAR at 1); such communications are already required by existing standards. In response to the comments submitted by TAPS on the prior posting of this SAR, the drafting team stated that "it is not clear that the conditions of [IRO-010 and TOP-003] focus on data specific to cold weather issues." The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.</p>	

Nor is there any indication in NERC’s enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 *already* require each RC, BA, and TOP to request, without limitation, “the data necessary for it to perform” its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, “[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because *the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data.*” Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach—listing each type of data that must be provided—will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Much more recently, NERC stated in its April 6, 2020 comments on FERC’s NOPR regarding the Phase 1 SER retirements (RM19-16 and RM19-17, at 9 (emphasis added)):

Reliability Standards MOD-032-1, IRO-010-2, and TOP-003-3 provide the entities responsible for the reliable modeling, planning, and operation of the BPS with the authority to obtain the information they need from Generator Owners and Transmission Owners to complete their reliability tasks, which may include next most limiting equipment information. *Now that these broader data specification standards are in place, NERC has identified no reliability need to maintain additional requirements expressly requiring the provision of this data in the FAC-008 standard.*

It is counterproductive to add specific requirements with respect to cold weather data at the same time that the industry and NERC are proposing to retire analogous requirements with respect to next most limiting equipment information. If the SAR drafting team maintains the position that additional clarity with respect to cold weather is needed, then a better use of industry resources would be development of Implementation Guidance to provide examples for implementing these standards to address cold weather events.

Finally, to the extent that clarifications to TOP-003 and IRO-010 *are* needed, we note that a draft SAR developed by the SER Phase 2 team proposes to clarify those standards—in a holistic manner—as to the scope and format of data specifications. TAPS supports the SER effort, and urges the Cold Weather drafting team not to spend resources developing piecemeal requirements to address an issue that can be handled more efficiently and effectively by the SER project.

With respect to the SAR’s other prong—“To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions” (SAR at 1)—we refer the drafting team to our comments on that issue in response to the previous posting of this SAR, to which the drafting team did not respond. If this SAR proceeds, the SDT should take care to draft a results-based standard, avoiding unnecessary administrative burdens. In addition, the SDT should recognize that it would be uneconomic and inappropriate to require that every generator on the continent plan to operate under all conditions; generators must be permitted to identify their ambient design parameters and decline to make themselves available outside those parameters.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT understands that the FERC report does not clearly state the need for a Continent-Wide NERC Cold Weather Standard, but believes that different levels of cold weather preparation and programs will be needed across the ERO. As an example, US northeast-based BES generating units will require a more extensive and comprehensive cold weather preparation plan as compared to US southwest-based BES generating units.

The SAR DT understands that the relevant EOP, IRO and TOP standards respectively address: (1) reliability impacts of extreme weather conditions in Operating Plans, (2) data needed to monitor and assess operation of the BES, and (3) data needed to fulfill operational and planning responsibilities; but it appears that the reliability impacts of extreme weather conditions were not thoroughly considered, insufficient data existed or the data was not effectively utilized prior to or during the January 2018 South Central Cold Weather Event.

The SAR DT agrees that each and every ambient condition or operational situation does not need to be specifically identified in the NERC Reliability Standards, but it appears that cold weather/freezing conditions must be specifically addressed as a result of the 2018 South Central Cold Weather Event.

It is understood that neighboring RC operators demonstrated sound communication and coordination in managing real-time transmission constraints, but improvements in communication are needed related to generator availability, capability and the impacts to startup time due to cold weather conditions. Although some RTO/ISOs issue “Cold Weather Alerts” that communicate actions to GOPs such as: (1) implementing plans to winterize units and plants to ensure availability during emergency conditions, (2) coordinating personnel staffing to ensure all scheduled combustion turbines and diesel generators are available for loading during load pick up

period, and (3) reviewing fuel supply/delivery schedules availability during emergency conditions, this is not consistently practiced across the ERO.

The relevant EOP, IRO and TOP standards respectively address: (1) reliability impacts of extreme weather conditions in Operating Plans, (2) data needed to monitor and assess operation of the BES, and (3) data needed to fulfill operational and planning responsibilities; but it appears that the reliability impacts of extreme weather conditions were not thoroughly considered, insufficient data existed or the data was not effectively utilized prior to or during the January 2018 South Central Cold Weather Event. The broader data specifications of these standards may have attributed to this event since it is uncertain if the data specifications focused on cold weather related issues and resulting limitations.

The SAR DT understands there are numerous NERC Reliability Standards such as IRO, MOD, TOP, TPL, etc., that request and utilize data for monitoring, assessments, modeling, planning, etc., which have not effectively and consistently focused on cold weather conditions. The SAR DT will recommend to the SDT to consider if the development of implementation guidance would address data specifications related to cold weather events.

The SAR DT will recommend to the SDT to consider the efforts of the SER Phase 2 team.

With respect to the SAR’s other prong— “To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions” (SAR at 1)—we refer the drafting team to our comments on that issue in response to the previous posting of this SAR, to which the drafting team did not respond.

The SAR DT will remind the SDT to draft a results-based standard, avoiding unnecessary administrative burdens.

The SAR DT believes that different levels of cold weather preparation and programs will be needed across the ERO due to varying cold weather conditions. As an example, US northeast-based BES generating units will require a more extensive and comprehensive cold weather preparation plan as compared to US southwest-based BES generating units.

Please see the modified bullets 2 and 3 under the “detailed Description” section of the SAR.

Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1,3

Answer

No

Document Name	
Comment	
<p>PNMR supports the comments of EEI made in their Q1 SAR response, as follows:</p> <p>Industry Need Statement: EEI agrees with the Industry Need statement, as currently written.</p> <p>Purpose or Goal Statement: EEI generally agrees with the Purpose or Goal Statement but does not support the use of the phrase “ensure optimal reliability” in the opening sentence. The purpose of a NERC Reliability Standard to ensure an Adequate Level of Reliability in coordination with all of the other factors used in ensuring the efficient and reliable operation of the BES.</p> <p>Project Scope Statement: EEI does not agree that all parts of Recommendation 1 from the South-Central United States Cold Weather BES Event Report (Cold Weather Report) should or were intended to be included in a new or revised NERC Reliability Standard. In the Cold Weather Report, it offered a three-prong approach that included 1) new and/or revised Reliability Standards, 2) enhanced outreach to GO/GOPs and 3) market rules. For this reason, we offer the following modified scope statement that we believe more closely aligns with the intent of the Cold Weather Report.</p> <p>The project scope will address those parts of Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; that are appropriate for inclusion in a new or revised NERC Reliability Standards addressing activities, such as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes that ensure effective communications between registered entities on known events that could impact BES reliability.</p> <p>Detailed Description: EEI appreciates many of the changes made to the detailed description but still has the following concerns:</p> <ol style="list-style-type: none"> 1. EEI remains concerned with the statement “historical demonstrated performance” in item 1.a of this section because this information does not always yield accurate estimates of resource performance. While this type of information, if accurate for the current facts and circumstances, may prove useful to RCs and BAs, it may also represents both a reliability risk if inappropriately used and a compliance risk for GOs. While a GO can provide historical operating data, that data is based both on the specific weather conditions and unit specifications at a previous point in time that may be different from current conditions. GOs should not be held accountable for the results of this data being used by the RC, BA, or TOP in operational and planning studies. For this 	

reason, we ask that item 1.a be modified to emphasize the communications aspect, while noting the potential accuracy aspect of historical demonstrated performance and operating limits during cold weather.

2. EEI remains concerned with the inclusion of gas supply availability as a specific notification requirement and recommends its removal from the scope of the SAR. Such a requirement will create an unnecessary compliance obligation for GOs, who may not be the entity with the most timely information on natural gas curtailments if they are operating within an organized wholesale market. It is also important to recognize that gas curtailments can have significant impacts on these markets and as such are more appropriately addressed through market rules rather than NERC Reliability Standards, particularly in these areas. Additionally, EEI understands that most RTO/ISOs are already establishing processes and forming relationships with gas suppliers to ensure the most current fuel supply information is available to responsible RCs and BAs. For this reason, a one size fits all solution should not be applied through a NERC Reliability Standard. EEI is also not convinced that this issue cannot be solved through the effective use of tools that already exist within NERC Reliability Standards (i.e., TOP-003-3 and IRO-010-2). From this perspective, it may be more useful to the industry if rather than requirements in a SAR NERC should encourage the development of Implementation Guidance for TOP-003-3 and IRO-010-2 that can be tailored to address these regional differences, rather than creating new nationwide regulatory obligations that are unnecessary and not likely to address how gas curtailments should be communicated in different regions.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to EEI.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

No

Document Name

Comment

Duke Energy endorses EEI and NAGF comments communicated in their respective SAR Responses and specifically suggests the following changes:

Line Item #2:

(a) Suggestion:

- Delete “Generator Owner/”;
- Add “Transmission Operators,”;
- Substitute “or Reliability Coordinators, as applicable” for “and Reliability Coordinators”.

Basis: Regional operational and communication protocols vary – a Generator Operators communication hierarchy may be limited to a Transmission Operator, Balancing Authority, or Reliability Coordinator, as applicable.

Suggested Text: Generator Operator communicates with the “Transmission Operators,” Balancing Authorities”, “or” Reliability Coordinators”, as applicable,” the generating unit’s...

(b) Suggestion: Delete “or historical demonstrated performance”.

Basis: Duke Energy adopts the EEI position regarding this item. Basing a Reliability Standard requirement on prior generator unit performance during cold weather is both challenging and subject to results of questionable value and bias. For example, “historical demonstrated performance” is impacted by: 1 - factors other than weather impact a unit’s performance, 2 - historical maintenance conditions are dynamic, and 3 - economic dispatch considerations.

Suggested Text: ...the BES generating unit’s associated design specification “ “ and operating limitations during cold weather, including as required by deliverable 1d.

(c) Suggestion: Add “s” to specification.

Basis: Generating unit equipment may have multiple design specifications depending on vendor, type of equipment, etc., and therefore not have a single design specification (assuming a design specification is available - it may be difficult if not impossible to determine design specification information for older units).

Suggested Text: ...the BES generating unit’s associated design specification”s”...

Line Item #3:

- (a) Suggestion: Substitute an “or” for “and”.

Basis: Regional operational and communication protocols vary – a Generator Operator’s communication hierarchy may be limited to a Transmission Operator.

Suggested Text: Generator Owner/Generator Operator communicates with the Balancing Authorities, Reliability Coordinators, “or” Transmission Operators...

Line Items #2 and #3:

- (a) Suggestion: Eliminate requirement to exchange information between Transmission Operators (TOP), Balancing Authorities (BA), and Reliability Coordinators (RC).

Basis: Mechanisms are already in place for the exchange of information between TOPs, BAs, and RCs in the Functions’ Real-time Monitoring and Operational Planning Analysis as part of the TOP, BA and RC Data Specifications currently required by TOP-003 and IRO-010. Having the Generator Operator (GOP) utilize communication methods already established will reduce the GOP’s compliance burden while maintaining an effective message delivery.

Line Item #4:

- (a) Suggestion: Eliminate requirement for Transmission Operator (TOP), Balancing Authorities (BAs), and Reliability Coordinators (RC) to perform their respective Operational Planning Analysis, develop an Operating Plan (OP) or determine expected availability of contingency reserves for the appropriate next day operation horizon.

Basis: Mechanisms are already in place for the RC to incorporate its TOP and BA OPs as part of their Operating Plan Analysis (OPA) process. Specifically, IRO-008 R2 requires the RC to consider the OPs of its BAs and TOPs in the development of its OP. Additionally, data specifications for the TOP, BA, and RC detail the information exchanged for each Function to perform its OPA. Further, the OPA definition requires “applicable inputs including, but not limited to, load forecast; generation output levels; Interchange; known Protection System and Special Protection System status or degradation; Transmission outages; generation outages;”, etc. Finally, OPAs already have the requirement to include expected generator outages/output levels which would be communicated as part of the BAs OP and exchanged via the RC and TOP data specifications.

Likes	0
Dislikes	0
Response: Thank you for your comment. Please see the SAR DT's response to EEI and NAGF.	
Rodney Warner - PNM Resources - Public Service Company of New Mexico - 3 - WECC	
Answer	No
Document Name	
Comment	
PNMR supports EEI comments	
Likes	0
Dislikes	0
Response: Thank you for your comment. Please see the SAR DT's response to EEI.	
Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>Madison Gas and Electric (MGE) does not support creating a continent-wide standard to address a very specific regional issue, particularly given that, as stated in previous comments, existing Reliability Standards already cover most of the issues this SAR attempts to address. It is neither feasible nor desirable for Reliability Standards to specifically call out each and every ambient condition or operational situation that could occur across North America; attempting to do so requires the industry to spend valuable resources and our customers' money on non-stop standards projects.</p>	

MGE supports the TAPS Comments.

Likes 0

Dislikes 0

Response: Thank you for your comment. The SAR DT understands that the FERC report does not clearly state the need for a Continent-Wide NERC Cold Weather Standard, the SAR DT believes that different levels of cold weather preparation and programs will be needed across the ERO due to varying cold weather conditions. As an example, US northeast-based BES generating units will require a more extensive and comprehensive cold weather preparation plan as compared to US southwest-based BES generating units. Additionally, any new or revised Standard that addresses generator winter preparation will take into consideration geographic differences.

In addition, please see the SAR DT’s response to TAPS.

Jamie Johnson - California ISO - 2

Answer

No

Document Name

Comment

CAISO does not support the current redline version of the proposed SAR. We recommend the references to Reliability Coordinator be removed from SAR bullets #1d, 2 and 3.

We agree with the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units’ limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively.

The flow of information needs to be from the Generator Owner/ Operator to Balancing Authority then to the Reliability Coordinator. The Balancing Authority will inform Reliability Coordinator of the Generator Owner/ Operator’s information via the already well established processes between the Balancing Authority and Reliability Coordinator. As stated in the Functional Model, “The Balancing Authority has the responsibility for generation-demand-interchange balance in the Balancing Authority Area. The Reliability Coordinator may direct a

Balancing Authority within its Reliability Coordinator Area to take whatever action is necessary to ensure that this balance does not adversely impact reliability.”

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the modifications made by the SAR DT to bullets 2 and 3. The SAR DT believes this addresses your concern.

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6

Answer

No

Document Name

Comment

PacifiCorp supports the comments submitted by NSRF.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT’s response to NSRF.

Carl Pineault - Hydro-Qu?bec Production - 1,5

Answer

No

Document Name

Comment

HQP would like to reiterate its concerns about this SAR. Maintaining the requirement that all BES generating units would be required to develop and implement cold weather preparedness plans continues to put an unnecessary compliance burden on the generating units that already operate in historically cold climates without an appreciable increase in reliability.

Likes 0

Dislikes 0

Response: Thank you for your comment. This project is necessary to respond to recommendations by FERC contained in the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018.

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer No

Document Name

Comment

EI supports many improvements made to the SAR but there are still important issues that need to be addressed. We offer the following comments and suggestions:

Industry Need Statement: EEI agrees with the Industry Need statement, as currently written.

Purpose or Goal Statement: EEI generally agrees with the Purpose or Goal Statement but does not support the use of the term “optimal” in the opening sentence and recommends its removal.

Project Scope Statement: EEI does not agree that all parts of Recommendation 1 from the South-Central United States Cold Weather BES Event Report (Cold Weather Report) should or were intended to be included in a new or revised NERC Reliability Standard. The Cold Weather Report offered a three-prong approach that included 1) new and/or revised Reliability Standards, 2) enhanced outreach to GO/GOPs and 3) market rules. For this reason, we offer the following modified scope statement to more closely align with the intent of the Cold Weather Report.

The project scope will address **those parts of** Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018; **that are appropriate for inclusion in a new or revised NERC Reliability Standards addressing** activities, such as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes **that ensure effective communications between registered entities on known events that could impact BES reliability.**

Detailed Description: EEI supports many of the changes made to the detailed description but has the following remaining concerns:

1. The language used in item 1.a of this section is problematic because resource owners cannot guarantee the accuracy of cold weather resource performance information regardless of whether it was derived from design specifications or historical demonstrated performance. While this type of information is useful to RCs and BAs for projecting resource performance during cold weather events, it may also represent both a reliability risk if inappropriately used and a compliance risk for GOs if they are held to the accuracy of the data provided. While a GO can provide the specified data, that data can and does often change over time for a wide variety of reasons. Therefore, GOs should not be held accountable for the results of this data when used by the RC, BA, or TOP in operational and planning studies. For this reason, we ask that item 1.a be modified to the following:

The need for **projected** accurate cold weather temperature performance and operating limitations during cold weather; **(EEI also struck "design specifications or historical demonstrated performance,")**

2. EEI recommends removal of the inclusion of gas supply availability as a specific notification requirement from the scope of the SAR. Such a requirement will create an unnecessary compliance obligation for GOs without commensurate reliability benefits since they may not be the entity with the most timely information on natural gas curtailments if they are operating within an organized wholesale market. It is also important to recognize that gas curtailments can have significant impacts on these markets and as such are more appropriately addressed through market rules rather than NERC Reliability Standards, particularly in these areas. Additionally, EEI understands that most RTO/ISOs are already establishing processes and forming relationships with gas suppliers to ensure the most current fuel supply information is available to responsible RCs and BAs. For this reason, a one size fits all solution should not be applied through a NERC Reliability Standard. It would be more appropriate to solve this issue through the effective use of tools that already exist within NERC Reliability Standards (i.e., TOP-003-3 and IRO-010-2). One option to address this issue could be for the Standards Drafting Team to develop Implementation Guidance for TOP-003-3 and IRO-010-2 that can be tailored to address these regional differences, rather than creating new nationwide regulatory obligations that are unnecessary and not likely to address how gas curtailments should be communicated in different regions.

Likes	0
Dislikes	0
Response: Thank you for your comment. The SAR DT made modifications to the Purpose and Project Scope section that line up with EEI’s proposed modifications. Bullet 1d has been removed from the SAR. The team agrees that the remainder of the detailed bulleted items line up with the FERC and NERC report; and therefore, did not make the proposed changes to the SAR.	
Devon Tremont - Taunton Municipal Lighting Plant - 1,3,5 - NPCC	
Answer	No
Document Name	
Comment	
<p>The Taunton Municipal Lighting Plant ("TMLP") does not support creating a new Reliability Standard to address the Cold Weather SAR as there are already existing Reliability Standards that could be leveraged to accomplish these goals. In response to the comments submitted by TMLP on the prior posting of this SAR, the drafting team stated that “it is not clear that the conditions of [IRO-010 and TOP-003] focus on data specific to cold weather issues.” While we recognize that the SAR drafting team has included their intent for the SDT (once formed) to review the requirements within IRO-010 and TOP-003, we note that the standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions. There is no indication in NERC’s enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, “the data necessary for it to perform” its operational functions, and require the entities receiving the data specifications to provide all such data.</p> <p>As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, “[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. <i>This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data.</i>” Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach—listing</p>	

each type of data that must be provided—will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

In addition, NERC stated in its April 6, 2020 comments on FERC’s NOPR regarding the Phase 1 SER retirements (RM19-16 and RM19-17, at 9 (emphasis added):

Reliability Standards MOD-032-1, IRO-010-2, and TOP-003-3 provide the entities responsible for the reliable modeling, planning, and operation of the BPS with the authority to obtain the information they need from Generator Owners and Transmission Owners to complete their reliability tasks, which may include next most limiting equipment information. *Now that these broader data specification standards are in place, NERC has identified no reliability need to maintain additional requirements expressly requiring the provision of this data in the FAC-008 standard.*

It is counterproductive to add specific requirements with respect to cold weather data at the same time that the industry and NERC are proposing to retire analogous requirements with respect to next most limiting equipment information. If the SAR drafting team maintains the position that additional clarity with respect to cold weather is needed, then a better use of industry resources would be development of Implementation Guidance to provide examples for implementing these standards to address cold weather events.

If this SAR proceeds, the SDT should take care to draft a results-based standard, avoiding unnecessary administrative burdens. In addition, the SDT should recognize that it would be uneconomic and inappropriate to require that every generator on the continent plan to operate under all conditions; generators must be permitted to identify their ambient design parameters and decline to make themselves available outside those parameters.

Likes 0

Dislikes 0

Response: Thank you for your comment. Although the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 specifically includes a bullet in Recommendation #1 to include “temperature design specifications” be incorporated into plans, procedures and training, the SAR DT believes “projected accurate cold weather temperature performance and operating limitations during cold weather” supports the recommendation and reflects a more appropriate data point than design specifications.

Robert Blackney - Edison International - Southern California Edison Company - 1,3,5,6 - WECC

Answer	No
Document Name	
Comment	
Please see comments submitted by the Edsion Electric Institute.	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. Please see the SAR DT's response to EEI.	
Martin Sidor - NRG - NRG Energy, Inc. - 5,6	
Answer	No
Document Name	
Comment	
Comments: NRG Energy, Inc. (NRG) generally agrees with the changes made to the SAR but feels more improvements can be made. NRG supports the observations, comments and recommendations submitted by the NAGF and EEI that focus the SAR scope on items that should be addressed in NERC Reliability Standards and removing those that are better addressed in markets or through other means.	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. Please see the SAR DT's responses to NAGF and EEI.	
Douglas Webb - Westar Energy - 1,3,5,6 - MRO, Group Name Westar-KCPL	
Answer	No
Document Name	

Comment

Westar Energy / Kansas City Power & Light (Evergy companies) incorporate by reference the Edison Electric Institute's (EEI) response to Question 1.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to EEI.

Truong Le - Florida Municipal Power Agency - 4 - SERC

Answer

No

Document Name

Comment

We support the comments TAPS made to this SAR. FMPA would like to highlight that the BA/RCs already have the right to request specific pertinent operational data in IRO-010 & TOP-003 data specification requirements. This topic should be addressed within those standards as a regional-specific example of weather-related data specification for generator operation and it should be up to the BA/RCs to determine whether they need such information. Additionally, moving forward with this SAR would be contrary to the SER efforts that NERC is currently engaged in. All of this was stated by TAPS in the last posting of this SAR. We at FMPA would like to echo the comments TAPS has made. Thank you.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to TAPS.

David Jendras - Ameren - Ameren Services - 1,3,6

Answer

No

Document Name	
Comment	
Ameren agrees with and supports EEI comments.	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. Please see the SAR DT's response to EEI.	
Devin Shines - PPL - Louisville Gas and Electric Co. - 3,5,6 - SERC, Group Name Louisville Gas and Electric Company and Kentucky Utilities Company	
Answer	No
Document Name	
Comment	
<p>LG&E/KU appreciates the Drafting Team's work towards refining the scope of the 2019-06 Cold Weather SAR in order to best address the recommendations of the South-Central United States Cold Weather BES Event Report.</p> <p>We agree with the substance of the points made in EEI's comments. However, whereas EEI does not primarily ask for removal of language in the SAR stating that Standards be created or revised in order to address the problems cited in the Cold Weather Report, LG&E/KU recommends that NERC address the Report's recommendations through the development of Implementation Guidance for relevant existing Reliability Standards rather than creating or revising Standards. Therefore, we would recommend the Standards Committee reject the SAR and the development work of any Standards in response to the Report in accordance with Section 4.2 of the Standards Process Manual Rules of Procedure, Appenidix 3A.</p> <p>The changes requested in the Recommendations of the Cold Weather Report can be addressed efficiently through existing NERC Reliability Standards such as TOP-003-3 and IRO-010-2. These Standards already address the communication of generating unit availability and capability. The development of Implementation Guidance for the existing Reliability Standards could properly address existing issues while also accounting for regional variations. This approach allows for existing issues with communications to be addressed where they</p>	

exist without creating duplicative Standards, unnecessary compliance obligations, and administrative burdens.

If the Standards Committee does not reject the SAR and choose to address the Cold Weather Report’s recommendations through the development of Implementation Guidance, we support EEI’s proposed revisions to the Project Scope and Detailed Description sections of the SAR. Specifically, we agree that:

- (1) The Project Scope should be narrowed to specifically state that any revisions or new Standards will focus on ensuring communications between registered entities with regard to events that could impact reliability. This would more directly address the issues raised in the Cold Weather Report; and
- (2) Section 1.a of the Detailed Description should not specifically require GO/GOPs to use design specifications or historical demonstrated performances in their planning and procedures. While the GO/GOP may provide this data to the RC, BA, or TOP for use, the information can vary and may not provide reliable information to use in operational and planning studies.

Likes 0

Dislikes 0

Response: Thank you for your comment. The 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 specifically references voluntary efforts utilizing existing guidance and training materials available to industry and noted that extensive unplanned generation outages continue to occur during cold weather related events. Add blurb on IG and if the SDT feels that IG is warranted then it can be developed. See EEI comments.

It is not the intent of the SAR DT to add conflicting layers of regulatory requirements and included a preference within the SAR that the Standard Drafting Team revise existing standards, to the extent possible. The Standard Drafting Team will ensure requirements for communication by GO/GOP to RC, BA and/or TOP are appropriately addressed similar to the data specifications in IRO-010 and TOP-003.

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5

Answer

No

Document Name

Comment

DTE Esupports those comments made by the North American Generator Forum (NAGF). Please see the NAGF's response for the full extent of the comments. The NAGF respectfully declines to support this SAR as written.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to NAGF.

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer

No

Document Name

Comment

Minnesota Power agrees with the following aspects of MRO's NERC Standards Review Forum's (NSRF) comments:

All items under this sections's 1, a, b, c, and d, are all too prescriptive to be in the SAR and are solely restating what was in the 2019 FERC and NERC report.

Items in section 2, 3, and 4 are also prescriptive in nature and do not provide "justification" to create or revise a Reliability Standard. Transmission Operator should be added to the Industry Need Section.

Recommend the above items in sections 1, 2, 3, and 4 be deleted. This will allow the Standards Drafting Team with how to move forward with a continent wide Standard (new or revised) that mitigates the issues within the FERC and NERC report.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to MRO NSRF.

Jennie Wike - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6 - WECC	
Answer	No
Document Name	
Comment	
<p>Tacoma Power appreciates the SAR Drafting Team’s (DT) consideration of our comments and allowing the opportunity to provide suggestions. While we concur with the changes the DT incorporated into the SAR as a result of our comments, additional information or changes to the project scope is needed to address our concerns.</p> <p>The central concern behind Tacoma Power’s initial comments was that sufficient justification for modifying the existing regulatory framework was not provided in either the SAR or the 2019 FERC and NERC report. This concern is echoed in multiple other comments submitted by SRP, CHPD, Reclamation, Pend Orielle PUD, City Utilities of Springfield and IMPA. Without this detailed regulatory gap analysis, Tacoma Power cannot determine what is missing in the current framework and if the scope proposed in the SAR is adequate to address these gaps. Additionally, the information provided by AEP and other entities regarding conflicts with the Market Interface Principles is concerning, and we would like to see these concerns addressed prior to approving the SAR.</p> <p>In addition to our original comments, we share the concerns expressed by City Utilities of Springfield and the U.S. Bureau of Reclamation that this project is seeking a continent-wide Standard to address a regional issue. Updating the SAR to limit the project scope to cold weather conditions instead of all ambient conditions is a step in the right direction. However, the SAR DT should consider changing the scope of this project to issuing a regional variance or regional Standard, as suggested by Reclamation. Alternatively, the applicability of these new requirements should be limited to units not located in historically cold climates and to exclude certain generation types (i.e. hydroelectric), as suggested by Reclamation and CHPD.</p>	
Likes	0
Dislikes	0
<p>Response: Thank you for your comment. Performing a regulatory gap analysis was determined to be outside of the scope of the SAR Drafting Team. It is our expectation that the Standards Drafting Team would perform the deeper dive on ensuring the correct fit with existing Standards including the reference Market Interface Principles. With regards to a Regional Standard, the Polar Vortex incident</p>	

highlighted that Cold Weather protection is not a regional issue as the freezing temperatures extended to the deep south. Therefore, Cold Weather has the potential impacts continent wide. The consideration will be made when the standard is drafted based on if specific generation types will be excluded.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NERC Standards Review Forum.

Likes 0

Dislikes 0

Response: Thank you for your comment. Please see the SAR DT's response to MRO NSRF.

Colleen Campbell - AES - Indianapolis Power and Light Co. - 3

Answer Yes

Document Name

Comment

IPL agrees with the current SAR revisions and has no further comments.

Likes 0

Dislikes 0

Response: Thank you for your support.

Wayne Guttormson - SaskPower - 1	
Answer	Yes
Document Name	
Comment	
For "Generator Owner/Generator Operator communicates with the Balancing Authorities, Reliability Coordinators, and Transmission Operators the BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather, "; is the expectation that the PC/TP will have to add this to their MOD data request of GOs (or the BA's) to get access to this information being sent to the BA, RC, and TOP?	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. The SAR Drafting Team has not discussed the level of specificity with regards to how entities will adhere to the proposed new or revised standards. It is our belief that this level of detail will be developed by the Standard Drafting Team.	
Teresa Cantwell - Lower Colorado River Authority - 1,5	
Answer	Yes
Document Name	
Comment	
None	
Likes 0	
Dislikes 0	
Response	

Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
No Comments.	
Likes 0	
Dislikes 0	
Response	
Daniel Gacek - Exelon - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Exelon concurs with the EEI comments and offers the following additional comments:	
<ol style="list-style-type: none"> 1. Exelon supports the use of historical cold weather performance data. Exelon has prior experience with determining cold weather operating limits based on either design or historical experience, and has found the historical data to be superior, i.e., more easily determined and less subject assumptions. Exelon does not object to the inclusion in the SAR of design information as a basis for cold weather operating limits for those generators that can use it, but any eventual changes to Standards for cold weather operation should allow the flexibility of using historical data. 2. Exelon supports EEI recommendation to remove the inclusion of gas supply availability as a specific notification requirement. As EEI states the organized wholesale market are more appropriately positioned to respond through established market rules. 	
Likes 0	

Dislikes	0
Response: Thank you for your comment. Please see the SAR DT's response to EEI. In addition, the SAR DT thanks you for your support regarding the historical cold weather performance data.	
Mark Holman - PJM Interconnection, L.L.C. - 2, Group Name SRC	
Answer	Yes
Document Name	
Comment	
The ISO/RTO Council's Standards Review Committee members PJM, NYISO, MISO, ISONE, IESO and SPP agree with and support the redline modifications.	
Likes	0
Dislikes	0
Response: Thank you for your support.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
None	
Likes	0
Dislikes	0
Response	

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee	
Answer	Yes
Document Name	
Comment	
Purpose or Goal: We suggest removing the word “optimal” since reliability does not need to be described within the SAR. NERC has defined “Adequate Level of Reliability” which is used primarily to guide NERC Reliability Standards development.	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. The word “optimal” has been removed from the SAR and replaced with ALR.	
Lisa Martin - Austin Energy - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
City of Austin dba Austin Energy encourages this effort to align with existing, successful ISO/RTO cold weather requirements such as those already in place in the ERCOT region.	
Likes 0	
Dislikes 0	
Response: Thank you for your comment. Although FERC, NERC, and the SAR DT have seen improvements in generator availability and performance as a result of cold weather preparedness outreach programs sponsored or initiated by the Regions, RTOs and ISOs, this	

has not been a consistent practice across the ERO. The SAR DT will notate your suggestion for the SDT to consider as they draft proposed revisions.

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer Yes

Document Name

Comment

Overall, MISO supports the IRC SRC comments and modifications made to the SAR. Specifically, MISO supports the following changes:

- Reduction in scope to focus on cold weather conditions only
- Added flexibility for design specifications as an alternative to historical performance information
- Added specificity for unit performance capability
- Addition of the Transmission Operator function
- Recommendation to utilize and revise existing Reliability Standards and create a new standard only if necessary and appropriate.

We thank the SAR Drafting Team for its efforts.

Likes 0

Dislikes 0

Response: Thank you for your support.

LaTroy Brumfield - American Transmission Company, LLC - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Document Name

Comment

ERCOT generally agrees with the proposed SAR, including its recommendation to use existing Reliability Standards to the extent possible and to “create a new standard only if necessary and appropriate.” Because IRO-010 and TOP-003 already address data specifications required by RCs, BAs, and TOPs for their Operational Planning Analyses (OPA), ERCOT sees no need to propose new requirements specifying procedures and formats for submission of the data contemplated under this SAR, although it may be necessary to create a new requirement for GOs/GOPs to provide that data. ERCOT also agrees with the SAR that existing requirements in EOP-011—especially R 2.2.3.1—should be considered in evaluating the need for additional standards or requirements.

Nevertheless, ERCOT recommends several further revisions to the SAR:

1. If the SAR continues to include deliverable 4 in the detailed description (contemplating a requirement for RCs, BAs, and TOPs to incorporate into their OPAs the information provided by GOs/GOPs), it should allow the RC, BA, or TOP to specify the format of the information provided by the GO/GOP, since it is the RC, BA, or TOP that would need to use the information in its OPA, and since it is likely that GOs/GOPs would provide different information in a variety of formats unless the format of the submission were standardized in some way. If the existing data specification constructs in IRO-010 and TOP-003 are used, the data would need to be provided to the RC, BA, or TOP in a “mutually agreeable format,” which could also achieve this standardization function.
2. ERCOT questions the SAR’s proposal in deliverable 2 to require GOs/GOPs to provide design specifications (such as a manufacturer’s minimum ambient operating temperature) or historical cold-weather performance information to RCs, BAs, and TOPs. In ERCOT’s experience, generator manufacturers do not always provide minimum ambient operating temperatures, and for those that do, the values provided are often overly conservative. Also, manufacturers have no control over whether GOs/GOPs will install additional weatherization measures that would substantially improve the generator’s ability to continue generating during extremely cold situations, making manufacturer information about minimum operating temperatures even less useful. Similarly, historical performance information will be inaccurate to the extent it fails to consider weatherization improvements that may have been made by generators

during the period of historical evaluation. Given the unreliability of this information, ERCOT recommends against requiring GOs/GOPs to provide temperature-related design information or historical cold-weather performance information to RCs, BAs, and TOPs.

3. Although ERCOT agrees with deliverable 3’s general purpose to require GOs/GOPs to notify RCs, BAs, and TOPs of generator limitations due to cold weather, ERCOT recommends several revisions to this deliverable.

- a. ERCOT recommends that the SAR replace the reference to “performance” with “capability.” This change, coupled with the existing references to “availability,” would align the language in the SAR with the reference to “capability and availability” in EOP-011 R 2.2.3.1, which addresses a similar concept.
- b. ERCOT recommends that the GO’s/GOP’s obligation to provide notice of natural gas curtailments—currently reflected in deliverable 1.d.—should instead be integrated into deliverable 3, as this deliverable more appropriately captures the GO/GOP communications with RCs, BAs, and TOPs concerning capability and availability. To address this concern, deliverable 3 should be modified to propose a requirement that the GO/GOP notify the BA, RC, and TOP when “local forecasted cold weather conditions or natural gas curtailments limit BES generating unit capability or availability.”
- c. The deliverable should also clarify the time horizons in which the GO/GOP should be required to notify the BA, RC, and TOP of impacts to generator capability or availability due to cold weather. Specifically, the SAR should clarify that this duty applies in the Operations Planning, Same-Day Operations, and Real-Time Operations Horizons. This is because the capability and or availability can change between the OPA timeframe and Real-time operations, often as the weather forecast changes.

Likes	0
Dislikes	0

Response: Thank you for your comments. The SAR DT understands that the relevant EOP, IRO and TOP standards respectively address: (1) reliability impacts of extreme weather conditions in Operating Plans, (2) data needed to monitor and assess operation of the BES, and (3) data needed to fulfill operational and planning responsibilities; but it appears that the reliability impacts of extreme weather conditions were not thoroughly considered, insufficient data existed or the data was not effectively utilized prior to or during the January 2018 South Central Cold Weather Event.

•The SAR DT will notate to the SDT to consider in the development of a Cold Weather Standard to address data specifications related to cold weather events. The SAR DT agrees If the existing data specification constructs in IRO-010 and TOP-003 are used, the data

would need to be provided to the RC, BA, or TOP in a “mutually agreeable format” as required by the existing data specifications standards.

- The SAR DT recognizes the experiences of ERCOT during site visits to understand that plant minimum ambient design temperature is not relevant. Adequate maintenance of freeze protection is what improves the reliability of generating units during cold weather.
- performance was updated where necessary.
- 1d has been removed.
- has been addressed via deliverables 2 and 3. (ERCOT recommends that the GO’s/GOP’s obligation to provide notice of natural gas curtailments—currently reflected in deliverable 1.d.—should instead be integrated into deliverable 3, as this deliverable more appropriately captures the GO/GOP communications with RCs, BAs, and TOPs concerning capability and availability. To address this concern, deliverable 3 should be modified to propose a requirement that the GO/GOP notify the BA, RC, and TOP when “local forecasted cold weather conditions or natural gas curtailments limit BES generating unit capability or availability.”)

The 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 states “The forecasts improved somewhat, but even the forecasts for January 15 (two days ahead) were 3 to 8 degrees higher than the minimum temperature observed on January 17.” Additionally, the report states “The analyses and resulting next-day Operating Plans were completed by late afternoon on January 16, and thus could not reflect the significant amount of additional unplanned generation outages, derates and failures to start which occurred overnight, and the impacts of the higher power transfer levels and decreased system voltage levels resulting from those losses.”

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE provided the comments below for the second posting of the SAR, to which the SAR DT responded “(1) The SAR DT notes the situational aware part of recommendation #1.” Texas RE is requesting a response regarding how this concern will be addressed within the SAR or why it will not be addressed within the SAR.

- Texas RE recommends the SAR include utilization of Real-time data. The SAR discusses RC and BA utilization of parameter in operation planning studies (OPA, Operating Plans, reserves for next day operating horizon), but does not address utilization of parameters in Real-time (RTA, Real-time monitoring). By ignoring Real-time analysis and monitoring, the SAR does not address cold weather events where actual temperatures are more severe than forecasted temperatures and actions are needed in Real-time to account for these unexpected conditions.

For example, the 2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018 states *“The forecasts improved somewhat, but even the forecasts for January 15 (two days ahead) were 3 to 8 degrees higher than the minimum temperature observed on January 17.”* Additionally, the report states *“The analyses and resulting next-day Operating Plans were completed by late afternoon on January 16, and thus could not reflect the significant amount of additional unplanned generation outages, derates and failures to start which occurred overnight, and the impacts of the higher power transfer levels and decreased system voltage levels resulting from those losses.”* Together, these facts support the need to include consideration of these parameters for Real-time analysis and monitoring in addition to day-ahead studies.

Texas RE has the following additional comments:

- Texas RE recommends Deliverable 1d include notification to the TOP. Notification to the TOP is important to ensure the TOP has sufficient information to perform its OPA and is utilizing information in its OPA that is consistent with the information utilized by the RC. Inconsistent OPA results between the TOP and RC can lead to uncertainty regarding existence of reliability issues and actions needed to address the reliability issues.
- TOPs should also be added in the Industry Need section for completeness. The drafting team could consider the following verbiage: “Additionally, to ensure effective communications between functional entities regarding cold weather impacts to generator unit availability.
- In the “Detailed Description” section Texas RE requests consistency in the use of Transmission Operator(s) as some GO/GOPs may have multiple TOPs (even at a single location).
- There is a section that starts with “Are there any related standards or SARs...” that should include references to the TOPs in the phrase “applicable to Generator Owners, Generator Operators....”
- Texas RE recommends cold weather preparedness include seasonal operations planning as well because “**Operations Planning -** operating and resource plans from day-ahead up to and including seasonal.” The winter season study should be performed in fall

with best available data provided by GO and GOP as identified in deliverables 1 and 2. Additionally, incorporating seasonal study in deliverables 3 and 5 is recommended to ensure impact of cold weather on generations fleet is studied and understood way ahead of time before Real-time and Next-day studies are performed.

Likes 0

Dislikes 0

Response: Thank you for your comments. The SAR DT agrees that time horizons in which GO/GOP should be required to notify BA, RC and TOP of generator capability and availability should include Operations Planning, Same-Day Operations and Real-Time Operations Horizons. The SAR DT agrees this would assist in reflecting changes in weather forecasts between the Operations Planning, Day-Ahead, Same-Day and Real-Time Operations.

- **addressed through #2 and #3.**
- **TOP were added to the Industry Need and Detailed Descriptions section.**
- **The SAR DT agrees that seasonal operations planning is needed, but understands that although these types of Winter Reliability Assessments (WRAs) have been annually performed by NERC/Regional, and certain ISO/RTOs, the assessments don't always consider the impact prolonged cold weather conditions or don't accurately study them. The SAR DT believes that Operations Planning, Next-Day planning and Real-Time Operations Analysis are more effective in determining possible issues related changes in weather conditions.**

As an example, the results of one collaborative effort is intended to enable the entities to discuss their plans for the upcoming winter period. Their 2017/2018 WRA determined that: (1) anticipated resources met or exceeded their respective Planning Reference Margins for the upcoming winter period, (2) winter preparedness continued to be a high priority, and (3) market-based initiatives reinforced the need to sustain generator performance during extreme weather conditions. An ISO in the assessment anticipated that reliability would be maintained, but urged generator owners to prepare for the winter by weatherizing their units. Once Region anticipated that: (1) current resources were adequate to meet the peak winter demand and, (2) entities within their Region continued winterization efforts to maintain unit availability. Another Region did not foresee any impacts to resource adequacy.

End of Report

Unofficial Nomination Form

Project 2019-06 Cold Weather

Standard Authorization Request Drafting Team

Do not use this form for submitting nominations. Use the [electronic form](#) to submit nominations for Project **2019-06 Cold Weather** Standard Authorization Request (SAR) drafting team members by **8 p.m. Eastern, Thursday, July 2, 2020**. This unofficial version is provided to assist nominees in compiling the information necessary to submit the electronic form.

This nomination period is being implemented to solicit small entity representation for the SAR drafting team.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email), or at 404-446-2589.

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in conference calls. Face-to-face meetings will resume at a later date.

Previous drafting or review team experience is beneficial, but not required. A brief description of the desired qualifications, expected commitment, and other pertinent information is included below.

Background

In July 2019, the FERC and NERC staff report titled The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018 was released. Following the report, Southwest Power Pool, Inc. submitted a SAR proposing a new standard development project be initiated to review and address the recommendations provided from the FERC and NERC staff report. The stated industry need for this SAR is to enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for extreme cold weather conditions.

Standard Affected:

This project will review current Operating and Planning Suite of mandatory Reliability Standards to address the recommendations from the FERC and NERC staff report.

Drafting Team activities include participation in technical conferences, stakeholder communications and outreach events, periodic drafting team meetings and conference calls. Approximately one face-to-face meeting per quarter can be expected (on average three full working days each meeting) with conference calls scheduled as needed to meet the agreed-upon timeline the drafting team sets forth. NERC is seeking individuals from small entities who possess experience with cold weather preparation, such as, through performing or developing processes to address the following tasks:

- Implementing freeze protection measures and technologies;
- Performing periodic adequate maintenance and inspection of freeze protection measures;

- Conducting winter-specific and plant-specific operator awareness training;
- Develops a procedure for determining the operating temperatures for generating unit availability for extreme cold weather performance;
- Communicates with the appropriate entities on the operating temperatures for generating unit availability for extreme cold weather performance and when expected temperatures are forecasted within the determined generating unit availabilities, and expected availability of the generating units for the appropriate next day operating horizon;
- Appropriate entities use of the data in its respective Operational Planning Analysis or Operating Plans.

Name:		
Organization:		
Address:		
Telephone:		
Email:		
Please briefly describe your experience and qualifications to serve on the requested SAR Drafting Team (Bio):		
If you are currently a member of any NERC drafting team, please list each team here:		
<input type="checkbox"/> Not currently on any active SAR or standard drafting team. <input type="checkbox"/> Currently a member of the following SAR or standard drafting team(s):		
If you previously worked on any NERC drafting team please identify the team(s):		
<input type="checkbox"/> No prior NERC SAR or standard drafting team. <input type="checkbox"/> Prior experience on the following team(s):		
Acknowledgement that the nominee has read and understands both the <i>NERC Participant Conduct Policy</i> and the <i>Standard Drafting Team Scope</i> documents, available on NERC Standards Resources.		
<input type="checkbox"/> Yes, the nominee has read and understands these documents.		
Select each NERC Region in which you have experience relevant to the Project for which you are volunteering:		
<input type="checkbox"/> MRO <input type="checkbox"/> NPCC <input type="checkbox"/> RF	<input type="checkbox"/> SERC <input type="checkbox"/> Texas RE <input type="checkbox"/> WECC	<input type="checkbox"/> NA – Not Applicable

Select each Industry Segment that you represent:

<input type="checkbox"/>	1 — Transmission Owners
<input type="checkbox"/>	2 — RTOs, ISOs
<input type="checkbox"/>	3 — Load-serving Entities
<input type="checkbox"/>	4 — Transmission-dependent Utilities
<input type="checkbox"/>	5 — Electric Generators
<input type="checkbox"/>	6 — Electricity Brokers, Aggregators, and Marketers
<input type="checkbox"/>	7 — Large Electricity End Users
<input type="checkbox"/>	8 — Small Electricity End Users
<input type="checkbox"/>	9 — Federal, State, and Provincial Regulatory or other Government Entities
<input type="checkbox"/>	10 — Regional Reliability Organizations and Regional Entities
<input type="checkbox"/>	NA — Not Applicable

Select each Function¹ in which you have current or prior expertise:

<input type="checkbox"/> Balancing Authority	<input type="checkbox"/> Transmission Operator
<input type="checkbox"/> Compliance Enforcement Authority	<input type="checkbox"/> Transmission Owner
<input type="checkbox"/> Distribution Provider	<input type="checkbox"/> Transmission Planner
<input type="checkbox"/> Generator Operator	<input type="checkbox"/> Transmission Service Provider
<input type="checkbox"/> Generator Owner	<input type="checkbox"/> Purchasing-selling Entity
<input type="checkbox"/> Interchange Authority	<input type="checkbox"/> Reliability Coordinator
<input type="checkbox"/> Load-serving Entity	<input type="checkbox"/> Reliability Assurer
<input type="checkbox"/> Market Operator	<input type="checkbox"/> Resource Planner
<input type="checkbox"/> Planning Coordinator	

Provide the names and contact information for two references who could attest to your technical qualifications and your ability to work well in a group:

Name:		Telephone:	
Organization:		Email:	
Name:		Telephone:	
Organization:		Email:	

¹ These functions are defined in the NERC [Functional Model](#), which is available on the NERC web site.

Provide the name and contact information of your immediate supervisor or a member of your management who can confirm your organization's willingness to support your active participation.

Name:		Telephone:	
Title:		Email:	

UPDATED

Standards Announcement

Project 2019-06 Cold Weather

Nomination Period Open through July 2, 2020

[Now Available](#)

Nominations are being sought for additional Standard Authorization Request (SAR) drafting team members through **8 p.m. Eastern, Thursday, July 2, 2020**. *This nomination period is being implemented to solicit small entity representation for the SAR drafting team.*

Use the [electronic form](#) to submit a nomination. Contact [Wendy Muller](#) regarding issues with the system. An unofficial Word version of the nomination form is posted on the [Drafting Team Vacancies](#) page and the [project page](#).

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in conference calls. Face-to-face meetings will resume at a later date.

NERC is seeking individuals who possess experience with cold weather preparation through performing or developing processes to address the following tasks:

- Implementing freeze protection measures and technologies;
- Performing periodic adequate maintenance and inspection of freeze protection measures and technologies;
- Ensuring gas-fueled generating units' Reliability Coordinator and Balancing Authority are provided notification of firm transportation capacity for natural gas supply; and
- Conducting winter-specific and plant-specific operator awareness training;
- Develops a procedure for determining the operating temperatures for generating unit availability for extreme cold weather performance;
- Communicates with the appropriate entities on the operating temperatures for generating unit availability for extreme cold weather performance and when expected temperatures are forecasted within the determined generating unit availabilities, expected availability of the generating units, and fuel assurance for the appropriate next day operating horizon.

NERC is also seeking individuals who have facilitation skills or legal/technical writing backgrounds as well as those who have experience with developing standards inside or outside the NERC development process

(e.g., IEEE, NAESB, ANSI, etc.). Such experience should be highlighted in the information submitted, if applicable.

Previous drafting or periodic review team experience is beneficial, but not required.

Next Steps

The Standards Committee is expected to appoint additional members to the team during the July 22, 2020 meeting. Nominees will be notified after they have been selected.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, contact Senior Standards Developer [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information			
SAR Title:	Cold Weather Preparedness and Data Specification Requirements between Functional Entities		
Date Submitted:	September 20, 2019		
SAR Requester			
Name:	Michael Desselle, VP Process Integrity/Chief Compliance and Administrative Officer		
Organization:	Southwest Power Pool, Inc.		
Telephone:	(501) 614-3206	Email:	mdesselle@spp.org
SAR Type (Check as many as apply)			
<input checked="" type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)		
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision		
<input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)		
<input type="checkbox"/> Withdraw/retire an Existing Standard			
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input checked="" type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified		
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated		
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified		
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
To enhance the reliability of the BES during cold weather events by ensuring Generator Owners, Generator Operators, Reliability Coordinators, and Balancing Authorities prepare for cold weather conditions. Additionally, to ensure communications between functional entities of cold weather impacts to generator unit availability.			
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):			
To ensure an adequate level of reliability by preparing generation for cold weather performance and ensure situational awareness in both planning and operations by applicable registered entities.			

Requested information

Project Scope (Define the parameters of the proposed project):

The project scope will address those parts of Recommendation 1 in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018 That are included in the SAR; and will include the development of new or revised NERC Reliability Standards addressing activities such as winterization activities on BES generating units, winter-specific and plant-specific operator awareness training, and processes that ensure effective communications between registered entities on cold weather events that could impact BES reliability.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

Technical justification can be found in the findings and recommendations contained in the *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018*, July 2019 at the following link: <https://www.ferc.gov/legal/staff-reports/2019/07-18-19-ferc-nerc-report.pdf>.

The deliverable will be new or revised Reliability Standards, as appropriate, to promote reliability of the BES during cold weather and to ensure that cold weather plans for BES generating units are developed, implemented, and communicated in order to maintain BES generating unit availability within capabilities or operating limitations.

1. Generator Owner/Generator Operator² develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather;
 - b. Implementing freeze protection measures; and
 - c. Performing periodic maintenance and inspection of freeze protection measures.
2. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner/Generator Operator will provide its BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather.

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

² The term Generator Owner/Generator Operator used throughout the SAR is used as a broad categorization rather than a definitive requirement for both entities. The intention is for the Standard Drafting Team to determine the appropriate responsible entity based on the NERC Glossary of Terms and functional obligations defined in the standards.

Requested information
<p>3. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner/Generator Operator will provide a notification when local forecasted cold weather conditions are expected to limit BES generating unit capability or availability.</p> <p>4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop its Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.</p>
<p>Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):</p>
<p>Cost impact is unknown. However, a question should be asked during the SAR comment period to ensure all aspects are considered.</p>
<p>Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (<i>e.g.</i>, Dispersed Generation Resources):</p>
<p>Each BES facility considered here may have numerous unique characteristics based on factors such as construction, technical configuration, geographic differences, etc. The substantive differences may require flexibility for each generation resource to develop the appropriate plans to implement during cold weather events.</p>
<p>To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (<i>e.g.</i>, Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):</p>
<p>Balancing Authority, Generator Operator, Generator Owner, Reliability Coordinator, Transmission Operator</p>
<p>Do you know of any consensus building activities³ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.</p>

³ Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information

The *2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019* was publicly noticed and shared with regulators and industry.

Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

In implementing the project scope, the preference is for the Standards Drafting Team to utilize and revise, to the extent possible, the current Operating and Planning Suite of mandatory Reliability Standards subject to enforcement and create a new standard only if necessary and appropriate. The proposed deliverables, as well as other proposed requirements applicable to Generator Owners, Generator Operators, Balancing Authorities, Reliability Coordinators, and Transmission Operators that may result from this project must be reviewed to ensure any conflicts or overlap with current requirements are mitigated. For example, IRO-010-2, TOP-003-3, and EOP-011-1 may address some of these aspects already. These standards require the Reliability Coordinator (IRO-010-2), Balancing Authority and Transmission Operator (TOP-003-3) to maintain documented data specifications that include a list of data and information they need to support the Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Applicable Registered Entities, which include Transmission Operators, Balancing Authorities, Generator Operators, Generator Owners, Transmission Owners, and Distribution Providers, are then required to provide the data per the data specifications. Additionally, EOP-011-1 includes consideration of generator management and extreme weather conditions.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

A number of recommendations contained in the following FERC and NERC reports could be utilized by the standard drafting team:

2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018, July 2019

Polar Vortex Review, September 2014

Report on Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011: Causes and Recommendations, August 2011

Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.

Requested information

Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.

Reliability Principles

Does this proposed standard development project support at least one of the following Reliability Principles ([Reliability Interface Principles](#))? Please check all those that apply.

<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles

Does the proposed standard development project comply with all of the following [Market Interface Principles](#)?

Enter (yes/no)

1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	Yes
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	Yes
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	Yes

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
None	

For Use by NERC Only

SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 2021

Anticipated Actions	Date
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, 2021
NERC Board (Board) adoption	November 2021

A. Introduction

1. **Title:** **Emergency Preparedness**
2. **Number:** **EOP-011-2**
3. **Purpose:** To ensure each Transmission Operator, Balancing Authority, and Generator Owner has developed plan(s) to mitigate and prepare for operating Emergencies; and that Operating Plans are coordinated within a Reliability Coordinator Area.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 4.1.4 Generator Owner
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” includes all BES generating units and BES generating plants.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;
 - 1.2.3. Transmission system reconfiguration;
 - 1.2.4. Redispatch of generation request;
 - 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
 - 1.2.6. Reliability impacts of:
 - 1.2.6.1. cold weather conditions; and

1.2.6.2. any other extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

2.1. Roles and responsibilities for activating the Operating Plan(s);

2.2. Processes to prepare for and mitigate Emergencies including:

2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;

2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;

2.2.3. Managing generating resources in its Balancing Authority Area to address:

2.2.3.1. capability and availability;

2.2.3.2. fuel supply and inventory concerns;

2.2.3.3. fuel switching capabilities; and

2.2.3.4. environmental constraints.

2.2.4. Public appeals for voluntary Load reductions;

2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;

2.2.6. Reduction of internal utility energy use;

2.2.7. Use of Interruptible Load, curtailable Load and demand response;

2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

2.2.9. Reliability impacts of:

2.2.9.1. cold weather conditions; and

2.2.9.2. any other extreme weather conditions.

- M2.** Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3.** The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
- 3.1.** Within 30 calendar days of receipt, the Reliability Coordinator shall:
- 3.1.1.** Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2.** Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3.** Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3.** The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4.** Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have,

and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .

- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High]*
[Time Horizon: Real-Time Operations]
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its generating unit(s). The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High]* *[Time Horizon: Operations Planning and Real-Time Operations]*
- 7.1.** Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;
 - 7.2.** Annual maintenance and inspection of generating unit(s) freeze protection measures; and
 - 7.3.** Generating unit(s) cold weather data, to include:
 - 7.3.1.** Generating unit(s) operating limitations in cold weather; and
 - 7.3.2.** Generating unit(s):
 - 7.3.2.1.** minimum design temperature; or
 - 7.3.2.2.** minimum demonstrated historical performance during cold weather in the previous 5 years;
 - 7.4.** Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan.
- M7.** Each Generator Owner shall have a documented cold weather preparedness plan in accordance with Requirement R7; and have evidence such as (a review or revision history to indicate that the plan has been maintained;) and have evidence such as operator checklists, work orders, test records, other operating and maintenance documentation, or other communication documentation to show that its cold weather preparedness plan was implemented; and have evidence such as training materials and attendance list showing successful completion of training.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.

1.3. Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure; “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.
R2	Real-time Operations, Operations	High	N/A	The Balancing Authority developed a Reliability	The Balancing Authority developed an Operating Plan(s)	The Balancing Authority failed to develop an

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	Planning, Long-term Planning			Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					Authority did not notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.
R7	Operations Planning and Real-time Operations	High	The Generator Owner's cold weather preparedness plan failed to include one of the applicable	The Generator Owner developed a cold weather preparedness plan(s)	The Generator Owner developed and maintained a cold weather preparedness plan(s)	The Generator Owner does not have a cold weather

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			requirement Parts within Requirement R7.	but failed to maintain it. OR The Generator Owner’s cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.	but failed to fully implement it. OR The Generator Owner’s cold weather preparedness plan failed to include three of the applicable requirement Parts within Requirement R7.	preparedness plan. OR The Generator Owner has a cold weather preparedness plan, but failed to include all the applicable requirement Parts within Requirement R7.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
2	TBD	Adopted by the Board of Trustees	Revised under Project 2019-06

Attachment 1-EOP-011-2 Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

0.1 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 2021

Anticipated Actions	Date
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, 2021
NERC Board (Board) adoption	November 2021

A. Introduction

1. **Title:** Emergency ~~Preparedness Operations~~
2. **Number:** EOP-011-21
3. **Purpose:** To ~~effects of operating Emergencies by~~ ensuring each Transmission Operator, ~~and~~ Balancing Authority, ~~and~~ Generator Owner has developed ~~Operating P~~plan(s) to mitigate ~~and prepare for~~ operating Emergencies; ~~and that those~~ ~~Operating p~~Plans are coordinated within a Reliability Coordinator Area.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 4.1.4 Generator Owner
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” includes all BES generating units and BES generating plants.
5. **Effective Date:** See Implementation Plan for ~~EOP-011-1~~Project 2019-06.
- ~~6. **Background:**~~

~~EOP-011-1 consolidates requirements from three standards: EOP-001-2.1b, EOP-002-3.1, and EOP-003-2.~~

~~The standard streamlines the requirements for Emergency operations for the Bulk Electric System into a clear and concise standard that is organized by Functional Entity. In addition, the revisions clarify the critical requirements for Emergency Operations, while ensuring strong communication and coordination across the Functional Entities.~~

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;

- 1.2.3. Transmission system reconfiguration;
- 1.2.4. Redispatch of generation request;
- 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 1.2.6. Reliability impacts of:
 - 1.2.6.1. cold weather conditions; and
 - ~~1.2.5.1.~~1.2.6.2. any other extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

- 2.1. Roles and responsibilities for activating the Operating Plan(s);
- 2.2. Processes to prepare for and mitigate Emergencies including:
 - 2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;
 - 2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;
 - 2.2.3. Managing generating resources in its Balancing Authority Area to address:
 - 2.2.3.1. capability and availability;
 - 2.2.3.2. fuel supply and inventory concerns;
 - 2.2.3.3. fuel switching capabilities; and
 - 2.2.3.4. environmental constraints.
 - 2.2.4. Public appeals for voluntary Load reductions;
 - 2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;
 - 2.2.6. Reduction of internal utility energy use;

- 2.2.7. Use of Interruptible Load, curtailable Load and demand response;
- 2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

2.2.9. Reliability impacts of:

2.2.9.1. cold weather conditions; and

2.2.8.1.2.2.9.2. any other extreme weather conditions.

- M2.** Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3.** The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1.** Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1.** Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2.** Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3.** Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3.** The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4.** Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.

- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its generating unit(s). The cold weather preparedness plan(s) shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]**
- 7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;**
- 7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures; and**
- 7.3. Generating unit(s) cold weather data, to include:**
- 7.3.1. Generating unit(s) operating limitations in cold weather; and**
- 7.3.2. Generating unit(s):**
- 7.3.2.1. minimum design temperature; or**
- 7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years;**
- 7.4. Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan.**

M7. Each Generator Owner shall have a documented cold weather preparedness plan in accordance with Requirement R7; and have evidence such as (a review or revision history to indicate that the plan has been maintained;) and have evidence such as operator checklists, work orders, test records, other operating and maintenance documentation, or other communication documentation to show that its cold weather preparedness plan was implemented; and have evidence such as training materials and attendance list showing successful completion of training.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~As defined in the NERC Rules of Procedure,~~ “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable NERC Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

~~The Balancing Authority, Reliability Coordinator, and Transmission Operator shall keep data or evidence to show compliance, as identified below, unless directed by its Compliance Enforcement Authority (CEA) to retain specific evidence for a longer period of time as part of an investigation. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit. The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.~~

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.

~~If a Balancing Authority, Reliability Coordinator or Transmission Operator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

1.3. Compliance Monitoring and ~~Assessment Processes~~Enforcement Program:

As defined in the NERC Rules of Procedure; “Compliance Monitoring and ~~Assessment~~Enforcement ProcessesProgram” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated ~~R~~Reliability ~~s~~Standard.

~~1.4. Additional Compliance Information~~

None

Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.
R2	Real-time Operations, Operations	High	N/A	The Balancing Authority developed a Reliability	The Balancing Authority developed an Operating Plan(s)	The Balancing Authority failed to develop an

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	Planning, Long-term Planning			Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					Operator within 30 calendar days.	
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority did not notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					to notify within 30 minutes from the time of receiving notification.	Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.
R7	<u>Operations Planning and Real-time Operations</u>	<u>High</u>	<u>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner developed a cold weather preparedness plan(s) but failed to maintain it.</u> <u>OR</u> <u>The Generator Owner's cold weather preparedness plan failed to include two</u>	<u>The Generator Owner developed and maintained a cold weather preparedness plan(s) but failed to fully implement it.</u> <u>OR</u> <u>The Generator Owner's cold weather preparedness plan</u>	<u>The Generator Owner does not have a cold weather preparedness plan.</u> <u>OR</u> <u>The Generator Owner has a cold weather</u>

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
				<u>of the applicable requirement Parts within Requirement R7.</u>	<u>failed to include three of the applicable requirement Parts within Requirement R7.</u>	<u>preparedness plan, but failed to include all the applicable requirement Parts within Requirement R7.</u>

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
<u>2</u>	<u>TBD</u>	<u>Adopted by the Board of Trustees</u>	<u>Revised under Project 2019-06</u>

**Attachment 1-EOP-011-~~21~~
Energy Emergency Alerts**

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

0.1 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

~~Guidelines and Technical Basis~~

~~Rationale:~~

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

~~Rationale for R1:~~

~~The EOP SDT examined the recommendation of the EOP Five Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.~~

~~To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.~~

Rationale for R2:

~~To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~The EOP SDT retained the statement “Operator controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.~~

~~The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.~~

Rationale for R3:

~~The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.~~

Rationale for Requirement R4:

~~Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period~~

~~requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.~~

~~Rationale for R5~~

~~The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.~~

~~Rationale for Introduction~~

~~LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.~~

~~EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB WEQ E-tag Specification v1811 R3.6.1.3, this has been modified and now the TSP has the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.~~

~~Rationale for (2) Notification~~

~~The EOP SDT deleted the language, “The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended” as duplicative to proposed IRO-014-3 Requirement R1:~~

~~R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following: Communications and notifications, and the process to follow in making those notifications. Energy and capacity shortages.~~

~~Control of voltage, including the coordination of reactive resources.~~

~~Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.~~

~~Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.~~

~~Provisions for weekly conference calls.~~

Rationale for EEA 2:

~~The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.~~

Rationale for EEA 3:

~~This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.~~

~~The previous language in EOP-002-3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.~~

~~Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very close to shedding Load (“imminent or in progress”). The drafting team felt that this warrants categorization at the highest level of EEA.~~

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR) for posting	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020

Anticipated Actions	Date
45-day initial formal comment period with ballot	January 2021
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, 2021
NERC Board (Board) adoption	November 2021

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-4
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator.
 - 4.2. Balancing Authority.
 - 4.3. Generator Owner.
 - 4.4. Generator Operator.
 - 4.5. Transmission Operator.
 - 4.6. Transmission Owner.
 - 4.7. Distribution Provider.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather.
 - 1.4. A periodicity for providing data.
 - 1.5. The deadline by which the respondent is to provide the indicated data.
- M1. The Reliability Coordinator shall make available its dated, current, in force documented specification for data.

- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
- 3.1** A mutually agreeable format
 - 3.2** A mutually agreeable process for resolving data conflicts
 - 3.3** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

1.3. Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

1.4. Additional Compliance Information: None.

Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
					Real-time Assessments.	
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06

Standard Development Timeline

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Description of Current Draft

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NERC Board (Board) adoption	November 2021

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-~~43~~
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator.
 - 4.2. Balancing Authority.
 - 4.3. Generator Owner.
 - 4.4. Generator Operator.
 - 4.5. Transmission Operator.
 - 4.6. Transmission Owner.
 - 4.7. Distribution Provider.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather.
 - ~~1.2.1.4.~~ A periodicity for providing data.
 - ~~1.3.1.5.~~ The deadline by which the respondent is to provide the indicated data.
- M1. The Reliability Coordinator shall make available its dated, current, in force documented specification for data.

- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
- 3.1** A mutually agreeable format
 - 3.2** A mutually agreeable process for resolving data conflicts
 - 3.3** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority”
~~As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority”~~
 (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an
Applicable Governmental Authority, in their respective roles of monitoring and or
 enforcing compliance with the mandatory and enforceable NERC-Reliability Standards
in their respective jurisdictions.

1.2. Data Evidence Retention: The following evidence retention period(s) identify the
period of time an entity is required to retain specific evidence to demonstrate
compliance. For instances where the evidence retention period specified below
is shorter than the time since the last audit, the CEA may ask an entity to
provide other evidence to show that it was compliant for the full-time period since the
last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

1.2.1.3. Compliance Monitoring and ~~Assessment Processes~~ Enforcement Program:
 As defined in the NERC Rules of Procedure, “Compliance Monitoring and ~~Assessment Processes~~
Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

1.3.1.4. Additional Compliance Information: None.

Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer one of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include threetwo of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include fourthree of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and Real-time	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Assessments.	Real-time Assessments.	Assessments.
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
<u>3</u>	<u>October 30, 2020</u>	<u>FERC approved IRO-010-2. Docket No. RD20-4-000</u>	
<u>4</u>	<u>TBD</u>	<u>Adopted by NERC Board of Trustees</u>	<u>Revisions under Project 2019-06</u>

Guidelines and Technical Basis

~~_____~~ Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.~~

Rationale for Definitions:

~~Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.~~

Rationale for Applicability Changes:

~~Changes were made to applicability based on IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.~~

~~The Interchange Authority was removed because activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.~~

~~The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard.~~

Rationale:

Proposed Requirement R1, Part 1.1:

~~Is in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.~~

Proposed Requirement R1, Part 1.2:

~~Is in response to NOPR paragraph 78 on relay data.~~

Proposed Requirement R3, Part 3.3:

~~Is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.~~

~~Corresponding changes have been made to proposed TOP-003-3.~~

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 2021

Anticipated Actions	Date
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, 2021
NERC Board (Board) adoption	November 2021

A. Introduction

1. **Title: Operational Reliability Data**
2. **Number: TOP-003-5**
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather.
 - 1.4. A periodicity for providing data.
 - 1.5. The deadline by which the respondent is to provide the indicated data.
- M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.
- R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data

specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

- 2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.
 - 2.2. Provisions for notification of current Protection Remedial Action Scheme status or degradation that impacts System reliability.
 - 2.3. A periodicity for providing data.
 - 2.4. The deadline by which the respondent is to provide the indicated data.
- M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.
- R3. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M3. Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4. Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4. Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
 - 5.1. A mutually agreeable format
 - 5.2. A mutually agreeable process for resolving data conflicts
 - 5.3. A mutually agreeable security protocol
- M5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification

in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

1.3. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

1.4. Additional Compliance Information
None.

Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R2	Operations Planning	Lower	The Balancing Authority did not include one of the	The Balancing Authority did not include two of the	The Balancing Authority did not include three of the	The Balancing Authority did not include four of the

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater,	The Transmission Operator did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the	The Transmission Operator did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the	The Transmission Operator did not distribute its data specification to four or more entities, or more than 15% of the entities that have

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.
R5	Operations Planning, Same-Day Operations,	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	Real-time Operations		obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed "Proposed" from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 2021

Anticipated Actions	Date
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, 2021
NERC Board (Board) adoption	November 2021

A. Introduction

1. **Title:** Operational Reliability Data
2. **Number:** TOP-003-~~54~~
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - ~~1.2.1.3.~~ Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather.
 - ~~1.3.1.4.~~ A periodicity for providing data.
 - ~~1.4.1.5.~~ The deadline by which the respondent is to provide the indicated data.
- M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.
- R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data

specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

- 2.1.** A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.
 - 2.2.** Provisions for notification of current Protection ~~System and Special Protection System Remedial Action Scheme~~ status or degradation that impacts System reliability.
 - 2.3.** A periodicity for providing data.
 - 2.4.** The deadline by which the respondent is to provide the indicated data.
- M2.** Each Balancing Authority shall make available its dated, current, in force documented specification for data.
- R3.** Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol

- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority”
As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority”
(CEA) means NERC or the Regional Entity, or any entity as otherwise designated
by an Applicable Governmental Authority, in their respective roles of monitoring
and/or enforcing compliance with mandatory and enforceable the NERC
Reliability Standards in their respective jurisdictions.

~~1.2.~~ Data Evidence Retention:

~~1.3.1.2.~~ _____ The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent

90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

~~If a responsible entity is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or the time period specified above, whichever is longer.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

1.4.1.3. **Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

1.5.1.4. **Additional Compliance Information**
None.

-Table of Compliance Elements

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include <u>two or fewer</u> of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include <u>twothree</u> of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include <u>fourthree</u> of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include <u>anyfour</u> of the parts (Part 1.1 through Part 1.54) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	<u>Lower</u>	The Balancing Authority did not include one of the parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include two of the parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.4) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	<u>Lower</u>	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	<u>Lower</u>	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for Definitions:

~~Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.~~

Rationale for R1:

~~Changes to proposed Requirement R1, Part 1.1 are in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Transmission Operator to fulfill its responsibilities.~~

~~Proposed Requirement R1, Part 1.2 is in response to NOPR paragraph 78 on relay data. The language has been moved from approved PRC-001-1.~~

~~Corresponding changes have been made to Requirement R2 for the Balancing Authority and to proposed IRO-010-2, Requirement R1 for the Reliability Coordinator.~~

Rationale for R5:

~~Proposed Requirement R5, Part 5.3 is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.~~

Implementation Plan

Project 2019-06 Cold Weather

Applicable Standard(s)

- EOP-011-2 – Emergency Preparedness s
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Requested Retirement(s)

- EOP-011-1 – Emergency Operations
- IRO-010-3 – Reliability Coordinator Data Specification and Collection
- TOP-003-4 – Operational Reliability Data

Applicable Entities

- See subject Reliability Standards.

Background

In July 2019, FERC and NERC staff released a joint report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018*¹. Following the publication of the report, a Standard Authorization Request² was submitted to review and address the recommendations in the report, including:

1. Generator Owner or Generator Operator develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations, which may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather;
 - b. Implementing freeze protection measures; and
 - c. Performing periodic maintenance and inspection of freeze protection measures.
2. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner or Generator Operator will provide its BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather.

¹ Link to report: https://www.nerc.com/pa/rmm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf

² Link to SAR: https://www.nerc.com/pa/Stand/Project%20201906%20Cold%20Weather%20DL/2019-06_Cold_Weather_SAR_Clean_02192020.pdf

3. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in their data specifications that the Generator Owner or Generator Operator will provide a notification when local forecasted cold weather conditions are expected to limit BES generating unit capability or availability.
4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop their Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.

The Reliability Standard revisions proposed by this project will help enhance the reliability of the Bulk Power System during cold weather events, and mitigate the potential for generating unit unavailability due to lack of preparation for cold weather periods by providing increased visibility of cold weather related data to the Reliability Coordinators, Balancing Authorities, and Transmission Operators, and by requiring a baseline level of cold weather planning and preparation by Generator Owners.

General Considerations

This implementation plan provides that entities shall have twelve months to become compliant with the revised Reliability Standards. This implementation plan reflects consideration that entities will need time to develop, implement, and maintain cold weather preparedness plan(s) for its generating site(s) under Reliability Standard EOP-011-2. This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities, revised data specifications and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Effective Dates

Reliability Standard EOP-011-2

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard IRO-010-4

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the date

the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard TOP-003-5

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Dates

Reliability Standard EOP-011-1

Reliability Standard EOP-011-1 shall be retired immediately prior to the effective date of Reliability Standard EOP-011-2 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard IRO-010-3

Reliability Standard IRO-010-3 shall be retired immediately prior to the effective date of Reliability Standard IRO-010-4 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard TOP-003-4

Reliability Standard TOP-003-4 shall be retired immediately prior to the effective date of Reliability Standard TOP-003-5 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Initial Performance of Periodic Requirements

Responsible Entities shall develop, maintain, and implement the Operating Plan(s) required by Reliability Standard EOP-011-2 by the effective date of the Reliability Standard. For the cold weather preparedness plan(s) for generating unit(s) required under Requirement R7, the Responsible Entity shall perform annual maintenance and inspection of generating unit freeze protection measures under Requirement R7 Part 7.2 and conduct awareness training on the roles and responsibilities of personnel under Requirement R7 Part 7.4 by the effective date of the Reliability Standard.

Unofficial Comment Form

Project 2019-06 Cold Weather

Do not use this form for submitting comments. Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments on the **2019-06 Cold Weather** project by **8 p.m. Eastern, Friday, March 12, 2021**.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at 404-446-2589.

Background

In July 2019, the FERC and NERC staff report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018* (Report) was released. Following the report, Southwest Power Pool, Inc. (SPP) submitted a Standards Authorization Request (SAR) proposing a new standard development project to review and address the recommendations in the Report. The industry need for this project is to enhance the reliability of the BES during cold weather events.

Summary of Changes

Many commenters expressed concern regarding the development of a new standard during the SAR phase of Project 2019-06 Cold Weather. Therefore, the initial draft standards reflects modifications to currently existing standards EOP-011, IRO-010, and TOP-003.

EOP-011-2

The standards drafting team (SDT) reviewed the NERC Reliability Standards concluding that EOP-011 was the best fit out of all the standards for cold weather preparedness, plans, procedures, and awareness training. The SDT developed a new Requirement R7 with respective parts as the minimum requirement for entities. As such, the below outlines the EOP-011 modifications at a high level:

- Updated title and purpose to allow for this new requirement.
- Generator Owner (GO) has been added to the Applicability Section. The team discussed the addition of Generator Operator, but determined GO would suffice respective requirement situation as the GO owns the generating site.
- “Cold weather conditions” added to Requirement R1 Part 1.2.6, and Requirement R2 Part 2.2.9.
- New Requirement R7 and its respective Parts.

IRO-010-3

The SDT made modifications to IRO-010-3 to address the Reliability Coordinators (RCs) incorporating data specifications communicated by the GO/GOP to their respective Operational Planning Analysis, develop its Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.

TOP-003-4

The SDT made modifications to TOP-003-4 to address the Transmission Operator (TOPs) incorporating data specifications communicated by the GO/GOP to their respective Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

Questions:

1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes
 No

Comments:

2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes
 No

Comments:

3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes
 No

Comments:

4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes
 No

Comments:

5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?

Yes

No

Comments:

6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.

Yes

No

Comments:

8. Please provide any additional comments for the SDT to consider, if desired.

Comments:

Violation Risk Factor and Violation Severity Level Justification

Project 2019-06 Cold Weather

This document provides the standard drafting team's (SDT's) justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5. Each requirement is assigned a VRF and a VSL. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the Electric Reliability Organizations (ERO) Sanction Guidelines. The SDT applied the following NERC criteria and FERC Guidelines when developing the VRFs and VSLs for the requirements.

NERC Criteria for Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to Bulk Electric System (BES) instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to BES instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the BES, or the ability to effectively monitor and control the BES. However, violation of a medium risk requirement is unlikely to lead to BES instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to BES instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor and control the BES; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES.

FERC Guidelines for Violation Risk Factors

Guideline (1) – Consistency with the Conclusions of the Final Blackout Report

FERC seeks to ensure that VRFs assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System. In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief.

Guideline (2) – Consistency within a Reliability Standard

FERC expects a rational connection between the sub-Requirement VRF assignments and the main Requirement VRF assignment.

Guideline (3) – Consistency among Reliability Standards

FERC expects the assignment of VRFs corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline (4) – Consistency with NERC’s Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular VRF level conforms to NERC’s definition of that risk level.

Guideline (5) – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

NERC Criteria for Violation Severity Levels

VSLs define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one, two, or three VSLs.

VSLs should be based on NERC’s overarching criteria shown in the table below:

Lower VSL	Moderate VSL	High VSL	Severe VSL
The performance or product measured almost meets the full intent of the requirement.	The performance or product measured meets the majority of the intent of the requirement.	The performance or product measured does not meet the majority of the intent of the requirement, but does meet some of the intent.	The performance or product measured does not substantively meet the intent of the requirement.

FERC Order of Violation Severity Levels

The FERC VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in the standard meet the FERC Guidelines for assessing VSLs:

Guideline (1) – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline (2) – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline (3) – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline (4) – Violation Severity Level Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations

Unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

EOP-011-2

VRF Justification for EOP-011-2, Requirement R1

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R1

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R2

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R2

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R3

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R3

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R4

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R4

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R5

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R5

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R6

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R6

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

R#	VRF for EOP-011-2, Requirement R7	Justifications
R7	High	1. Generator Owners must develop, maintain and implement cold weather preparedness plans to promote the capability and availability of their generating facilities during cold weather conditions to avoid unnecessary trips, derates or failures to start. 2. FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R7				
	Lower	Moderate	High	Severe
R7	The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	The Generator Owner developed a cold weather preparedness plan(s) but failed to maintain it. OR The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.	The Generator Owner developed and maintained a cold weather preparedness plan(s) but failed to implement it. OR The Generator Owner's cold weather preparedness plan failed to include three of the applicable requirement Parts within Requirement R7.	The Generator Owner does not have a cold weather preparedness plan. OR The Generator Owner has a cold weather preparedness plan, but failed to include all the applicable requirement Parts within Requirement R7.

VSL Justification for EOP-011-2 Requirement R7

<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Since R7 is a new requirement, there were no prior levels of non-compliance. R7 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner’s responsibility to develop, maintain and implement a cold weather preparedness plan. Each VSL considers what or how many conditions or Parts of R7 have been met by the Generator Owner related to the cold weather preparedness plan.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R7.</p>

IRO-010-4

VRF Justification for IRO-010-4, Requirement R1

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R1

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VRF Justification for IRO-010-4, Requirement R2

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R2

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VRF Justification for IRO-010-4, Requirement R3

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R3

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

TOP-003-5

VRF Justification for TOP-003-5, Requirement R1

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R1

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VRF Justification for TOP-003-05 Requirement R2

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R2

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VRF Justification for TOP-003-5 Requirement R3

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R3

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VRF Justification for TOP-003-5 Requirement R4

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R4

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

Standards Announcement

Project 2019-06 Cold Weather

Formal Comment Period Open through March 12, 2021
Ballot Pools Forming through February 25, 2021

[Now Available](#)

A 45-day formal comment period is open through **8 p.m. Eastern, Friday, March 12, 2021** for the following:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. An unofficial Word version of the comment form is posted on the [project page](#).

Ballot Pools

Ballot pools are being formed through **8 p.m. Eastern, Thursday, February 25, 2021**. Registered Ballot Body members can join the ballot pools [here](#). **Note that there is a separate ballot and non-binding poll for each of the standards, so it is necessary to join each ballot pool in order to submit votes on all of the standards and their associated Violation Risk Factors and Violation Severity Levels (VRFs and VSLs).**

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The initial ballots for the standards and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels will be conducted **March 3-12, 2021**.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Comment Report

Project Name: 2019-06 Cold Weather | EOP-011-2, IRO-010-4, TOP-003-5
Comment Period Start Date: 1/27/2021
Comment Period End Date: 3/12/2021
Associated Ballots: 2019-06 Cold Weather EOP-011-2 IN 1 ST
2019-06 Cold Weather IRO-010-4 IN 1 ST
2019-06 Cold Weather TOP-003-5 IN 1 ST

There were 104 sets of responses, including comments from approximately 235 different people from approximately 150 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

- 1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**

- 2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**

- 3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**

- 4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**

- 5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?**

- 6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**

- 7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.**

- 8. Please provide any additional comments for the SDT to consider, if desired.**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
CenterPoint Energy Houston Electric, LLC	Ben Burnett	1	Texas RE	CEHE Project 2019-06 Cold Weather	Daniela Hammons	CenterPoint Energy Houston Electric, LLC	1	Texas RE
					Ben Burnett	CenterPoint Energy Houston Electric, LLC	1	Texas RE
Santee Cooper	Chris Wagner	1		Santee Cooper	Rene' Free	Santee Cooper	1,3,5,6	SERC
					Jennifer Richards	Santee Cooper	1,3,5,6	SERC
					Paul Camilletti	Santee Cooper	1,3,5,6	SERC
					Rodger Blakely	Santee Cooper	1,3,5,6	SERC
					LaChelle Brooks	Santee Cooper	1,3,5,6	SERC
Tennessee Valley Authority	Dennis Chastain	1,3,5,6	SERC	Tennessee Valley Authority	DeWayne Scott	Tennessee Valley Authority	1	SERC
					Ian Grant	Tennessee Valley Authority	3	SERC
					Brandy Spraker	Tennessee Valley Authority	5	SERC
					Marjorie Parsons	Tennessee Valley Authority	6	SERC

Jennie Wike	Jennie Wike		WECC	Tacoma Power	Jennie Wike	Tacoma Public Utilities	1,3,4,5,6	WECC
					John Merrell	Tacoma Public Utilities (Tacoma, WA)	1	WECC
					Marc Donaldson	Tacoma Public Utilities (Tacoma, WA)	3	WECC
					Hien Ho	Tacoma Public Utilities (Tacoma, WA)	4	WECC
					Terry Gifford	Tacoma Public Utilities (Tacoma, WA)	6	WECC
					Ozan Ferrin	Tacoma Public Utilities (Tacoma, WA)	5	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Nick Fogleman	Prairie Power Incorporated	1,3	SERC
					Susan Sosbe	Wabash Valley Power Association	3	RF
					Scott Brame	North Carolina Electric Membership Corporation	3,4,5	SERC
					David Hartman	Arizona Electric Power Cooperative	1	WECC
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC

DTE Energy - Detroit Edison Company	Karie Barczak	3		DTE Energy - DTE Electric	Adrian Raducea	DTE Energy - Detroit Edison Company	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
ISO New England, Inc.	Kathleen Goodman	2	NA - Not Applicable,NPCC	Standards Review Committee (SRC)	Ben Li	IESO	2	NPCC
					Greg Campoli	NYISO	2	NPCC
					Matthew Goldberg	ISO-NE	2	NPCC
					Liz Axson	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Mark Holman	PJM	2	RF
Lincoln Electric System	Kayleigh Wilkerson	5		Lincoln Electric System	Kayleigh Wilkerson	Lincoln Electric System	5	MRO
					Eric Ruskamp	Lincoln Electric System	6	MRO
					Jason Fortik	Lincoln Electric System	3	MRO
					Danny Pudenz	Lincoln Electric System	1	MRO
MRO	Kendra Buesgens	1,2,3,4,5,6	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Christopher Bills	City of Independence Power & Light	3,5	MRO
					David Heins	Omaha Public Power District	3	MRO
					Douglas Webb	Evergy	1,3,5,6	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO
					Jamie Monette	Allele - Minnesota Power, Inc.	1	MRO
					Jodi Jensen	Western Area Power	1,6	MRO

						Administration - Upper Great Plains East (WAPA)		
					John Chang	Manitoba Hydro	1,3,6	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO
					Matthew Harward	Southwest Power Pool, Inc.	2	MRO
					LaTroy Brumfield	American Transmission Company, LLC	1	MRO
					Bryan Sherrow	Kansas City Board Of Public Utilities	1	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	NA - Not Applicable	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Joe DePoorter	Madison Gas and Electric	4	MRO
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC,Texas RE	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Southern Indiana Gas and Electric Co.	Leslie Hamby	3,5,6	RF	SIGE Project 2019-06	Erin Spence	Southern Indiana Gas and Electric Co.	6	RF

					Larry Rogers	Southern Indiana Gas and Electric Co.	5	RF
					Ryan Abshier	Southern Indiana Gas and Electric Co.	3	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Public Utility District No. 1 of Chelan County	Meaghan Connell	5		PUD No. 1 of Chelan County	Ginette Lacasse	Public Utility District No. 1 of Chelan County	1	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Glen Pruitt	Public Utility District No. 1 of Chelan County	6	WECC
Northern California Power Agency	Michael Whitney	3		NCPA	Scott Tomashefsky	Northern California Power Agency	4	WECC
					Marty Hostler	Northern California Power Agency	5,6	WECC

					Marty Hostler	Northern California Power Agency	5,6	WECC
Cogentrix Energy Power Management, LLC	Mike Hirst	5	NPCC,RF,SERC	Cogentrix Energy Power Management	Mike Hirst	CEPM	5	NPCC
					Gerry Adamski	Cogentrix Energy Power Management, LLC	5	RF
					Kristy Gedman	CEPM	5	SERC
					Kieth Sebastain	RISEC	5	NPCC
					Justin Castagna	Rumford Power	5	NPCC
					Robert Kulbacki	Effingham County Power	5	SERC
					Phil dooley	Mid-GA Cogen	5	SERC
					Keith Charles	Mid-GA Cogen	5	SERC
					Tom Bartley	EP Mass	5	NPCC
					Alan Douglass	EP Mass	5	NPCC
					Ralph Jones	EP Rocksprings	5	RF
					Kevin Bieu	Tiverton Power	5	NPCC
					Jake Manner	Bridgeport Energy	5	NPCC
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC

					Jim Howell	Southern Company - Southern Company Services, Inc. - Gen	5	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards Committee no UI	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Helen Lainis	IESO	2	NPCC
					David Kiguel	Independent	7	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Shivaz Chopra	New York Power Authority	5	NPCC

Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Cristhian Godoy	Con Ed - Consolidated Edison Co. of New York	6	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
Nurul Abser	NB Power Corporation	1	NPCC
Randy MacDonald	NB Power Corporation	2	NPCC
Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
Vijay Puran	NYSPS	6	NPCC
ALAN ADAMSON	New York State Reliability Council	10	NPCC
Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC
Brian Robinson	Utility Services	5	NPCC
Quintin Lee	Eversource Energy	1	NPCC
Jim Grant	NYISO	2	NPCC
John Pearson	ISONE	2	NPCC
John Hastings	National Grid USA	1	NPCC

					Michael Jones	National Grid USA	1	NPCC
					Nicolas Turcotte	Hydro-Qu?bec TransEnergie	1	NPCC
					Chantal Mazza	Hydro-Quebec	2	NPCC
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO
Western Electricity Coordinating Council	Steven Rueckert	10		WECC Cold Weather	Steve Rueckert	WECC	10	WECC
					Saad Malik	WECC	10	WECC
					Vic Howell	WECC	10	WECC
					Steve Ashbaker	WECC	10	WECC
					Tim Reynolds	WECC	10	WECC

1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Kristina Marriott - First Solar, Inc. - 5

Answer No

Document Name

Comment

Although we are able to locate and understand our entities requirements, we believe the industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.

Likes 0

Dislikes 0

Response

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer No

Document Name

Comment

While the proposed change in EOP-011-1 R2.2.9 is acceptable, some of the language in R7 is not. Overall, the requirement language does not state a clear measurable objective and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the [Standards Process Manual](#). Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Additionally, the requirement to "develop and maintain" along with responsibilities to provide awareness training in R7.4 are administrative in nature adding associated costs without commensurate reliability benefit. By requiring the entity to "implement" the plan, it is implied that the plan is developed and maintained and personnel are aware of their roles and responsibilities. This can be confirmed via ERO CMEP activities (internal control evaluations). Therefore, the language changes below are provided for consideration by the 2019-06 SDT. The reliability objective was taken from page 86 of [The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018](#):

R7. Each Generator Owner shall implement one or more cold weather preparedness plan(s) for its generating unit(s) to maximize generator output and availability for BES reliability during these conditions. The cold weather preparedness plan(s) shall include the following, at a minimum

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures; and

7.3. *Generating unit(s) cold weather data, to include:*

7.3.1. *Generating unit(s) operating limitations in cold weather; and*

7.3.2. *Generating unit(s):*

7.3.2.1. *minimum design temperature; or*

7.3.2.2. *minimum demonstrated historical performance during cold weather in the previous 5 years;*

7.4. **DELETED**

Likes 1

Associated Electric Cooperative, Inc., 3, Bennett Todd

Dislikes 0

Response

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer

No

Document Name

Comment

Cold weather operations are heavily weighed into the design phase of the facility and every part of the plant is designed to operate at the lowest ASHRAE temperature expected for the site the facility is constructed at. This may make sense as an evaluation performed once at the beginning of the project to prove that facilities will operate as expected during cold weather, but no special procedures are required to be performed annually and this should not be an annual requirement.

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

No

Document Name

Comment

Idaho Power believes this new requirement is quite onerous and will require a large amount of work to complete. Idaho Power has a good handle on how cold weather impacts our facilities and how to respond without adding the additional requirement of a preparedness plan.

The proposed data specifications are extremely work intensive and, in some cases, may not be obtainable. For example, 7.3.2.1. is not something available for some facilities, and obtaining "5 years" of data for 7.3.2.2. is not something readily available for several plants. It could require new systems and additional years of data collection to meet these data requests.

Idaho Power has several questions for NERC to consider going forward:

- 1) Will entities be provided with a procedure detailing how to create this plan, or are entities expected to develop a procedure from scratch?
- 2) Will entities be provided a base template for a plan, or are entities expected to start from scratch?
- 3) How will NERC define the term "cold weather"? The term "cold weather" is too vague without appropriate specificity.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer

No

Document Name

Comment

For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer

No

Document Name

Comment

R7 as currently proposed includes training requirements. NERC has worked hard to eliminate duplicate requirements throughout the standards as this can potentially lead to multiple violations for the same single incident. With the exception of EOP-005 and EOP-006, PER-006 covers training requirements. We believe any new training requirements associated with Cold Weather should be included within PER-006 by revising R1.

In addition, the Rationale for R3 within the Guidelines and Technical Basis section provides insight into the reasoning behind the Operating Plan, and

the RC's review of an entity's Operating Plan. The SDT may want to consider also adding the Generator Operator as well, as instruction from the Transmission entities would likely involve the Generator Operator.

We also believe there needs to be some clarity within the proposed revisions on what actions the receiving entity should, or perhaps should-not, take as a result of receiving this provided information.

AEP has chosen to vote negative on EOP-011, driven by our concerns stated in the first paragraph above related to training requirements.

Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
Dislikes 0	

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer No

Document Name

Comment

EOP-011-1 is applicable to System Operators (TOP, BA, RC). Adding GO applicability to EOP-011-2 with proposed Requirement 7 does not appear to be a good fit. NIPSCO suggests that creating a new standard may be more appropriate here, similar to what was done with EOP-010-1 GMD Operations. (The SDT discussion above regarding a new standard is noted)

Likes 0	
Dislikes 0	

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer No

Document Name

Comment

Overall, Tacoma Power supports the efforts of the SDT to address the recommendations identified in the 2019 FERC and NERC Staff Report, and concurs that additional measures are necessary to prevent the repeat cold weather events experienced over the last decade. However, Tacoma Power believes there's a more effective and appropriate strategy to fully address the issues underlying these events.

First, Tacoma Power recommends maintaining the current focus of EOP-011 on Real-Time Operations performed by NERC-Certified System Operators in response to an emergency. The recommendations prescribed in the 2019 FERC and NERC Staff Report are related to long-term planning or normal

operation Time Horizons. Both the FAC Standards (Facilities Design, Connections, and Maintenance) and the MOD Standards (Modeling, Data, and Analysis) are better suited to capture Requirements necessary to ensure facilities are adequately designed, maintained, and to perform analysis to confirm generation capacity/capability. Tacoma Power requests clarification from the SDT as to why maintenance or design changes (e.g. freeze protection measures) are not contained in the FAC or MOD Standards, and how these activities are tied to Real-Time operations performed during an emergency.

As an alternative to adding maintenance and design requirements to EOP Standards, Tacoma Power recommends the SDT approach extreme cold weather events similar to how the industry approached GMD events in Project 2013-03. Instead of prescriptive requirements, the SDT should develop requirements to 1) assess vulnerabilities, 2) communicate results of assessments, and 3) evaluate/identify CAPs, which could include maintenance, design changes, and operating plans. This approach would ensure that vulnerabilities are identified, and only facilities with cold weather vulnerabilities need mitigative actions. These Requirements could be added to a modified MOD-025, which already contains Requirements for GOs to perform testing and studies, or a standalone FAC or MOD Standard. These requirements added to MOD-025 might look like the following:

“RX. Generator Owners shall complete a benchmark Cold Weather Vulnerability Assessment at least once every 60 calendar months. [Violation Risk Factor: High] [Time Horizon: Long-term Planning]

RY. Generator Owners shall communicate to their respective Transmission Planner any vulnerabilities identified in RX that could negatively impact applicable generation facility capacity or availability. [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

RZ. Generator Owners that conclude through the Cold Weather Vulnerability Assessment conducted in Requirement RX that their generation facility has vulnerabilities that could impact generator output and availability during these conditions, shall develop a Corrective Action Plan (CAP) addressing how the vulnerabilities are mitigated. The CAP shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

RZ.1 Be developed within one year of completion of the Cold Weather Vulnerability Assessment.

RZ.2 Include necessary maintenance activities, cold weather preparation plans, and freeze protection methods.”

Project 2013-03 also created EOP-010, which provides for the Real-Time response and actions performed by the NERC-Certified System Operators in response to GMD events. Tacoma Power recommends the SDT evaluate EOP-010 and consider utilizing this structure and Requirement language for any new cold weather related EOP Requirements. For example, a new EOP-011 requirement could be worded as follows:

“...RX. Each Transmission Operator shall develop, maintain, and implement a cold weather Operating Procedure or Operating Process to mitigate the effects of extreme cold weather events on the reliable operation of its respective system. At a minimum, the Operating Procedure or Operating Process shall include: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning, Same-day Operations, Real-Time Operations]...”

Lastly, Tacoma Power does not support adding training requirements to EOP Standards. NERC has worked hard to eliminate duplicate requirements throughout the Standards as this can potentially lead to multiple violations for the same single incident. With the exception of EOP-005 and EOP-006, PER-006 covers training requirements for plant personnel. Tacoma Power recommends moving the EOP-011 Part R7.4 training requirements to PER-006. The purpose of PER-006 is “[t]o ensure that personnel are trained on specific topics essential to reliability to perform or support Real-time operations of the Bulk Electric System.” Training of personnel for cold weather preparedness is essential to reliability and supports real-time operations of the BES. Additionally, PER-006 is applicable to GO personnel and is not related to Operator certifications contained in PER-005 (PER-005 personnel are explicitly excluded in the PER-006 applicability). Therefore, PER-006 is a more appropriate location for this new training requirement than EOP-011, which is focused on NERC-certified System Operator actions during or following an emergency.

In order to incorporate this new GO training requirement to PER-006, Tacoma Power recommends adding a second Requirement and modifying the applicability section, similar to the following:

New PER-006 Requirement:

“R2. Each Generator Operator shall provide training to personnel identified in Applicability section 4.1.1.2 on the roles and responsibilities of site personnel contained in the applicable cold weather preparedness plan. [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

M2. Each Generator Operator shall have available for inspection, evidence that the applicable personnel completed training. This evidence may be documents such as training records showing successful completion of training that includes training materials, the name of the person, and date of training.”

New PER-006 Applicability:

“4.1.1.2 Plant personnel who are responsible for performing actions contained in the applicable entities cold weather preparedness plan. (Applicable only to R2)”

Likes 2

Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5

Answer

No

Document Name

Comment

NO.

NCPA supports TAPS comments.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response	
Erick Barrios - New York Power Authority - 6	
Answer	No
Document Name	
Comment	
<p>1. Our facilities are located in Northeast Region; they are prepared for extreme weather. This would just cause an Administrative redundancy of cold weather plans that already exist and have historically been in place from their initial design.</p> <ul style="list-style-type: none"> o Instead of blanket requirements to address cold weather, possibly develop requirements to 1) assess vulnerabilities based on generator location, 2) communicate results of assessments, and 3) evaluate/identify CAPs, which could include maintenance, design changes, and operating plans. This approach would ensure that all vulnerabilities are captured, and only facilities with cold weather risks need to take mitigative actions. <p>2. Training requirements belong in the PER Standards and not EOP Standards. Recommend moving R7.4 to PER-006-1.</p> <p>3. EOP-011 is written for Emergency Operations (recovery and mitigation) and is not written from the perspective of preparing generation facilities for emergencies.</p> <p>4. EOP-011 requirements deal with real-time operations. Requirements that deal with design or maintenance are not real-time measurements.</p> <p>5. Proposed EOP-011 R7 changes may not address the root cause behind the recent cold weather failures. The cause of these failures is that the generating units were not designed for low frequency high impact weather events.</p>	
Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
Dislikes 0	
Response	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
<p>This requirements implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.</p>	
Likes 0	
Dislikes 0	

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Duke Energy agrees with the placement of cold weather preparedness plan requirements within EOP-011. However, Duke Energy suggests the following EOP-011 clarifications/modifications:

- (1) Delineate the fact that Generator Owners wouldn't normally communicate with the Balancing Authority or Reliability Coordinator relative to cold weather preparedness plans;
- (2) Although EOP-011-1 currently contains proposed Requirements R1.2.6.2 and R2.2.9.2 ("any other extreme weather conditions") language, suggest deleting proposed Requirements R1.2.6.2 and R2.2.9.2 and allowing proposed R1.2.6.1 and R2.2.9.1 to serve as the exclusive extreme weather language;
- (3) Add a provision for the Transmission Operator/Balancing Authority to review the Generator Operator Winter Preparedness Plan;
- (4) Remove R7.3.2 and subsections. These additional administrative requirements do not improve reliability, and nowhere does it describe how this information will be utilized;
- (5) The NERC functional entity for "7.4. Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan" should be changed to reflect a GOP responsibility instead of the GO.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer No

Document Name

Comment

Reclamation does not agree with the changes to EOP-011 Section 4, Applicability. The purpose of EOP-011 is Emergency Preparedness. Cold weather is seasonal and expected, not an emergency. Hydroelectric generators already have local cold weather plans (e.g., seasonal plants, water restrictions due to temperature, etc.). Reclamation recommends Section 4.2.1 be revised to clarify that the standard does not apply to hydroelectric generators or to certain geographic locations.

Recent events in ERCOT were associated with extreme weather across much of the US; however, only one geographic area experienced a disruption in reliability. The same area was associated with an event 10 years ago (September 2011 Southwest Blackout Event). The recurrence in the same area 10 years later supports the position that FERC is seeking to regulate the entire US on an issue that is specific to geography and type of generation. For

the other areas of the country and other types of generators that routinely prepare for and experience cold weather, new requirements to document plans and provide training entail new administrative and financial burdens with low potential for increases to reliability.

Reclamation identifies that the placement of the new requirement in EOP-011 will make EOP-011 newly applicable to many Generator Owners across the nation. No other emergency preparedness requirements are attached to Generator Owners in this standard. The addition of a new standard adds a burden that may not be necessary in light of other standards that already apply to Generator Owners which could be leveraged to accomplish the goal. Reclamation recommends the SDT consider other standards for the Generator Owner cold weather requirements, such as PER standards for the training requirements and PRC standards for the maintenance practices and policies.

Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
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Dislikes 0	
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Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	No
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Document Name	
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Comment

See TAPS comments.

Likes 0	
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Dislikes 0	
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Response

Michael Brytowski - Great River Energy - 3

Answer	No
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Document Name	
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Comment

GRE supports the comments of the NSRF

Likes 0	
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Dislikes 0	
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Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer	No
Document Name	Question 1.PNG
Comment	
<p>The MRO NSRF understand the intent of this Project and supports the updating of the three applicable Standards. We are also aware of a reduced timeline to get to a Final Ballot. Our Standard Development Process is so designed for multiple revision of Standards during a Project's life cycle. The MRO NSRF's current set of comments are to assist the Drafting Team in ensuring that an effective and efficient set of updated continent-wide Standards are Results-Based and support the Reliable Operation and resiliency of our BPS during cold weather.</p> <p>All additional Requirements need to state a clear measurable objective in order to meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. The following recommendations should assist the SDT in fulfilling the writing of a results-based standard.</p> <p>The MRO NSRF is pointing out that the Purpose Statement states, "... that Operating Plans are coordinated within a RC Area", which includes the proposed GO plan(s). The currently enforceable EOP-011-1 the TOP (in R1) and the BA (in R2) requires the RC to review and approve those Operating Plans. The proposed plan(s) per R7 (for the GO) does not state that any GO Cold Weather plan is required to be reviewed and approved by the RC. The Purpose Statement needs to be updated to reflect the overall object of ALL the contained Requirements. Recommend that the Purpose Statement simply read as, "To ensure each TOP, BA and GO has developed plan(s) to mitigate operating Emergencies to maintain the adequately level of reliability of the BES", or words of that effect. This simplified Purpose Statement then allows each Requirement to specifically address what is needed to be accomplished to support the adequate level of reliability that is required for BES operations.</p> <p>R7 does not state a clear measurable objective. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Additionally, the requirement to "develop and maintain" along with responsibilities to provide awareness training in R7.4 are administrative in nature adding associated costs without commensurate reliability benefit. By requiring the entity to "implement" the plan, it is implied that its developed and maintained and personnel are aware of their roles and responsibilities. This can be confirmed via ERO CMEP activities (internal control evaluations). Therefore, the language changes below are provided for consideration by the 2019-06 SDT. The reliability objective was taken from page 86 of The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018:</p> <p>R7, The basis of R7 is to have a "preparedness" plan, "preparedness" is defined as "<i>the quality or state of being prepared</i>". This is interpreted as the GO is to have a plan to assist in "starting" only, hence a "preparedness plan". If this is not the intention, the SDT should clearly state what the intention is.</p> <p>Part 7.1, Delete "unique factors". Which is an ambiguous word, recommend using "specific factors". This implies a clearer objective for each BES generator's specific configuration.</p> <p>Part 7.3.1, requires obtaining "operating limitations" and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator's cold weather data. At the end of 7.3.1 there is an "AND" this should be changed to an "OR". A GO may have data specified in 7.3.1 and if don't then they can use 7.3.2 to obtain the generator's cold weather data via different methods.</p> <p>Part 7.3, Recommend that within 7.3 (or its replacement), there is an additional part that reads; "Based on engineer analysis to determine minimum cold weather performance". This wording is currently used in PRC-027-1 supplement material and is a catch all when the GO cannot obtain manufacture cold weather design limitations or temperature(s).</p> <p>Part 7.3.2.2, Requires a previous (rolling) 5 years of data. Every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. Recommend that "in the previous 5 years" be deleted. This will remove the "rolling" data requirement. The NSRF recommends that a recommended amount of time for past performance be at least five years of cold weather data and this would be published in a Guideline and Technical document.</p> <p>Part 7.4, Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan. The requirement of awareness training is unclear and not sure how it supports reliability. Since R7 only requires freeze protection measures and annual maintenance and inspection of those freeze protection measures, plus minimum design elements, not sure how awareness training is going to enforce reliability. Being</p>	

“aware” of something cannot be measured such as training on a task can be measured. So, I can be “aware” that when it is cold outside my generator may not start. Plus, the “awareness” is for the roles and responsibilities of site personnel. I’m sure plant personnel are aware what the plant electrician does, what the control room operator does, etc.

Recommend 7.4 be deleted since it is an administrative element of R7. The use of an ambiguous word like “awareness” will be viewed like “familiar” as in soon to be retired PRC-001-1.1(ii). You cannot measure awareness. With any identification of freeze protection measures within the preparedness plan, they become part of the BES generator. Someone within the applicable entity will be performing an annual inspection (most likely via a checklist) and thus, the freeze protections will perform as designed. Plus, awareness of the freeze protection measures to the GO is fruitless, since they installed the freeze protection measures.

Based on the previous concerns, the NSRF suggests the following changes to R7: (File attached)

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer

No

Document Name

Comment

The FERC recommendation on training was limited to operators. However, requirement 7.4 in EOP-011 has no such limitation. Please limit the training scope to the FERC recommendation.

“Any other extreme weather conditions” added to sections 1.2.6.2 and 2.2.9.2 in EOP-011 opens up the standard to require addressing any weather condition, e.g. tornados, hurricanes, dust storms, floods, etc. This is not possible to forecast so how is an entity to do this? The concern being addressed is Cold Weather. Please limit the scope to this concern.

In EOP-011, if you have 7.3.1, why do you need to also have 7.3.2? Need to change the “and” in 7.3.1 to an “or”.

Likes 1

Tennessee Valley Authority, 5, Thomas M Lee

Dislikes 0

Response

Ballard Mutters - Orlando Utilities Commission - 3

Answer

No

Document Name

Comment

For Florida entities it will be challenging to develop cold weather plans with the “cold” weather we experience. See #4 below.

Training requirements belong in the PER Standards and not EOP Standards. Recommend moving R7.4 to PER-006-1. EOP-011 is written for Emergency Operations not for preparing generation facilities for emergencies.

Likes 1

Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre

Dislikes 0

Response

Scott McGough - Georgia System Operations Corporation - 3

Answer

No

Document Name

[2019-06_Cold_Weather_Comments_FINAL_GSOC_SBF03-11-21.docx](#)

Comment

{C}o {C}Although requirements R1 and R2 require TOPs and BAs to submit their plans for RC approval, the proposed requirement R7 does not have a corresponding requirement for GOs to submit their plans to the BA or TOP for approval. Such coordination at the BA and TOP area level is critical to ensuring that GO plans are properly evaluated for each of the areas within which its plants operate and well-coordinated with all entities responsible for the overall reliability of the grid. While RCs have ultimate authority and oversight, BAs and TOPs also have obligations to maintain reliability within their areas. The coordination of GO plans with BAs and TOPs as well as RCs during extreme weather events will allow such GO plans to be considered during the operational planning of all responsible entities, ensuring more cohesive, coordinated operational planning between and amongst all responsible entities.

{C}o To ensure cohesiveness, the training requirements (requirement R7.4) should be added to PER standards versus being scattered within other standard families.

Likes 0

Dislikes 0

Response

Kayleigh Wilkerson - Lincoln Electric System - 5, Group Name Lincoln Electric System

Answer

No

Document Name

Comment

Although supportive of the intent of the Cold Weather Project, LES believes additional clarity is needed within EOP-011 R7 for Generator Owners. As such, LES supports the comments provided by the MRO NSRF.

Likes	0	
Dislikes	0	
Response		
Thomas Breene - WEC Energy Group, Inc. - 3		
Answer	No	
Document Name		
Comment		
<p>Cold weather preparedness plans and generating unit cold weather data does not belong in an EOP Standard. Nothing in the proposed Standard is related to operational actions during an Emergency. Currently EOP Standards are applicable to the RC, BA, TOP, and GOPs, introducing the GO changes the nature of the EOP family of Standards. Preparedness plans are more in the nature of preventive maintenance similar the treatment of batteries in the PRC Standards. We recommend including these requirements in the FAC or MOD Standards</p> <p>Regarding part 7.3.2.2, if the GO does not have design data, a previous (rolling) 5 years of data is required. Every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. Recommend that "in the previous 5 years" be deleted. This will remove the "rolling" data requirement. Recommended amount of time for past performance be at least five years of cold weather data and this would be published in a Guideline and Technical document.</p>		
Likes	1	WEC Energy Group, Inc., 5, OBrien Janet
Dislikes	0	
Response		
Dennis Sismaet - Northern California Power Agency - 6		
Answer	No	
Document Name		
Comment		
See TAPS comments.		
Likes	0	
Dislikes	0	
Response		
Brian Evans-Mongeon - Utility Services, Inc. - 4		
Answer	No	

Document Name	
Comment	
Utility Services supports the comments posted by the TAPS group.	
Likes 0	
Dislikes 0	
Response	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
This requirement implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.	
Likes 0	
Dislikes 0	
Response	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	No
Document Name	
Comment	
Cold weather preparedness plans and generating unit cold weather data does not belong in an EOP Standard. Nothing in the proposed Standard is related to operational actions during an Emergency. Currently EOP Standards are applicable to the RC, BA, TOP, and GOPs, introducing the GO changes the nature of the EOP family of Standards. Preparedness plans are more in the nature of preventive maintenance similar the treatment of batteries in the PRC Standards. We recommend including these requirements in the FAC or MOD Standards.	
Part 7.3.2.2 , If the GO does not have design data it requires, a previous (rolling) 5 years of data. Every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. Recommend that "in the previous 5 years" be deleted. This will remove the "rolling" data requirement. The NSRF recommends that a recommended amount of time for past performance be at least five years of cold weather data and this would be published in a Guideline and Technical document.	
Likes 0	

Dislikes 0	
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	No
Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	No
Document Name	
Comment	
<p>Southern Indiana Gas & Electric Company (SIGE) believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations. The cold weather preparedness plan(s) requirement should not be in any of the EOP standards. EOP standards should remain for emergency events such as blackouts, loss of control center, GMD events, and reporting.</p> <p>The FAC Standards focus on facility design, connections, and maintenance and therefore more applicable for the inclusion of ratings and parameters in which facilities should be operated during hot and cold weather conditions.</p> <p>It is our suggestion to develop a new FAC Standard which covers Generation and TO/TOP Substation Winterization practices and requirements. The new Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations. The current EOP-011 would continue to focus on TOP/BA procedures to mitigate emergency situations, if they arise, including severe weather conditions.</p>	
Likes 0	
Dislikes 0	
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	No

Document Name	
Comment	
<p>CenterPoint Energy Houston Electric, LLC (CEHE) believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations. The cold weather preparedness plan(s) requirement should not be in any of the EOP standards. EOP standards should remain for emergency events such as blackouts, loss of control center, GMD events, and reporting.</p> <p>The FAC Standards focus on facility design, connections, and maintenance and therefore more applicable for the inclusion of ratings and parameters in which facilities should be operated during hot and cold weather conditions.</p> <p>It is our suggestion to develop a new FAC Standard which covers Generation and TO/TOP Substation Winterization practices and requirements. The new Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations. The current EOP-011 would continue to focus on TOP/BA procedures to mitigate emergency situations, if they arise, including severe weather conditions.</p>	
Likes	0
Dislikes	0
Response	
Wayne Guttormson - SaskPower - 1	
Answer	No
Document Name	
Comment	
<p>Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.</p>	
Likes	0
Dislikes	0
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	
<p>Santee Cooper supports the efforts of the SDT to address the recommendations identified in the 2019 FERC and NERC Staff Report, and agrees that additional measures are necessary to prevent the repeat cold weather events. Santee Cooper requests further clarification around several of the additional requirements as currently drafted.</p>	

Santee Cooper recommends that the requirements in EOP-011 remain requirements performed by NERC Certified System Operators in response to an emergency. The new Requirement 7 is related to long-term planning or normal operations. The FAC standards and the MOD standards are better suited to capture Requirements necessary to ensure facilities are adequately designed, maintained, and to perform analysis. Alternatively, a new EOP standard could be created that is solely associated to the GO for these requirements.

Santee Cooper requests further clarification on 7.3: For example, if the design temperature is not available and a historical performance has to be utilized does that five years start when the standard becomes effective? There would be a similar concern if a GO doesn't have the design temperature or has not been tracking historical performance versus temperature. This requirement needs to be phased-in to allow GOs to begin gathering the historical performance of units.

Santee Cooper would also like clarification on what data should be collected and included in the historical performance.

For R7.4, the PER-006 standard that becomes effective on April 1, 2021 should be revised to include training requirements associated with a GO.

Santee Cooper also requests clarification around the awareness training. The implementation plan requires "awareness training on the roles and responsibilities of personnel under Requirement R7 Part 7.4 by the effective date of the Reliability Standard". Is this a one time training that has to be completed prior to the effective date of the standard or is there an expectation that training be provided on a routine or periodic basis? It would be helpful if there were some further clarification on what all should be included in the awareness training.

Likes 0

Dislikes 0

Response

David Hathaway - WEC Energy Group, Inc. - 6

Answer

No

Document Name

Comment

See Tom Breene's comments.

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

No

Document Name

Comment

NV Energy would like to commend the Cold Weather SDT on the work done for this project, as NV Energy does believe this is a necessary industry requirement, especially given the recent Freeze Event that hit the midwest and Texas.

NV Energy believe the regional guidelines provided by WECC (and potentially other Regional Entities), WECC Extreme Cold Weather Preparation Guideline, provide more sufficient requirements for for generation assets to ensure reliability of Bulk Electric Systems (BES). NV Energy would recommend the SDT review Regional Entity guidelines, and incorporate language to strengthen the compliance requirements.

NV Energy also cannot agree to R7.3.2.2 as currently written, as additional clarity on existing language and concerns with the creation of a rolling 5-year requirement being additional burdensome from an evidentiary standpoint.

NV Energy is unclear on what is expected to show "demonstrated historical performance". An assumption can be made that an Entity would need to show "successful" historical performance, but again, what does that mean: "The unit did not take an outage due to cold weather?", "It ran as expected?", "We did take an outage due to cold weather events, and that is part of the historical performance record, too".

Part 7.3.2.2 as written, creates a rolling timeline for evidence, as it request the previous (rolling) 5 years of data. Thus, every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. NV Energy believes that the majority of the data produced for this requirement would ultimately be unnecessary, as the foundation of this requirement is for extreme cold weather events. NV Energy would recommends that "in the previous 5 years" be deleted. This will remove the "rolling" data requirement. And another option would be to request the a finite number of coldest weather days during a finite timeline to review generating unit performance against.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer

No

Document Name

Comment

General:

Acciona Energy USA Global, LLC (Acciona) understands the purpose and industry need of Project 2019-06 Cold Weather. The comments provided by Acciona are to ensure the uniqueness of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition are accounted for by the Standards Drafting Team. Giving appropriate consideration for this emerging generation segment will ensure that any new requirements related to cold weather preparedness are performance and capability based, unambiguous and all applicable entities will be able to reasonably implement them, ultimately bolstering the reliability of the BPS during cold weather events.

§4.2. Facilities & Requirement R7. Terminology

Proposed §4.2 is unnecessary and should be removed. According to the NERC Glossary of Terms (GoT): Generator Owner is defined as an Entity that owns and maintains generating Facility(ies). The GoT defines Facility as a set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.). As such, in the proposed Requirement R7. all occurrences of 'generating unit(s)' should be replaced with 'generating Facility(ies)', which is commonly known term in the industry and is officially defined in the NERC GoT. Additionally, using the term 'generating Facility(ies)' in Requirement R7. would remove any ambiguity in regards to what equipment the requirement is applicable to, as 'generating Facility(ies)' encompasses all BES Elements required to import/export energy to the Transmission

system. Notwithstanding using the term 'generating Facility(ies)' would be consistent with terminology in other NERC Standards, such as NERC Reliability Standard FAC-008-3 – Facility Ratings, that may be referenced in association with Requirement R7.

Requirement R7.

Acciona has concerns about the term 'maintain'. As currently written the term refers to maintaining the cold weather preparedness plan (CWPP). As it relates to CWPP what is the periodicity for maintenance and what should the maintenance include? These are items that need to be defined to ensure consistent implementation and that this is a performance-based requirement.

Requirement R7.1.

Acciona is unclear what Requirement R7.1. is requiring. Acciona believes that Standards Drafting Team (SDT) is requesting Generator Owners (GO) to identify the generation Facility freeze protection measures that if not functioning would impede on the generation Facility(ies) ability to operate to either its minimum design operating temperature or minimum operational temperature based on demonstrated historical performance during cold weather. If this is in fact the case then the GO must first determine the minimum ambient temperature in which the facility can operate at. As currently written this is not a capability-based requirement.

Unique is defined as being the only one of its kind; unlike anything else. Acciona suggests removing the term 'unique' as there are probably more 'common' factors than 'unique' factors as it relates to freeze protection. Acciona believes the term 'plant configuration' as it relates to freeze protection is too ambiguous. For the purposes of the cold weather preparedness plan (CWPP) only freeze protections that impede on the generation Facility(ies) ability to operate to its minimum design operating temperature or minimum operational temperature demonstrated by historical performance during cold weather should be in scope. This would ensure that this is a capability-based requirement.

Requirement R7.2.

'Annual' is not a defined term, consider using bright line criteria. This would ensure that this is a performance-based requirement.

As stated by the Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team's white paper: "In some cases, the aggregated capability of the individual generating units may contribute to the reliability of the BPS; as such, there can be reliability benefit from ensuring that certain BES equipment utilized to aggregate the individual units to a common point of connection are operated and maintained as required in PRC-005. When evaluated individually, however, the generating units themselves do not have the same impact on BPS reliability as the system used to aggregate the units. The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility; this would be irrespective to whether the dispersed generation resource became unavailable due to occurrence of a legitimate fault condition or due to a failure of a control system, protective element, dc supply, etc."

https://www.nerc.com/pa/Stand/Prjct201401StdrdsAppDispGenRes/DGR_White_Paper_v17_clean_01_13_2016_Final_rev1.pdf

For dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, such as wind generation Facilities, each individual generating unit, a single wind turbine generator (WTG), can have many applicable freeze protections, that if not operational, could impede on the WTG's ability to operate to its minimum design temperature. However, as stated by Project 2014-01 Standards Drafting Team, "The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility;". Acciona would like to request the Project 2019-06 Cold Weather Standards Drafting Team consider whether Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, considering the precedent set by Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team. If the Project 2019-06 Cold Weather Standards Drafting Team determines that Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, then Acciona would like to suggest Project 2019-06 Cold Weather Standards Drafting Team consider a percentage/time-based approach for the applicable freeze protections installed in an individual generating units of dispersed power producing resources. For example, 20% of the applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on annual basis and 100% applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on a five year basis.

Requirement R7.3.1.

'Cold weather' is not a defined term and is interpreted differently depending on a generation Facility(ies) geographic location's climate. Acciona suggests that 'operating limitations' in scope should be the ones that impede on the generation Facility(ies) ability to operate to its minimum design operating temperature or minimum operational temperature demonstrated by historical performance during cold weather. This would ensure that this is a capability-based requirement.

Requirement R7.3.2., 7.3.2.1. & 7.3.2.2.

Acciona suggests using the term 'minimum design operating temperature' and 'minimum demonstrated operating temperature' in R7.3.2.1. & R7.3.2.2, respectively. This would ensure that only the minimum ambient temperature that would impede on the generation Facility(ies) ability to operate are in scope. Using this also ensures only freeze protections and operating limitations that would impede on the generation Facility(ies) ability to operate to its minimum design operating temperature or minimum operational temperature demonstrated historical performance during cold weather should be in scope.

Requirement R7.4.

Acciona is recommending the removal of this Requirement R7.4. as it does not provide a performance, risk, and competency-based reliability requirement that support an effective defense-in-depth strategy nor does it identify a clear and measurable expected outcome. As stated in Requirement R7. the cold weather preparedness plan (CWPP) must be 'implemented'. It is inherent that to 'implement' the CWPP site personnel would already be required, either directly or indirectly, to be aware of the required task. For example, Requirement R7.2. requires annual maintenance and inspection of freeze protections to be a part of the CWPP. Therefore, for a Generator Owner (GO) to successfully implement its CWPP qualified site personnel would need to perform the annual maintenance and inspection of freeze protections, which makes them aware of their roles & responsibilities as related to the CWPP.

Acciona suggests the following language based on the aforementioned comments:

R7. Each Generator Owner shall develop, maintain, and implement one or more documented cold weather preparedness plan(s) for its generating Facility(ies) as follows:

7.1. The cold weather preparedness plan(s) shall include the following, at a minimum:

7.1.1. generation Facility(ies) cold weather data including:

7.1.1.1. minimum design operating temperature; or

7.1.1.2. minimum demonstrated operating temperature based on historical performance during the coldest weather periods in the previous 5 years; and

7.1.1.3. generation Facility(ies) operating limitations that would prevent the generation Facility(ies) from operating to the temperatures identified in R7.1.1.1. or 7.1.1.2.;

7.1.2. the generation Facility(ies) freeze protection measures that allow the generation Facility(ies) to operate to the temperatures identified in R7.1.1.1. or 7.1.1.2.;

7.2. At least once per calendar year and with no more than 15 calendar months between, Generator Owners shall review the cold weather preparedness plan(s);

7.3. At least once per calendar year and with no more than 15 calendar months between, Generator Owners shall perform maintenance and inspection of generating Facility(ies) freeze protection measures as identified in Requirement R7.1.2.

7.3.1 Freeze protection measures as identified in Requirement R7.1.2. that are physically located in the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition shall be maintained and inspected as follows:

~ 20% of the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition located at a single generation Facility shall have 100% of each individual generating units freeze protection measures as identified in Requirement R7.1.2. maintained and inspected at least once per calendar year and with no more than 15 calendar months between; and

~ 100% of the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition located at a single generation Facility shall have 100% of each individual generating units freeze protection measures as identified in Requirement R7.1.2. maintained and inspected at least once per rolling 60 calendar month period.

(Please note Requirement R7.3.1. is suggested language only if Project 2019-06 Cold Weather Standards Drafting Team determines that Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition)

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

No

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

Likes 0

Dislikes 0

Response

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer

No

Document Name

Comment

CenterPoint Energy believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations. The cold weather preparedness plan(s) requirement should not be in any of the EOP standards. EOP standards should remain for emergency events such as blackouts, loss of control center, GMD events, and reporting.

The FAC Standards focus on facility design, connections, and maintenance and therefore more applicable for the inclusion of ratings and parameters in which facilities should be operated during hot and cold weather conditions.

It is our suggestion to develop a new FAC Standard which covers Generation and TO/TOP Substation Winterization practices and requirements. The new Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations. The current EOP-011 would continue to focus on TOP/BA procedures to mitigate emergency situations, if they arise, including severe weather conditions.

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer No

Document Name

Comment

The term “cold weather” can have varied interpretation across the continent. The use of “any other” to extreme weather conditions in addition to “cold weather conditions” within the provisions of proposed R1.2.6 and R2.2.9 provisions of the Standard implies that cold weather is an extreme weather condition. BC Hydro operates many months of the year in cold weather conditions, which are not considered abnormal nor they result in operating Emergencies subject to EOP-011. If the “cold weather” term will become part of EOP-011, BC Hydro recommends that a clarification/definition within the context of extreme weather conditions be also developed.

The requirements for Generator Owner cold weather preparedness plans as drafted in Requirement R7 include provisions for freeze protection measures (R7.1), maintenance (R7.2), training (R7.4). BC Hydro’s view is that such provisions are better suited to appropriate Facility maintenance and/or design, and personnel training standards. BC Hydro recommends that EOP-011 do not include GO-applicable preparedness plans and that EOP-011 remain applicable to BA, RC and TOP functional entities.

BC Hydro Generation equipment are mostly physically located inside in climate controlled buildings. The equipment located in the switchyard outside of the building and which are exposed to weather conditions, are managed by Generator Owner and Transmission Owner functional entities. BC Hydro recommends that SDT considers applicability of the proposed cold weather preparedness plan(s) to the Transmission Owner functional entity.

Likes 0

Dislikes 0

Response

Erin Green - Western Area Power Administration - 1,6

Answer No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes 0

Dislikes 0

Response

Glenn Pressler - CPS Energy - 3

Answer

No

Document Name

Comment

The EOP-011 should remain for emergency operation events, such as blackouts, and procedures to mitigate emergency situations, if they arise. These procedures would include emergency events following severe weather conditions. Winterization preparedness and practice requirements should be defined under FAC Standards or a new EOP specific for cold weather events. Adding 1.2.6 and 2.2.9 just seems like a redundant way to add something specific for the cold weather event issue, where do you stop?.

Would be supportive of GO cold weather requirements, such as redlined in EOP-011, however concerns with some of the existing redline wording includes:

R7.1 – the word “unique” is ambiguous. Suggest factual measure based on factual numbers and historical possible temperatures.

R7.3.2.1 and R7.3.2.2 – the minimum design temp or the 5-years reference is not sufficient to protect against what happened in the Texas 2021 event. Would need 100+ year worst imaginable wording to even get close to providing protection.

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer

No

Document Name

Comment

The EOP-011 should remain for emergency operation events, such as blackouts, and procedures to mitigate emergency situations, if they arise. These procedures would include emergency events following severe weather conditions. Winterization preparedness and practice requirements should be defined under FAC Standards or a new EOP specific for cold weather events. Adding 1.2.6 and 2.2.9 just seems like a redundant way to add something specific for the cold weather event issue, where do you stop?.

Would be supportive of GO cold weather requirements, such as redlined in EOP-011, however concerns with some of the existing redline wording includes:

R7.1 – the word “unique” is ambiguous. Suggest factual measure based on factual numbers and historical possible temperatures.

R7.3.2.1 and R7.3.2.2 – the minimum design temp or the 5-years reference is not sufficient to protect against what happened in the Texas 2021 event. Would need 100+ year worst imaginable wording to even get close to providing protection.

Likes 0

Dislikes 0

Response

Janet OBrien - WEC Energy Group, Inc. - 5

Answer

No

Document Name

Comment

Support comments submitted by Tom Breene of WEC Energy Group.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Yes

Document Name

Comment

Talen agrees with placement of the new Generator Owner cold weather preparedness plan(s) requirement in the EOP-011 standard.

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer

Yes

Document Name
Comment
<p>ISO New England (ISO-NE) supports the inclusion of these requirements in EOP-011; however, recommends the SDT now consider including provisions for non-BES Generators aggregated at a BES station as being included in the NERC Compliance Enforcement Program.</p> <p>We also offer additional comments for EOP-011:</p> <p>EOP-011, 3. Purpose expand to include the Generator Operator function as follows:</p> <p>Purpose: To ensure each Transmission Operator, Balancing Authority, Generator Owner and Generator Operator has developed plan(s) to mitigate and prepare for operating Emergencies; and that Transmission Operator and Balancing Authority Operating Plans are coordinated within a Reliability Coordinator Area.</p> <p>EOP-011, 4. Applicability expand to include the Generator Operator as one of the Functional Entities.</p> <p>EOP-011-2, R1: addition for clarification</p> <p>1.2.6. Provisions to determine potential Reliability impacts of:</p> <p>Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that that a process should be in place to address cold weather and other extreme conditions.</p> <p>EOP-011-2, R7: Just as TOPs and RCs (in R1 and R2) "shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analysis, Real-time monitoring, and Real-time Assessments", GOs should be required to provide the information that is requested by the TOP and RC.</p> <p>We also recommend the SDT consider the below modifications to R7 (some of which are from ISOs that have such mitigation/requirements in-place due to previous experience), including a recommendation to provide a clear, measurable objective for Part 7.1. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit.</p> <p>R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]</p> <p>7.1. freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s)</p> <p>7.1.1 provisions to include the impact of precipitation (e.g. sleet, snowpack)</p> <p>7.2 Annual maintenance and inspection of freeze protection measures; and</p> <p>7.3. minimum design temperature or minimum demonstrated historical performance during cold weather in the previous 5 years or maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Such Generating unit(s) cold weather data, to include:</p> <p>7.3.1. Generating unit(s) operating limitations in extreme cold weather; and</p> <p>7.3.2. Generating unit(s) operating limitations in extreme hot weather; and</p>

7.3.3. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.4. Generating unit(s):

7.3.4.1. minimum and maximum design temperature; or

7.3.4.2. minimum demonstrated historical performance during extreme weather;

R8. Each Generator Operator shall develop, maintain, and implement one or more cold weather preparedness plan(s) for the generating Facility(ies) it operates. The cold weather preparedness plan(s) shall include the following at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

8.1. Awareness training on the detailed roles and responsibilities of site personnel contained in the cold weather preparedness plan, including notifications to BAs/RCs/TOPs regarding generator availability and operating limitations during extreme weather.

ISO-NE recommends the SDT consider adding frequency and timing for the training requirement, such as “Annual” and “within 60 days of the start of the season.”

ISO-NE recommends adding provisions for the reliability impacts of hot weather as a separate numbered item. Cold weather is being addressed in this Standard update, but hot weather considerations as well as impacts of extreme precipitation events are similarly important to monitor and understand. Implementing cold weather requirements now and waiting for a hot weather event to implement hot weather requirements may be a mistake.

ISO New England (ISO-NE) supports the inclusion of these requirements in EOP-011; however, recommends the SDT now consider including provisions for non-BES Generators aggregated at a BES station as being included in the NERC Compliance Enforcement Program.

We also offer additional comments for EOP-011:

EOP-011, 3. Purpose expand to include the Generator Operator function as follows:

Purpose: To ensure each Transmission Operator, Balancing Authority, Generator Owner and Generator Operator has developed plan(s) to mitigate and prepare for operating Emergencies; and that Transmission Operator and Balancing Authority Operating Plans are coordinated within a Reliability Coordinator Area.

EOP-011, 4. Applicability expand to include the Generator Operator as one of the Functional Entities.

EOP-011-2, R1: addition for clarification

1.2.6. Provisions to determine potential Reliability impacts of:

Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that that a process should be in place to address cold weather and other extreme conditions.

EOP-011-2, R7: Just as TOPs and RCs (in R1 and R2) “shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analysis, Real-time monitoring, and Real-time Assessments”, GOs should be required to provide the information that is requested by the TOP and RC.

We also recommend the SDT consider the below modifications to R7 (some of which are from ISOs that have such mitigation/requirements in-place due to previous experience), including a recommendation to provide a clear, measurable objective for Part 7.1. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit.

R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each

applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s)

7.1.1 provisions to include the impact of precipitation (e.g. sleet, snowpack)

7.2 Annual maintenance and inspection of freeze protection measures; and

7.3. minimum design temperature or minimum demonstrated historical performance during cold weather in the previous 5 years or maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Such Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in extreme cold weather; and

7.3.2. Generating unit(s) operating limitations in extreme hot weather; and

7.3.3. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.4. Generating unit(s):

7.3.4.1. minimum and maximum design temperature; or

7.3.4.2. minimum demonstrated historical performance during extreme weather;

R8. Each Generator Operator shall develop, maintain, and implement one or more cold weather preparedness plan(s) for the generating Facility(ies) it operates. The cold weather preparedness plan(s) shall include the following at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

8.1. Awareness training on the detailed roles and responsibilities of site personnel contained in the cold weather preparedness plan, including notifications to BAs/RCs/TOPs regarding generator availability and operating limitations during extreme weather.

ISO-NE recommends the SDT consider adding frequency and timing for the training requirement, such as “Annual” and “within 60 days of the start of the season.”

ISO-NE recommends adding provisions for the reliability impacts of hot weather as a separate numbered item. Cold weather is being addressed in this Standard update, but hot weather considerations as well as impacts of extreme precipitation events are similarly important to monitor and understand. Implementing cold weather requirements now and waiting for a hot weather event to implement hot weather requirements may be a mistake.

Likes 0

Dislikes 0

Response

Todd Bennett - Associated Electric Cooperative, Inc. - 3

Answer

Yes

Document Name

Comment

While the proposed change in EOP-011-1 R2.2.9 is acceptable, some of the language in R7 is not. Overall, the requirement language does not state a clear measurable objective and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the [Standards Process Manual](#). Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Additionally, the requirement to “develop and maintain” along with responsibilities to provide awareness training in R7.4 are administrative in nature adding associated costs without commensurate reliability benefit. By requiring the entity to “implement” the plan, it is implied that the plan is developed and maintained and personnel are aware of their roles and responsibilities. This can be confirmed via ERO CMEP activities (internal control evaluations). Therefore, the language changes below are provided for consideration by the 2019-06 SDT. The reliability objective was taken from page 86 of [The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018](#):

R7. Each Generator Owner shall implement one or more cold weather preparedness plan(s) for its generating unit(s) to maximize generator output and availability for BES reliability during these conditions. The cold weather preparedness plan(s) shall include the following, at a minimum

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures; and

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather; and

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or

7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years;

7.4. DELETED

Likes 1

Sho-Me Power Electric Cooperative, 1, Dawson Peter

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1

Answer

Yes

Document Name

Comment

Why is there a need to specifically identify cold weather events here? The current standard states that "Reliability impacts of extreme weather conditions." shall be considered when building Emergency Plans. Will extreme heat, or drought be added in the future as well? Is this being suggested since regions that do not typically experience cold weather events were recently impacted and had not considered them during their plan development? Would it not be better to leave the statement as is, and provide examples of each type of event? i.e. 1.2.6. Reliability impacts of extreme weather conditions, such as ice/snowstorms, heat wave, drought, heavy rains, flooding, earthquakes, wind events, landslides, tsunamis, etc.?

Likes	0
Dislikes	0
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	Yes
Document Name	
Comment	
<p>We agree with the requirement, however we believe that there should be coordination between Generation Owners, Transmission Planners and Planning Coordinators on the appropriate level of winterization requirements and minimum design temperature requirements. Transmission Planners and Planning Coordinators have the visibility of the entire generation fleet within their area and therefore, should have the ultimate responsibility to set the appropriate minimum design, operating and cold start temperature requirements for the Generator Owners.</p>	
Likes	0
Dislikes	0
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
<p>Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to a Standard, it should be replaced with the term “abnormally cold weather.”</p>	
Likes	0
Dislikes	0
Response	
Leonard Kula - Independent Electricity System Operator - 2	

Answer	Yes
Document Name	
Comment	
N/A.	
Likes	0
Dislikes	0
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
<p>Many generating units exist in tropic/subtropic parts of the US where the proposed cold weather requirements are much more burdensome than necessary. Of course, the proposed change recognizes this in Part 7.1 when discussing <i>“unique factors such as geographical location”</i>. However, the proposed change continues to require identification of <i>“generating unit operating limitations in cold weather”</i> (Part 7.3.1) regardless of whether the generating unit is located in a geographical location where cold weather requirements are minimal or non-existent. The section should include specificity as to what geographic areas would require addressing parts 7.2, 7.3, and 7.4.</p>	
Likes	0
Dislikes	0
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
<p>Southern Company agrees that EOP-011 is the best fit for this new cold weather preparedness plan requirement. Southern Company offers the following suggestions for the SDT.</p> <ol style="list-style-type: none"> 1. Revise the wording of proposed requirement 7.3.2.2 <ol style="list-style-type: none"> a. The current wording is not specific enough on what data is being asked for (Temperature, operational limitations, etc.). 	

b. Additionally, as currently written, the GO could provide the minimum design temperature or the unit's minimum demonstrated historical performance within the last 5 years. If the historical performance within the last five years is significantly higher than the design temp, and this number is the one provided to the RC/BA, it could cause the RC/BA to be overly conservative. For example, a unit provides a demonstrated historical performance in the last 5 years of 25 degrees, however the unit has a design temperature of 15 degrees, but since the RC/BA only has the 25 degree data point, they are overly conversative/cautious in their system setup since they do not know the unit's full capabilities (designed to 15 degrees).

c. Suggest re-wording to "If design temperature is not available, the minimum historical temperature in cold weather in the previous 5 years in which the unit has demonstrated full output operation".

2. Discuss moving proposed requirement 7.4 to PER-006

a. Would ensure consistency as PER-006's Purpose is "to ensure that personnel are trained on specific topics essential to reliability to perform or support Real-time operations of the Bulk Electric System." Comment is intended to capture the GO/GOP training requirements in regards to this cold weather standard only, and not to reflect GO/GOP attendance at other training outlined in PER-006.

b. Would require that the GO be added to the Applicability of PER-006 if moved

c. Would require that the Functional Entity language (specifically existing GOP language) be revisited to ensure alignment and consistency with the new cold weather preparedness training requirement

3. GOP applicability

a. There are instances where "Company X" owns a facility and "Company Y" operates and maintains the facility. In some of these instances this 3rd party operator is the registered GOP.

b. There could be compliance conflicts if a GO is held accountable for this new requirement and the associated cold weather preparedness plan that it "develops and maintains", but one that a separate GOP "implements" on their behalf. There are also training considerations here as currently written (GO training the GOP).

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5

Answer

Yes

Document Name

Comment

For Florida entities it will be challenging to develop cold weather plans with the "cold" weather we experience. See #4 below.

Training requirements belong in the PER Standards and not EOP Standards. Recommend moving R7.4 to PER-006-1.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer Yes

Document Name

Comment

The NAGF agrees with placement of the new Generator Owner cold weather preparedness plan(s) requirements in the EOP-011 standard. Consolidating the GO cold weather preparedness plan requirements under one standard (EOP-011) provides clarity to industry rather than spreading the requirements over multiple standards (ex. FAC-003).

Likes 0

Dislikes 0

Response

Justin Welty - NextEra Energy - Florida Power and Light Co. - 6

Answer Yes

Document Name

Comment

While we agree to the placement of the requirements as part of R1.2.6, we recommend having cold weather conditions as a subset of extreme weather conditions, see suggested edit below

1.2.6. Reliability impacts of:

1.2.6.1. extreme weather conditions

1.2.6.2. cold weather

1.2.6.3 other extreme weather conditions

For R7.4 Awareness Training – two items to consider:

- Requirement focuses on GO/ cold weather only. Recommend this is expanded to incorporate other or specified extreme weather conditions
- Requirement does not specify how often the training needs to be provided, however, during the SDT Webinar annual training was noted as the intended periodicity. If that is indeed the expectation, recommend the SDT clarify the requirement. From a higher level perspective, we are concerned with the number of GO/GOP training requirements that are being introduced in various standards. Recommend NERC staff consider consolidation of training requirements.

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer Yes

Document Name

Comment

Black Hills Corporation agrees that Requirement 7 can remain in EOP-011 however;

- Should Add to the applicability, Transmission Owner (TO) that own synchronous condensers. i.e. like stated in MOD-025 applicability 4.1.2.
- Because generators are designed specific to their “location/type/etc.” – this requirement will take “Plans” not just a Plan. They would need to be unit specific. This will take time to develop for entities with large numbers of BES applicable Facilities/Plants.
- 7.2 “Annual” is not acceptable; change to more consistent periodicity as stated in other Reliability Standards. Example: 12 calendar months not to exceed 15 calendar months.
- 7.3 Cold Weather Data: to get usable performance data for the TOP/BA’s – this would involve a lot of time/extra work for both the TOP Real Time individuals as well as the GO generator facility management. Many older generators do not have the capabilities of prior data, as well as the TOP not having generator data to provide to them in order to direct them to what time frame of performance data is needed.
- 7.3.1. operating limitations in cold weather can vary by the conditions of the “extreme” weather. This is hard to define.
- Per 7.3.2.1. is the minimum design temperature enough to even help the TOP in Real Time and Emergencies? Black Hills Corporation TOP does not think so, as they feel this is part of the gap!
- 7.3.2.2. designated 5 Years – where did that time frame come from? This does not seem consistent with evidence retention periods of other reliability standards. Taking this to 1.2. Evidence Retention section; ...retains from last audit (page 7 of 21 draft). This could spread data to be kept 10-12 years based on the GO Regional Entity audit schedule.
- 7.4 What constitutes “Awareness” and how often? This needs to be clarified. Mandatory Training seems ‘over the top’ in that knowing how to operate their generator units by the “site operators” is part of their job. This is felt to be a waste of site operators valuable time. Operators react to all conditions as needed.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer Yes

Document Name

Comment

DTEE agrees with the NAGF for placement of the new Generator Owner cold weather preparedness plan(s) requirements in the EOP-011 standard. Consolidating the GO cold weather preparedness plan requirements under one standard (EOP-011) provides clarity to industry rather than spreading the requirements over multiple standards (ex. FAC-003).

Likes	0
Dislikes	0
Response	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	Yes
Document Name	
Comment	
TMLP agrees that EOP-011 is the most effective place to insert cold weather requirements, though we disagree with the current proposed redlines. Concerns will be addressed in the later questions.	
Likes	0
Dislikes	0
Response	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
AZPS agrees but also recommends adding Generator Operator to the scope of R7 as they are the ones that will be implementing the weather preparedness plans.	
“Cold weather” is not defined. “Extreme weather conditions” is not defined. Is it based on temperature or geography? What is the scope of “cold” and “extreme”?	
Likes	0
Dislikes	0
Response	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	

Comment

Eergy supports and incorporates by reference Edison Electric Institute’s response to Question 1.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer Yes

Document Name

Comment

OGE agrees with including the GO cold weather preparedness plan requirements within EOP-011; however, we do have concerns with the proposed Requirement 7, as detailed below:

R7.1 – the usage of the word “unique” is ambiguous. We suggest removing “unique”. Our proposed R7.1 language:

- 7.1. Generating unit(s) freeze protection measures based on factors such as geographical location and plant configuration;
- R7.3.2.2 – It is not clear whether the demonstrated historical performance data is for a rolling 5-years since the proposed requirement language is not clear on whether the GOs will need to review their cold weather preparedness plan annually. We suggest removing the 5 years requirement language and including the amount of time for past performance (at least 5 years of cold weather data) to be published in an Implementation Guidance or Technical Rationale document. We recommend adding an additional subpart if both R7.3.2.1 and R.7.3.2.2 cannot be met. Our proposed R7.3.2.2 and R7.3.2.3 language:
 - “7.3.2.2. minimum demonstrated historical performance during cold weather ; or”
 - “7.3.2.3. engineering analysis to determine minimum cold weather performance.”

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI

Answer Yes

Document Name

Comment

Agree with the addition, however, our Generators are located in North East (Temperate Region), they are prepared for extreme but possible conditions. This would just cause an Administrative redundancy of cold weather plans that already exist and have historically been in place from their initial design.

Likes 0

Dislikes 0	
Response	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports the placement cold weather requirements within Requirement R7, in EOP-011.	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Xcel Energy agrees with the addition of the proposed new requirement in EOP-011. In regards to proposed R3, we acknowledge that some older plants may not have documented minimum design temperatures, and aren't sure that a 5 year view of historical performance would be adequate to cover some of the more extreme events.	
Likes 0	

Dislikes	0	
Response		
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF		
Answer	Yes	
Document Name		
Comment		
In EOP-011(R 7.3) needs an explanation on what is required on historical performance.		
Likes	1	CMS Energy - Consumers Energy Company, 4, Root Aric
Dislikes	0	
Response		
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5		
Answer	Yes	
Document Name		
Comment		
<p>OGE agrees with including the GO cold weather preparedness plan requirements within EOP-011; however, we do have concerns with the proposed Requirement 7, as detailed below:</p> <p>{C}· R7.1 – the usage of the word “unique” is ambiguous. We suggest removing “unique”. Our proposed R7.1 language:</p> <p>{C}o {C}“7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;”</p> <p>{C}· R7.3.2.2 – It is not clear whether the demonstrated historical performance data is for a rolling 5-years since the proposed requirement language is not clear on whether the GOs will need to review their cold weather preparedness plan annually. We suggest removing the 5 years requirement language and including the amount of time for past performance (at least 5 years of cold weather data) to be published in an Implementation Guidance or Technical Rationale document. We recommend adding an additional subpart if both R7.3.2.1 and R.7.3.2.2 cannot be met. Our proposed R7.3.2.2 and R7.3.2.3 language:</p> <p>{C}o {C}“7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years; or”</p> <p>{C}o {C}“7.3.2.3. engineering analysis to determine minimum cold weather performance.”</p>		
Likes	0	
Dislikes	0	
Response		

Daniel Gacek - Exelon - 1

Answer Yes

Document Name

Comment

Exelon supports the placement of cold weather requirements within Requirement R7, in EOP-011.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management

Answer Yes

Document Name

Comment

CEPM agrees with the inclusion of the GO requirements in EOP-011 R7 with these considerations:

- While the requirement gives the plant the latitude to come up with its own plan for cold weather preparedness, it also leaves open the possibility that any failure of the unit during cold weather operations could be considered a violation
- Should there be requirements to update the plan if historical performance indicate the plan was not effective?
- o No obligation to produce an effective/successful plan
- What is the expectation if weather exceeds the design basis of the plant?
- Should there be some trigger (i.e. seasonal, calendar quarter, temperature, etc...) to invoke plan?
- No indication as to how often awareness training should take place.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	2019-06_Cold_Weather_Unofficial_Comment_Form_MISO_03-12-21.pdf
Comment	
<p>MISO is supportive of this project and supports the joint comments filed by the IRC SRC.</p> <p>In addition, MISO believes weatherization must addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in Part 7.1 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. We recommend the SDT establish a national reference with geographic locational emphasis that can be used as a standard for consistency of application across the NERC footprint. As to what reference it should be, we leave it up to the SDT to produce some factors. As an example, something like the USDA gardening zone map may be sufficient as a temperature reference.</p> <p>Recommended language:</p> <p>R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]</p> <p>7.1. freeze protection measures based on factors such as geographical location and plant configuration that are adequate to operate through extreme temperatures and weather. The methodology used to establish extreme temperatures for each solely and joint owned unit shall be one or more industry standards such as the USDA Plant Hardiness Zone Map.</p>	
Likes	0
Dislikes	0
Response	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	Yes
Document Name	
Comment	
<p>No, PG&E believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations just as other utilities have commented. PG&E has a good handle on how cold weather impacts our facilities and how to respond without adding the additional requirement of a separate preparedness plan. PG&E Facilities have been designed to operate reliably in the conditional environment they exist in, most of which are located in cold mountainous terrain. Local Maintenance practices and procedures already exist as well as already established cold weather plans of which should be the only guidance necessary to continue reliable operation of PG&E's</p>	

facilities. In the point of recommending a locational fit PG&E would suggest considering the development of a new FAC Standard as the location.

Additionally, neither cold nor extreme weather are defined in this proposed standard nor in NERC's Glossary of Terms.

PG&E recommends that the Distribution Provider (DP) be included in the Applicable FEs. NERC's Functional Model v5.1 details the roles and relationships for each FE. Specifically, the DP is tasked to provide and implement load-shed capability. Timely and accurate load shedding is key to responsiveness to any Reliability Coordinator (RC) directives which support reliability of the grid during extreme weather events. This comment is specific to section 1.2.6 and 1.2.6.2 in the proposed draft of EOP-011-2. A corresponding requirement, evidence retention and VSLs should be developed to clarify the expectations for the DP, largely around the ability to support implementation of load shedding in a defined timeframe.

Likes 0

Dislikes 0

Response

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)

Answer

Yes

Document Name

Comment

IRC SRC supports the inclusion of these requirements in EOP-011; however, recommends the SDT now consider including provisions for non-BES Generators aggregated at a BES station as being included in the NERC Compliance Enforcement Program.

We also offer additional comments for EOP-011:

EOP-011, 3. Purpose expand to include the Generator Operator function as follows:

Purpose: To ensure each Transmission Operator, Balancing Authority, Generator Owner and Generator Operator has developed plan(s) to mitigate and prepare for operating Emergencies; and that Transmission Operator and Balancing Authority Operating Plans are coordinated within a Reliability Coordinator Area.

EOP-011, 4. Applicability expand to include the Generator Operator as one of the Functional Entities.

EOP-011-2, R1: addition for clarification

1.2.6. Provisions to determine potential Reliability impacts of:

Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that that a process should be in place to address cold weather and other extreme conditions.

EOP-011-2, R7: Just as TOPs and RCs (in R1 and R2) "shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analysis, Real-time monitoring, and Real-time Assessments", GOs should be required to provide the information that is requested by the TOP and RC.

We also recommend the SDT consider the below modifications to R7 (some of which are from ISOs that have such mitigation/requirements in-place due to previous experience), including a recommendation to provide a clear, measurable objective for Part 7.1. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit.

R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s)

7.1.1 provisions to include the impact of precipitation (e.g. sleet, snowpack)

7.2 Annual maintenance and inspection of freeze protection measures; and

7.3. minimum design temperature or minimum demonstrated historical performance during cold weather in the previous 5 years or maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Such Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in extreme cold weather; and

7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.3. Generating unit(s):

7.3.3.1. minimum and maximum design temperature; or

7.3.3.2. minimum demonstrated historical performance during extreme weather;

R8. Each Generator Operator shall develop, maintain, and implement one or more cold weather preparedness plan(s) for the generating Facility(ies) it operates. The cold weather preparedness plan(s) shall include the following at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

8.1. Awareness training on the detailed roles and responsibilities of site personnel contained in the cold weather preparedness plan, including notifications to BAs/RCs/TOPs regarding generator availability and operating limitations during extreme weather.

The IRC SRC recommends the SDT consider adding frequency and timing for the training requirement, such as “Annual” and “within 60 days of the start of the season.”

The IRC SRC questions adding provisions for the reliability impacts of hot weather as a separate numbered item. Cold weather is being addressed in this Standard update, but hot weather considerations as well as impacts of extreme precipitation events are similarly important to monitor and understand. Implementing cold weather requirements now and waiting for a hot weather event to implement hot weather requirements may be a mistake.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
OPG concurs with the NPCC Regional Standards Committee's comments.	
Likes	0
Dislikes	0
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
<p>In addition to supporting the IRC SRC comments, PJM requests consideration of the following modifications to the proposed requirements:</p> <p>R7. Each Generation Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) that are documented with supporting source data for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]</p> <p>R7.1 freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s) as validated by their host RC.</p>	

R7.3 Generating unit(s) cold weather data to include: minimum design temperature for new units or units with limited historical performance during cold weather; and demonstrated historical performance during cold weather for units with historical cold weather performance. (To replace: Minimum design temperature; or minimum demonstrated historical performance during cold weather in the previous 5 years.)

Requesting the Standard Drafting Team to add definitions in the standard to define cold weather (recommend using NOAA data) and extreme weather conditions.

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer Yes

Document Name

Comment

ERCOT agrees with the placement of cold weather preparedness plan requirements within EOP-011 and supports a requirement that Generator Owners (GO) develop, maintain, and implement cold weather preparedness plans for generating units. ERCOT supports the proposed requirement to mandate weatherization plans as an important first step in ensuring reliability. However, an effective Reliability Standard would need to include clear and enforceable metrics, which the plan must be designed to achieve. ERCOT notes that generators in the ERCOT Region have been required to have weatherization plans for many years. It is apparent based on the February 2021 extreme cold weather event that having a plan may not be sufficient by itself to ensure reliability. ERCOT would support a subsequent Reliability Standard project in order to specify these clear and enforceable metrics.

Likes 0

Dislikes 0

Response

Aaron Staley - Orlando Utilities Commission - 1

Answer Yes

Document Name

Comment

Please clarify if EOP-011 R7 is an effort to change the cold weather design of units, for example requiring a unit not designed to operate below freezing to now operate below freezing. Or if its just requiring the operator to basiclly clarify the units capabilities and maintain that capability.

Please remove the five year as a rigid requirement in R7 part 7.3.2.2, simply stating historical performance over cold weather provides for a more complete response from the Generator Owners on the capability of their equipment. It could be stated as "for example over the last five

years". Alternately the SDT could allow for other time windows as long as the Generator Owner had a technical rationale for the different time window.

Likes 0

Dislikes 0

Response

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Tyson Archie - Platte River Power Authority - 5

Answer

Yes

Document Name

Comment

Likes 1

Platte River Power Authority, 3, Kiess Wade

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Answer

Document Name

Comment

Texas RE appreciates the Standard Drafting Team's (SDT) initial efforts to enhance the NERC Reliability Standards to ensure that Generator Owners (GOs), Balancing Authorities (BAs) and Transmission Operators (TOPs) take adequate steps to prepare for cold weather conditions. Texas RE notes that the 2019 FERC and NERC Staff Report on the South Central United States Cold Weather BES Event of January 18, 2018 ("2019 Cold Weather Event Report") specifically commented that "[a] mandatory Reliability Standard would require [GOs] to properly prepare for extreme cold weather, and would help [Reliability Coordinators (RCs)] and BAs identify units which may not be able to perform during an extreme cold weather event." (2019 Cold Weather Report, at 89). Texas RE supports the SDT's efforts to implement the mandatory Reliability Standard described in the 2019 Cold Weather Report to require, among other things, GOs to develop, maintain, and implement cold weather preparedness plans as a new Requirement R7 in the existing EOP-011 Standard.

While Texas RE believes the proposed EOP-011-2 Requirement R7 reflects the general cold weather preparedness recommendations set forth in the 2019 Cold Weather Report, Texas RE believes that the SDT should consider incorporating additional specificity from the report in developing more specific, measurable requirements. In particular, Texas RE recommends incorporating more specific elements identified in the 2019 Cold Weather Report to establish (1) clear timeframes for implementing cold weather preparedness plans, (2) minimum, measurable requirements for GO cold weather preparedness plans, and (3) more specific criteria around minimum maintenance activities and their periodicity. Texas RE further recommends including provisions for RCs to review GO cold weather preparedness plans, in a manner consistent with the RC reviewing BA and TOP data for cold weather per IRO-010 and TOP-003, to ensure adequate cold weather preparedness measures are in place.

Texas RE will first set forth its comments on these items in Requirement R7, as well as some general suggestions regarding other EOP-011 revisions. Texas RE will then provide some general comments regarding potential revisions to proposed EOP-011 Requirements R1 and R2 to better implement the new Requirement R7 provisions in connection with TOPs and BAs, as well as additional revisions to the EOP-011 attachments.

Timeframes for Implementing Cold Weather Preparedness Plans (Requirement R7)

As part of the "Generator Sound Practices" section in the 2019 Cold Weather Report, NERC and FERC staff specifically recommended GOs complete "freeze protection-related maintenance *prior to winter weather.*" (Cold Weather Report, at p. 101). Consistent with this recommendation, Texas RE believes the SDT should specify that GOs should implement one or more cold weather preparedness plans "*seasonally prior to the expected onset of winter conditions, and review annually.*" The will clarify that timely preparation and implementation of winter weather protections should occur in advance of potential cold weather events, including actions that could require longer lead-times.

Minimal Measurable Requirements (Requirement R7, Part 7.1)

While the requirement is written to be flexible, Texas RE recommends creating measurable requirements for implementing freeze protection measures and technologies so there are clear criteria for the GO, as well as to promote consistent implementation of protective measures. For example, the SDT could consider incorporating the 2019 Cold Weather Report recommendation to specifically require continuous monitoring of heat tracing systems though displays and indicator lights as a measurable, minimal element of a GO cold weather preparedness plan.

With all such requirements, the SDT could also consider preserving generator flexibility by requiring either adoption of the minimal measures or a documented justification for why such measures were not adopted as part of the cold weather preparedness plan. However, if justifying specific freeze protection measures, generators should consider more than their geographic location and plant configuration. Rather, Texas RE suggests that generators should also be required to consider local historical weather extremes and critical components that, if affected by cold conditions, would result in startup failure, derate, or tripping of the unit or units as part of the generator's analysis of the measures necessary to implement an adequate cold weather preparedness plan, including the possible justifications for not taking certain freeze protection measures.

Specific Criteria and Periodicity for Maintenance and Inspection Activities (Requirement 7, Part 7.2)

Texas RE agrees with the SDT there should be a requirement for GOs to perform maintenance and inspection activities regarding freeze protection measures. The 2019 Cold Weather Report specifically identified “[p]erforming periodic adequate maintenance and inspection of freeze protection elements (e.g., generating units’ heat tracing equipment and thermal insulation)” as a key element to ensure GOs adequately prepare for cold weather conditions. To that end, Texas RE believes that specifically defining both minimum maintenance and inspection activities, as well as maximum maintenance and inspection intervals (in a similar format to the existing protection system maintenance and testing requirements in PRC-005) is important. By way of example, the 2019 Cold Weather Report specifically recommends GOs adopt “regular, periodic operational checks of heat tracing circuits.” (2019 Cold Weather Report, at 101). Texas RE recommends that the SDT specify minimal activities associated with such operational checks and define a regular, periodic maintenance schedule to ensure consistency across generators. In a similar vein, the SDT should consider including criteria for maintenance activities, such as performing maintenance on generating units’ heat tracing equipment and thermal insulation to properly test equipment functionality. Texas RE generally recommends that maintenance activities be performed at least on an annual basis.

Additional Recommended Revisions

In proposed EOP-011-2 Requirement 7, Part 7.1, Texas RE suggests replacing the term “unique” with the term “site-specific.” The term “site-specific” better describes geographical and plant configuration factors specific to a generation unit.

In proposed EOP-011-2 Requirement 7, Part 7.3.1, the propose language could possibly be read to be limited to low temperatures. Texas RE recommends specifying broader attributes of extreme cold weather events, such as freezing precipitation, which can have independent impacts. Texas RE suggests revising the language in Part 7.3.1 as follows: “Generating unit(s) operating limitations in cold weather due to temperature, icing, snow loads, or other factors; and”.

In proposed EOP-011-2 Requirement 7, Part 7.3.2, Texas RE recommends more specificity to account for other factors such as ice build-up and snow load, which could have significant, detrimental reliability impacts that are independent from freezing temperature, especially for renewables. Texas RE recommends revising Part 7.3.2 as follows: “Minimum design temperature specifications applicable for winter conditions such as temperature, icing, or snow relevant to the facility.”

Texas RE is concerned Part 7.3.3.2 allows the GO to use minimum demonstrated historical performance during cold weather solely from the previous five years of cold weather data. This is a short time-frame for historical performance and is unlikely to capture extreme events that occur much less frequently than every five years. By way of example, such a standard would have excluded 2011 generator performance data from 2021 generator cold weather preparedness plans in the Texas RE footprint, meaning that such information would not have been considered in preparations for the most recent severe cold weather event. Texas RE recommends GOs be required to obtain more detailed data related to generator performance in order to

accurately identify temperatures at which the generator would encounter any operating limitations identified, including use of the most extreme weather event experienced at the facility's geographic location as an outer bound.

Texas RE also recommends clarifying what the performance is during cold weather. Texas RE inquires how the TOP and RC will interpret this performance to perform the OPA, Real-time monitoring, and Real-time Assessments.

Requirement 7, Part 7.4

Texas RE agrees with the requirement for site personnel to have training. Texas RE recommends adding a more specific part to document the roles and responsibilities of the personnel. Additionally, there should be a periodicity for personnel to receive training on the cold weather preparedness plan as well as a provision that training be conducted prior to the winter season.

Requirements for TOPs and BAs to take specific actions (Requirements R1 and R2)

Texas RE recommends including specific actions that Transmission Operators (TOPs) in Requirement R1 and Balancing Authorities (BAs) in Requirement R2 should take as part of the implementation of the Operating Plans to mitigate operating Emergencies in their respective areas. As it is currently written, only inclusions of reliability impact are required, not actions themselves, such as notification, cancellation or recall, reconfiguration, redispach.

Attachments

Attachment 1

In section A. 2, Texas RE recommends stating that RCs will notify GOs of EEAs so as to be consistent with the standard language. The following language could be added: "For an EEA resulting from cold weather, the Reliability Coordinator shall also notify Generator Owners within its Reliability Coordinator Area."

In section 3.4, Texas RE recommends revising 0.1 to the following: "The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Generator Owners, Balancing Authorities and Transmission Operators within its Reliability Coordinator Area."

The SDT could also consider changing the numbering as it does not look correct.

Likes 0

Dislikes 0

Response

Don Stahl - Black Hills Corporation - 3

Answer

Document Name

Comment

comments submitted

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute".

Likes 0

Dislikes 0

Response

2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer No

Document Name

Comment

ERCOT disagrees that the RC should be required to consider generator design specifications (such as a manufacturer's minimum ambient operating temperature) or historical cold-weather performance information in developing its OPA or RTA. Instead, it would be more effective if the GOP were required to provide an accurate indication of its actual or anticipated capability and availability based on expected or real-time weather conditions and known limitations. As the entity solely responsible for the operation of the generator, the GOP is in a much better position than the RC (or the BA or TOP, for that matter) to understand and predict the impacts of different cold weather scenarios on that generator. Therefore, if the SDT proceeds with revisions to IRO-010, ERCOT suggests revising Requirement R1.3 to read as follows:

1.3 Provisions for notification of generating unit capability and availability that reflects any operating limitations or unit-specific design specifications during actual and anticipated cold weather conditions.

However, ERCOT believes that it may be simpler and clearer to explicitly assign the GOP the responsibility to communicate cold weather impacts on generator capability and availability. This could be achieved by adding such a requirement in a new R8 to EOP-011 (see response to Question 8 below). However, if the SDT proceeds with a data specification requirement, that requirement would more appropriately be placed on the BA and TOP, rather than the RC (see same response).

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer No

Document Name

Comment

The new IRO-010 redline requirement (1.3) is really just a subset of the data required in 1.1; it doesn't cover improvement cover the 2021 Texas event due to gas shortages or how a generator would establish cold weather limits for a gas unit (due to availability of gas supply).

Likes 0

Dislikes 0	
Response	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
The proposed new IRO-010 redline requirement (1.3) is really just a subset of the data required in 1.1; it doesn't cover improvement or cover the 2021 Texas event due to gas shortages or how a generator would establish cold weather limits for a gas unit, due to un-availability of gas supply, for example.	
Likes 0	
Dislikes 0	
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	
Likes 0	
Dislikes 0	
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
The proposed Requirement R1.3 references "unit-specific design specification", which is a very broad term that seems better suited to facility ratings/design. Secondly, there needs to be added context on what constitutes "minimal historical performance". This can be captured in Facilities	

ratings/design standards including dependencies on temperature or other weather parameters for specific “emergency” conditions, and how these may affect a generating unit’s operating limitations.

The term “cold weather” can have varied interpretations throughout the continent, so a more concise term and/or definition that would also include which weather elements may be subject to this (e.g. cold weather may imply this is just for ice/snow) would be helpful.

BC Hydro suggest that the IRO-010 language be kept to the specific information, such as the designed operating temperature range of a unit that would be necessary for performing Operations Planning Analyses.

Likes 0

Dislikes 0

Response

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer

No

Document Name

Comment

There is no provision in any NERC Standard for the Reliability Coordinator to incorporate into any of their analysis the unit specific design specifications or performance during cold weather, being required to be collected by the revision to IRO-010. The existing language already provides for the collection of "...data and information necessary needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments..." This would include any generator cold or extreme weather limitations. Why would you require an entity to request data that they are not required to use?

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

No

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer No

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer No

Document Name

Comment

All data required by the RC should be the same data points as required for the BA and TOP. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in IRO-010.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer No

Document Name

Comment

There is no provision in any NERC Standard for the RC to incorporate the unit specific design specifications or minimum historical performance as well as expected BES generating unit operation limitations during cold weather into any of their analysis, which is currently being proposed for an addition to IRO-010. The existing language in IRO-010 R1.1 already provides for the collection of necessary data (*"A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Realtime Assessment....."*). We believe this data would include any generator cold or extreme weather limitations. In addition, IRO-008 should be revised as well so that the data collected by the RC is utilized

in the RC's Operational Planning Analysis (OPA) and Real-time Assessment (RTA) for anticipated cold weather conditions. By incorporating the GO cold weather parameters into their OPA and RTA, the RC will be able to understand limitations in specific areas of its region and to develop more effective Operating Plans to address those upcoming system conditions.

Likes 0

Dislikes 0

Response

Wayne Guttormson - SaskPower - 1

Answer

No

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1

Answer

No

Document Name

Comment

This requirement implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0	
Response	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	No
Document Name	
Comment	
<p>All data required by the RC should be the same data points as required for the BA and TOP. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in IRO-010.</p> <p>AEPC is signing on to ACES comments as well.</p>	
Likes 0	
Dislikes 0	
Response	
Dania Colon - Orlando Utilities Commission - 5	
Answer	No
Document Name	
Comment	
<p>IRO-010 already permits the RC to ask for this data and EOP-011 requires the RC to plan for this event. I don't believe it's necessary to add a redundant requirement to the obligation the RC has in EOP-011 within the IRO-010 standard. R1.3 is only required for cold weather conditions. It doesn't include extreme weather conditions as specified in EOP-011 and should also be included for consistency.</p>	
Likes 0	
Dislikes 0	
Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	No
Document Name	

Comment

All data required by the RC should be the same data points as required for the BA and TOP. This will provide consistency across these three Functional Entities. Recommend that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in IRO-010 (with modifications, see below) these are data points the RC should want to ask for to ensure they know the capabilities of BES generators in their system during cold weather conditions.

7.3.1 requires “operating limitations” and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator’s cold weather data. At the end of 7.3.1 there is an “AND” this should be changed to an “OR”. A GO may have data specified in 7.3.1 and if don’t then they can use 7.3.2 to obtain the generator’s cold weather data via different methods.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 3

Answer

No

Document Name

Comment

GRE supports the comments of the NSRF

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

No

Document Name

Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer

No

Document Name

Comment

Requirement R1.3 states "unit specific design specifications." It is assumed that this refers to cold weather design, but it is not clear. Hydroelectric generators are secured inside buildings and do not have these specifications. Reclamation recommends excluding hydroelectric generators from this requirement as they rely on water operations, for which cold weather considerations are already accounted by local operations and maintenance procedures.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer	No
Document Name	
Comment	
<p>This change is made redundant by the proposed change in TOP-003 and existing coordination required between the RC, BA, and TOP in IRO-008-2 R2. Since the BAs and TOPs will be required to include cold weather considerations as part of their data specifications and into their Operational Planning Analyses, the RC will have to consider the potential cold weather impacts of the generators that have been accounted for in the Operating Plans of the respective BAs and TOPs.</p>	
Likes	0
Dislikes	0
Response	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
<p>This requirements implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have provisions for evaluating future weather events and acting on them. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems, but it is not officially filed.</p>	
Likes	0
Dislikes	0
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
<p>BPA supports Reclamation's comments.</p>	
Likes	0
Dislikes	0
Response	

Marty Hostler - Northern California Power Agency - 5

Answer

No

Document Name

Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

No

Document Name

Comment

R1 of IRO-010 is about creating data specification. An RC creating a data specification and then subsequently receiving the data does not ensure that expected upcoming cold weather conditions will be taken into consideration in an Operational Planning Analysis (OPA). An optimal outcome of a standard requirement would be that expected severe cold weather conditions are known/anticipated in an OPA timeframe and then appropriate Operating Plans are developed to address those upcoming system conditions. A better placement of cold weather preparedness requirement would be in in IRO-008-2 so that expected upcoming cold weather conditions are adequately anticipated in the OPAs and Operating Plans are accordingly developed. Similarly, a requirement for BAs to evaluate their upcoming cold weather conditions could also be placed in TOP-002. Such requirements would in of themselves prompt RCs to request appropriate data (such as generation unit temperature limitations) that are needed for appropriately performing their OPAs. An alternate option could be to add a requirement in the OPA definition to include upcoming cold weather impacts in the OPA as inputs to the OPA.

The second comment is more specific about the data items being requested in 1.3. First of all the requirement says 'Provisions for notification of BES generating unit-specific specification....' which is a very broad requirement because a generating unit's design specification is not a single page item. There are several binders and hundreds of design drawings that are part of a generating unit's design specification. An RC requesting BES generating unit-specific design specification may be compliant with the requirement but may not receive the actual piece of relevant information needed for cold weather analysis. A more meaningful quantity to request as part of data specification (which can then also be applied in an OPA) is the designed operating temperature range for a unit. For example, if the designed minimum operating temperature limit for a unit is 25o F and if upcoming weather conditions are going to be 20o F, then it could be considered in an OPA that a particular unit may not be able to operate (or even be started to operate) in the upcoming weather conditions and operating entities can plan accordingly.

Likes 0

Dislikes 0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer No

Document Name

Comment

NIPSCO TOP and its RC (MISO) already include GO data in their data specifications for TOP-003 and IRO-010 respectively. It is not clear what additional information is being requested in the proposed R1.3 in both of these proposed standards and this should be clarified.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generators in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer

No

Document Name

Comment

There are no annual cold weather preparations for our solar facilities that need to be performed and our facilities are not limited in any way during cold weather.

Likes 0

Dislikes 0

Response

Kristina Marriott - First Solar, Inc. - 5

Answer

No

Document Name

Comment

The industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.

Likes 0

Dislikes 0

Response

Scott McGough - Georgia System Operations Corporation - 3

Answer	No
Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx
Comment	
Likes	0
Dislikes	0
Response	
Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
I don't believe it is necessary to include the language in IRO-010. EOP-011 requires the TOP to plan for cold weather and for the RC to review those plans. IRO-010 is to ensure the RC can receive the data it needs and IRO-010 R1 allows the RC to ask for data in addition to the existing sub-parts of R1. IRO-010s purpose does not include prescribing to the RC what data they need, but ensuring they have access to the data they determine they need.	
Likes	0
Dislikes	0
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
In addition to supporting the IRC SRC comments, PJM requests consideration of the following: For R1.3, requesting clarifying language to allow RC flexibility in data specifications for [Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather.]	
Likes	0
Dislikes	0
Response	

Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
CAISO supports the inclusion of the data specification requirements in IRO-010; however, recommends the SDT modify the text of the requirement to remove "Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather". This does not seem necessary for OPA/RTA/RT monitoring and seems more appropriate for inclusion in TOP-003.	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
The IRC SRC supports the inclusion of the data specification requirements in IRO-010; however, recommends the SDT modify the text of the requirement to allow for entity flexibility in specifying the data provided to ensure that the data received is actionable for use in Reliability Coordinator models.	
1.3. Provisions for notification of operating limitations, capability and availability for generating Facility(ies) during current and projected cold weather conditions.	
Likes 0	
Dislikes 0	
Response	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	Yes
Document Name	
Comment	

Yes, PG&E generally agrees with the modifications to IRO-010 as proposed.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports the IRC SRC comments

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Yes

Document Name

Comment

Exelon supports placing the Reliability Coordinator (RC) data specification requirements within IRO-010.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Yes

Document Name	
Comment	
This would align with the current relationship between IRO-010 and TOP-003, and that the RC spec remains in IRO-010, and the TOP and BA specs in TOP-003 would align with the RC spec.	
Likes	0
Dislikes	0
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports placing the Reliability Coordinator data specification requirements within IRO-010.	
Likes	0
Dislikes	0
Response	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes	0
Dislikes	0
Response	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes

Document Name	
Comment	
<p>Allowing different planning entities the ability to make multiple requests of generators results in inefficiencies and can take focus away from more critical activities. A central, streamlined, and consistent process for submitting this type of data would benefit the grid. For greatest efficiency, NERC should proactively work with TOPs and RCs to identify pertinent information related to cold weather operating characteristics (and other areas of critical concern). NERC should consider if the Align tool, GADS portal, Misoperation Portal, or other similar centralized tools, could be used to streamline how / when these data requests are made. In addition, a centralized portal could include a data submission element such that a GO/GOP only must submit data once for it to be used, as required, by the appropriate planning entities (TOP, BA, RC).</p> <p>If a centralized tool is not developed, the SDT should add a minimum time requirement to R3/R4/R5 such that the planning entity is required to give ample notice to the entity from which it is requesting data. Currently, each planning entity has a different process and timeline for making data requests; as a GO/GOP registered in multiple regions we must understand and work within each planning entity's process. In addition, the onus should be on the planning entities to provide a fulsome, publicly available (on Align or NERC Website) list of entities required to submit data vs. requiring entities to rely on negative confirmation.</p>	
Likes	0
Dislikes	0
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
<p>Santee Cooper recommends R1.3 be a phased in implementation in case GOs have problems getting the unit-specific design specification and they have not been collecting historical performance. Phasing this requirement in allows GOs time to start collecting the minimum historical performance data during cold weather.</p> <p>Also, what is "cold weather" for this requirement? This could be a very different interpretation of this term based on where generating resources are located in North America. Is the expectation that an entity define what constitutes cold weather? That may cause an issue during an audit.</p>	
Likes	0
Dislikes	0
Response	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	

Comment	
Energy supports and incorporates by reference Edison Electric Institute's response to Question 2.	
Likes	0
Dislikes	0
Response	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
AZPS would like to know what is the minimum periodicity for data to be provided? For example, seasonal vs annual. What is the requirement timeline for new generation added after the implementation date of this requirement? What is the scope of the data requirement or design criteria? Is the "minimum historical performance during cold weather" defined as 5 years as specified in EOP-011 R7.3.2.2? What is the implementation plan for new generating units?	
Likes	0
Dislikes	0
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
DTEE agrees with the NAGF that the placement of Reliability Coordinator data specification requirements in the IRO standard is appropriate.	
Likes	0
Dislikes	0
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes

Document Name	
Comment	
For Black Hills Corporation, it depends on what the RC requires when they rewrite their data specification which will then apply to the entities under their footprint.	
Likes 0	
Dislikes 0	
Response	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	
Comment	
R1.3 Provisions for notification of BES generating unit-specific design temperature or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather. We recommend focusing on minimum historical performance and defining the time period (e.g. 50 yr) to provide a more consistent approach across regions.	
Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
The NAGF agrees with placement of Reliability Coordinator data specification requirements in the IRO-010 standard.	
Likes 0	
Dislikes 0	
Response	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority	

Answer	Yes
Document Name	
Comment	
The proposed requirement 7.3.2.2 in EOP-011 has a 5-year limitation on historical data. However, the new requirements in IRO-010 do not have this limitation. As such, will the historical information be required back to the commissioning of the unit? If not, please add the 5-year limitation.	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company agrees that IRO-010 is the best fit for this new RC data specification requirement. Southern Company offers the following suggestions for the SDT.	
1. Revise the wording of proposed requirement 1.3	
a. Suggest re-wording to “Provisions for notification of BES generating unit-specific minimum design temperature or if design temperature is not available, the minimum historical temperature during cold weather in the previous 5 years in which the unit has demonstrated full output operation, and BES generating unit operating limitations during local forecasted cold weather.”	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	

Dislikes	0
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
<p>Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to a Standard, it should be replaced with the term “abnormally cold weather.”</p>	
Likes	0
Dislikes	0
Response	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	Yes
Document Name	
Comment	
<p>The ISO-NE supports the inclusion of the data specification requirements in IRO-010; however, recommends the SDT modify the text of the requirement to allow for entity flexibility in specifying the data provided to ensure that the data received is actionable for use in Reliability Coordinator models.</p> <p>1.3. Provisions for notification of operating limitations, capability and availability for generating Facility(ies) during current and projected cold weather conditions.</p>	
Likes	0
Dislikes	0
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	

Comment

Talen agrees with placement of Reliability Coordinator data specification requirements in the IRO-010 standard.

Likes 0

Dislikes 0

Response**Jun Hua - Austin Energy - 4**

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Michael Dillard - Austin Energy - 5**

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Constantin Chitescu - Ontario Power Generation Inc. - 5**

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thomas Breene - WEC Energy Group, Inc. - 3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Erick Barrios - New York Power Authority - 6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 1	Platte River Power Authority, 3, Kiess Wade
Dislikes 0	
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute”.

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Don Stahl - Black Hills Corporation - 3

Answer	
Document Name	
Comment	
comments submitted	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE agrees with the addition of requirements for Reliability Coordinators (RCs) to develop a documented data specification including the provision for notification of BES generating unit-specific design performance during cold weather, as well as expected BES generating unit operational limitations during local forecasted cold weather. Texas RE suggests the SDT consider matching the language of the proposed IRO-010-4 Requirement R1, Part 1.3 with the proposed generating unit cold weather data requirements set forth EOP-011-2 Requirement R7, Part 7.3 as modified by Texas RE's comments concerning that Part. In a similar vein to GOs, RCs should obtain data beyond minimal design temperatures or minimal historical performance over a five-year period so they can account for other factors such as ice build-up and snow load, which could have significant, detrimental reliability impacts that are independent from freezing temperature, especially for renewables in performing Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p> <p>The language, "provisions for notification", could possibly be read to imply that the data provision is event-driven instead of data that is requested and collected by the RC prior to any forecasted cold weather event. While it may be helpful for the RC to receive event-driven notification from entities regarding any expected limitations during a specific forecasted cold weather event, the RC should be requesting and collecting data regarding design specifications and operating limitations for cold weather as part of the normal data request and collection processes, with the periodicity specified per IRO-010-4 Requirement R1, Part 1.4.</p>	
Likes 0	
Dislikes 0	
Response	
Bruce Reimer - Manitoba Hydro - 1	
Answer	
Document Name	

Comment

Not applicable.

Likes 0

Dislikes 0

Response

3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Kristina Marriott - First Solar, Inc. - 5

Answer No

Document Name

Comment

The industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.

Likes 0

Dislikes 0

Response

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer No

Document Name

Comment

There are no annual cold weather preparations for our solar facilities that need to be performed and our facilities are not limited in any way during cold weather.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent

problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

No

Document Name

Comment

See response to Question 2 above.

Likes 0

Dislikes 0

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

No

Document Name

Comment

Same comments as question 2.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5

Answer

No

Document Name

Comment

NO. See response to Question 3.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Glen Farmer - Avista - Avista Corporation - 5

Answer

No

Document Name

Comment

This requirements implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have provisions for evaluating future weather events and acting on them. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems, but it is not officially filed.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

No

Document Name

Comment

This change is made redundant by the proposed change in due to the existing coordination required between the RC, BA, and TOP in IRO-008-2 R2. Since the BAs and TOPs will be required to include cold weather considerations as part of their data specifications and into their Operational Planning Analyses, the GOP will have to consider the potential cold weather impacts of its generators to provide information to the respective BAs and TOPs for inclusion in their Operating Plans. Suggest removal of R1.3 phrase “generating unit-specific design specification or minimum historical performance during cold weather” because this information is only valuable if the facility is maintained to design specifications.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer No

Document Name

Comment

Requirement R1.3 states “unit specific design specifications.” It is assumed that this refers to cold weather design, but it is not clear. Hydroelectric generators are secured inside buildings and do not have these specifications. Reclamation recommends excluding hydroelectric generators from this requirement as they rely on water operations, for which cold weather considerations are already accounted by local operations and maintenance procedures.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 3

Answer

No

Document Name

Comment

GRE supports the comments of the NSRF

Likes 0

Dislikes 0

Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

No

Document Name

Comment

All data required by the TOP should be the same data points as required for the BA and RC. This will provide consistency across these three Functional Entities. Recommend that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003 (with modifications, see below) these are data points the TOP should want to ask for to ensure they know the capabilities of BES generators in their system during cold weather conditions.

7.3.1 requires “operating limitations” and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator’s cold weather data. At the end of 7.3.1 there is an “AND” this should be changed to an “OR”. A GO may have data specified in 7.3.1 and if don’t then they can use 7.3.2 to obtain the generator’s cold weather data via different methods.

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5

Answer

No

Document Name

Comment

TOP-003 R1 already permits the TOP to ask for this data and EOP-011 requires the TOP to plan for this event. I don’t believe it’s necessary to add a redundant requirement to the obligation the TOP has in EOP-011 within the TOP-003 standard. R1.3 is only required for cold weather conditions. It doesn’t include extreme weather conditions as specified in EOP-011 and should also be included for consistency.

Likes 0

Dislikes 0

Response

Kayleigh Wilkerson - Lincoln Electric System - 5, Group Name Lincoln Electric System

Answer

No

Document Name

Comment

LES contends that it should not be the TOP’s responsibility to determine, or verify, cold weather capabilities of any units connected to their TOP Area. Requirements set forth related to the Generator Owners will be adhered to by them and units should be rated accordingly, just as in the FAC standards. The TOP should then require that capability information be submitted as part of the TOP-003 data specification and leave it at that. Even if multiple derates occur at different temperatures, all that should be needed is a rating schedule. Having the TOP require design specifications and performance data is not something they should, or are even equipped, to handle. Additionally, the phrase “operational limitations” is also ambiguous by nature; for a

more clear and concise approach, we recommend referring to unit capabilities. To ensure TOPs are not inundated with unnecessary information, and to maintain clear expectations, LES suggests the following change to TOP-003 R1.3:

“R1.3. Provisions for notification of expected BES generating unit capabilities during local forecasted cold weather.”

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer No

Document Name

Comment

All data required by the TOP should be the same data points as required for the BA and RC. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1

Answer

No

Document Name

Comment

This requirement implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Wayne Guttormson - SaskPower - 1

Answer

No

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

No

Document Name

Comment

The existing language in TOP-003 already provides for the collection of "...data and information necessary needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments...". This would include any generator cold or extreme weather limitations; therefore, is unnecessary to specifically address. Additionally, the NERC Functional Model identifies the Balancing Authority as the entity responsible for "Formulating an operational plan (generation commitment, outage, etc.) for reliability evaluation." The TOP is responsible for the Real-time operating reliability of the transmission assets under its control. The TOP should not be required to ensure the Balancing Authority is performing their function. This is evidenced in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018", in which the TOP function was not identified.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	No
Document Name	
Comment	
All data required by the TOP should be the same data points as required for the BA and RC. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003.	
Likes	0
Dislikes	0
Response	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	No
Document Name	
Comment	
NV Energy cannot agree to the revisions, as it requests additional clarity within the Standard, or in a Technical Guidance document, on the definition of "operation limitations".	
Likes	0
Dislikes	0
Response	
George Brown - Acciona Energy North America - 5	
Answer	No
Document Name	
Comment	
Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.	
Likes	0
Dislikes	0
Response	

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer No

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

Likes 0

Dislikes 0

Response

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer No

Document Name

Comment

{C} The existing language in TOP-003 already provides for the collection of "...data and information necessary needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments..." This would include any generator cold or extreme weather limitations. There is no need to spell it out individually. Additionally, the NERC Functional Model identifies the Balancing Authority as the entity responsible for "Formulating an operational plan (generation commitment, outage, etc.) for reliability evaluation." The TOP is responsible for the Real-time operating reliability of the transmission assets under its purview. The TOP should not be required to ensure the Balancing Authority is performing their function, which is probably why the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." {C}{C}{C}[A1]{C} {C}[A2]{C}

The existing language in TOP-003 already provides for the collection of "...data and information necessary needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments...". This would include any generator cold or extreme weather limitations; therefore, is unnecessary to specifically address. Additionally, the NERC Functional Model identifies the Balancing Authority as the entity responsible for "Formulating an operational plan (generation commitment, outage, etc.) for reliability evaluation." The TOP is responsible for the Real-time operating reliability of the transmission assets under its control. [A3] The TOP should not be required to ensure the Balancing Authority is performing their function. This is evidenced in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018", in which the TOP function was not identified.

Likes	0
Dislikes	0
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
<p>The proposed Requirement R1.3 references “unit-specific design specification”, which is a very broad term that seems better suited to facility ratings/design. Secondly, there needs to be added context on what constitutes “minimal historical performance”. This can be captured in Facilities ratings/design standards including dependencies on temperature or other weather parameters for specific “emergency” conditions, and how these may affect a generating unit’s operating limitations.</p> <p>The term “cold weather” can have varied interpretations throughout the continent, so a more concise term and/or definition that would also include which weather elements may be subject to this (e.g. cold weather may imply this is just for ice/snow) would be helpful.</p> <p>BC Hydro suggest that the IRO-010 language be kept to the specific information, such as the designed operating temperature range of a unit that would be necessary for performing Operations Planning Analyses</p>	
Likes	0
Dislikes	0
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	
Likes	0
Dislikes	0
Response	
Glenn Pressler - CPS Energy - 3	
Answer	No

Document Name	
Comment	
Do not agree with adding generation limitations to TOP data specification is beneficial, especially in the ERCOT region, as generation data is communicated directly to ERCOT, not the TOP.	
Likes	0
Dislikes	0
Response	
Gladys DeLaO - CPS Energy - 1	
Answer	No
Document Name	
Comment	
Do not agree with adding generation limitations to TOP data specification is beneficial, especially in the ERCOT region, as generation data is communicated directly to ERCOT, not the TOP.	
Likes	0
Dislikes	0
Response	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	
As ERCOT has noted below in response to Question 8, it would be more straightforward to place the communication obligation on the GOP through a new R8 in EOP-011. However, if the SDT proceeds with a data specification requirement, ERCOT agrees it would be appropriate to place such a requirement on the TOP and BA by inserting new R1.3 and new R2.3 in TOP-003, to read as follows:	
1.3/2.3 Provisions for notification of generating unit capability and availability that reflects any operating limitations or unit-specific design specifications during actual and anticipated cold weather conditions.	
Likes	0
Dislikes	0

Response	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	No
Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBF03-11-21.docx
Comment	
Likes	0
Dislikes	0
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Talen agrees with placement of Transmission Operator data specification requirements in the TOP-003 standard.	
Likes	0
Dislikes	0
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
<p>While AEP sees the value and benefit of the inclusion of the Transmission Operator data specification requirements as currently proposed, AEP is concerned by exactly how this data would conceivably be used, specifically in regards to the potential impact that the sharing of this information could unintentionally have on the market. For example, an entity could perhaps be running close to a design specification or minimum historical performance and could perhaps be penalized as a result. We are also concerned by the potential subjectivity or inconsistency that might occur in determining compliance.</p> <p>In addition, we also believe there needs to be some clarity within the proposed revisions on what actions the receiving entity should take, or perhaps should-not take, as a result of receiving this provided information.</p>	

Likes 0	
Dislikes 0	
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to Standard, it should be replaced with the term “abnormally cold weather.”	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	

Southern Company agrees that TOP-003 is the best fit for this new TOP data specification requirement. Southern Company offers the following suggestions for the SDT.

1. Revise the wording of proposed requirement 1.3

a. Suggest re-wording to “Provisions for notification of BES generating unit-specific minimum design temperature or if design temperature is not available, the minimum historical temperature during cold weather in the previous 5 years in which the unit has demonstrated full output operation, and BES generating unit operating limitations during local forecasted cold weather.”

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer

Yes

Document Name

Comment

The proposed requirement 7.3.2.2 in EOP-011 has a 5-year limitation on historical data. However, the new requirements in TOP-003 do not have this limitation. As such, will the historical information be required back to the commissioning of the unit? If not, please add the 5-year limitation.

Likes 1

Tennessee Valley Authority, 5, Thomas M Lee

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Yes

Document Name

Comment

The NAGF agrees with placement of Transmission Operator data specification requirements in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Justin Welty - NextEra Energy - Florida Power and Light Co. - 6**Answer** Yes**Document Name****Comment**

Similar to IRO-010 modifications, we recommend focusing on minimum historical performance and defining the time period (e.g. 50 year) to provide a more consistent approach across regions.

Likes 0

Dislikes 0

Response**Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC****Answer** Yes**Document Name****Comment**

For Black Hills Corporation, it depends on what other TOPs require when they rewrite their data specification. Black Hills Corporation believes the addition of unit-specific information and limitations during local forecasted cold weather will be helpful for our studies.

Likes 0

Dislikes 0

Response**Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric****Answer** Yes**Document Name****Comment**

Consistent with the NAGF, DTEE agrees with placement of Transmission Operator data specification requirements in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
AZPS agrees that the requirement is in the correct standard, TOP-003. However, AZPS does not see value added for the addition of this requirement and feels it is somewhat redundant to TOP-002 engineering study, resource commitment, etc? Consider BA applicability.	
Likes	0
Dislikes	0
Response	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Evergy supports and incorporates by reference Edison Electric Institute's response to Question 3.	
Likes	0
Dislikes	0
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Santee Cooper has concerns with the term cold weather as this could be interpreted differently depending on where generating resources are located. Should there be some standard definition of cold weather as below a certain temperature?	
Likes	0
Dislikes	0
Response	

Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC

Answer Yes

Document Name

Comment

Allowing different planning entities the ability to make multiple requests of generators results in inefficiencies and can take focus away from more critical activities. A central, streamlined, and consistent process for submitting this type of data would benefit the grid. For greatest efficiency, NERC should proactively work with TOPs and RCs to identify pertinent information related to cold weather operating characteristics (and other areas of critical concern). NERC should consider if the Align tool, GADS portal, Misoperation Portal, or other similar centralized tools, could be used to streamline how / when these data requests are made. In addition, a centralized portal could include a data submission element such that a GO/GOP only must submit data once for it to be used, as required, by the appropriate planning entities (TOP, BA, RC).

If a centralized tool is not developed, the SDT should add a minimum time requirement to R3/R4/R5 such that the planning entity is required to give ample notice to the entity from which it is requesting data. Currently, each planning entity has a different process and timeline for making data requests; as a GO/GOP registered in multiple regions we must understand and work within each planning entity's process. In addition, the onus should be on the planning entities to provide a fulsome, publicly available (on Align or NERC Website) list of entities required to submit data vs. requiring entities to rely on negative confirmation.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer Yes

Document Name

Comment

Ameren Agrees with and supports NAGF comments

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer Yes

Document Name

Comment

EEl supports placing the Transmission Operator data specification requirements within TOP-003.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Yes

Document Name

Comment

Exelon supports placing the Transmission Operator (TOP) data specification requirements within TOP-003.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports the IRC SRC comments

Likes 0

Dislikes 0

Response

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer	Yes
Document Name	
Comment	
Yes, PG&E generally agrees with the proposed modifications proposed in TOP-003-5 as proposed.	
Likes 0	
Dislikes 0	
Response	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
CAISO supports the inclusion of the data specification requirements within TOP-003 however, recommends the SDT move R1.3 to R2 making this a requirement of the BA rather than the TOP.	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
PJM supports the IRC SRC comments.	
Likes 0	
Dislikes 0	
Response	
Aaron Staley - Orlando Utilities Commission - 1	

Answer	Yes
Document Name	
Comment	
I don't believe it is necessary to include the language in TOP-003. EOP-011 requires the TOP to plan for cold weather. TOP-003 is to ensure the TOP can receive the data it needs and TOP-003 R1 allows the TOP to ask for data in addition to the existing sub-parts of R1. TOP-003 purpose does not include prescribing to the TOP what data they need, but ensuring they have access to the data they determine they need.	
Likes	0
Dislikes	0
Response	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 1	Platte River Power Authority, 3, Kiess Wade
Dislikes 0	

Response

Dan Roethemeyer - Vistra Energy - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response

David Hathaway - WEC Energy Group, Inc. - 6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donna Johnson - Oglethorpe Power Corporation - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Michael Dillard - Austin Energy - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE agrees with the addition of requirements for Transmission Operators (TOPs) to develop a documented data specification including the provision for notification of BES generating unit-specific design performance during cold weather, as well as expected BES generating unit operational limitations during local forecasted cold weather. Texas RE suggests the SDT consider matching the language of the proposed TOP-003-5 Requirement R1, Part 1.3 with the proposed generating unit cold weather data requirements set forth EOP-011-2 Requirement R7, Part 7.3 as modified by Texas RE's comments concerning that Part. Much like GOs, TOPs should obtain data beyond minimal design temperatures or minimal historical performance over a five-year period so they can account for other factors such as ice build-up and snow load, which could have significant, detrimental reliability impacts that are independent from freezing temperature, especially for renewables in performing Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

The language, "provisions for notification", could possibly be read to imply that the data provision is event-driven instead of data that is requested and collected by the TOP prior to any forecasted cold weather event. While it may be helpful for the TOP to receive event-driven notification from entities regarding any expected limitations during a specific forecasted cold weather event, the TOP should be requesting and collecting data regarding design specifications and operating limitations for cold weather as part of the normal data request and collection processes, with the periodicity specified per TOP-003-5 Requirement R1, Part 1.4.

Likes 0

Dislikes 0

Response

Don Stahl - Black Hills Corporation - 3

Answer

Document Name

Comment

comments submitted

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute".	
Likes 0	
Dislikes 0	
Response	

4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer No

Document Name

Comment

ERCOT does not see a proposed data specification requirement in EOP-011. If the SDT intends to proceed with a data specification requirement for BAs, ERCOT suggests that this would most appropriately be placed in TOP-003 R2 (see response to Question 3, above).

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer No

Document Name

Comment

Not clear on the "data specification requirement" added for the BA; appears to be adding BA requirement to add "Processes to prepare for and mitigate Emergencies including" for cold weather conditions; this is too vague to offer reliable solution to the 2021 cold weather event.

Likes 0

Dislikes 0

Response

Glenn Pressler - CPS Energy - 3

Answer No

Document Name

Comment

Not clear on the "data specification requirement" added for the BA; appears to be adding BA requirement to add "Processes to prepare for and mitigate Emergencies including" for cold weather conditions; this is too vague to offer reliable solution to the 2021 cold weather event.

Likes	0
Dislikes	0
Response	
Jamie Johnson - California ISO - 2	
Answer	No
Document Name	
Comment	
CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	No
Document Name	
Comment	
IRC SRC recommends the Balancing Authority data specification requirements be defined under TOP-003 along with the TOP data specification requirements.	
Likes	0
Dislikes	0
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	

Likes	0
Dislikes	0
Response	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	No
Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes	0
Dislikes	0
Response	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	No
Document Name	
Comment	
CEPM agrees with the inclusion of cold weather conditions in R2, but feel it should be a sub-requirement under extreme weather conditions to allow for other extreme weather sub-requirements at a later date (i.e. hurricane, Tornado, Thunder/Lightning, GMD, etc...)	
Likes	0
Dislikes	0
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
The posted EOP-011 draft for comment (EOP-011-2 Redline 01272021) does not appear to include a new or modified EOP-011 Requirement identifying "Balancing Authority data specification requirements" referenced in Question #4 above. Please clarify.	

Likes	0
Dislikes	0
Response	
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	
<p>The SDT provided no data specification requirement in EOP-011. Instead, the language in EOP-011 requires the BA to develop, maintain and implement one or more Operating Plan to address cold weather conditions – which is appropriate. However, we also believe that modifications to TOP-003 to address data specifications for the BA are unnecessary given Requirement R2 already includes language to specify “the data necessary for it to perform its analysis functions and Real-time monitoring” and Requirement R5 requires all applicable entities to provide the specified data.</p>	
Likes	0
Dislikes	0
Response	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	
<p>The SDT revisions applicable to the BA placed in EOP-011 address the inclusion of the reliability impacts of cold weather conditions in the BA's emergency operations plan(s) and do not address the data specification. Any revisions to the BA data specification requirement would better fit in TOP-003 R2.</p>	
Likes	0
Dislikes	0
Response	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	No
Document Name	
Comment	

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer

No

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

No

Document Name

Comment

For consistency, the BA data spec should be handled similarly to the TOP data spec and be included in TOP-003.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

No

Document Name

Comment

All data required by the BA should be the same data points as required for the RC and TOP. This will provide consistency across these three Functional Entities. BA data request should not be in EOP-011-2 but rather in TOP-003 R2. ACES recommends that Part 7.3 and its subcomponents be deleted from the proposed EOP-011-2 and be placed in TOP-003.

Likes 0

Dislikes 0

Response

David Hathaway - WEC Energy Group, Inc. - 6

Answer

No

Document Name

Comment

See Tom Breene's comments.

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer

No

Document Name

Comment

Santee Cooper recommends adding a requirement to TOP-003 for the BA to request data specifications from a GO.

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

No

Document Name

Comment

The SDT provided no data specification requirement in EOP-011. Instead, the language in EOP-011 requires the BA to develop, maintain and implement one or more Operating Plan to address cold weather conditions – which is appropriate. However, we also believe that modifications to TOP-003 to address data specifications for the BA are unnecessary given Requirement R2 already includes language to specify “the data necessary for it to perform its analysis functions and Real-time monitoring” and Requirement R5 requires all applicable entities to provide the specified data.

Likes 0

Dislikes 0

Response

Wayne Guttormson - SaskPower - 1

Answer No

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather

Answer No

Document Name

Comment

The SDT revisions applicable to the BA placed in EOP-011 address the inclusion of the reliability impacts of cold weather conditions in the BA's emergency operations plan(s) and do not address the data specification. Any revisions to the BA data specification requirement would better fit in TOP-003 R2.

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer No

Document Name	
Comment	
The SDT revisions applicable to the BA placed in EOP-011 address the inclusion of the reliability impacts of cold weather conditions in the BA's emergency operations plan(s) and do not address the data specification. Any revisions to the BA data specification requirement would better fit in TOP-003 R2.	
Likes	0
Dislikes	0
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	No
Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes	0
Dislikes	0
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	No
Document Name	
Comment	
<ul style="list-style-type: none"> • For EOP-011-2 R7. 7.1, consider rewording the sub-requirement to emphasize that geographic location and plant configuration are only some examples of unique factors (other unique factors can and should be considered). See example below. <ul style="list-style-type: none"> ○ 7.1 Generating unit(s) freeze protection measures based on unique factors that include, but are not limited to, geographical location, plant configuration, and varying operational scenarios. • For EOP-011-2 R7. 7.3.2.2, there are two recommendations and suggested rewording below: <ul style="list-style-type: none"> • <ul style="list-style-type: none"> i. The wording, “demonstrated historical performance”, in 7.3.2.2 could be interpreted that historical cold weather information is only applicable when the generator is typically running/operational. Suggest to reword so that 7.3.2.2 is focused on cold weather experienced over a period of time at a plant location. ii. Extend the timeframe from 5 years to 10 years. This aligns with the language in BAL-502-RF-03 to review resource adequacy based on “one day in ten year” loss of Load expectation. Other Reliability Coordinators/Planning Coordinators also has various assessment test 	

methods that are designed to review risks associated with a “one day in ten year” type of event. This change may better cover geographic areas that do not frequently experience cold weather events.

7.3.2.2. Minimum demonstrated historical cold weather experienced in the previous 10 years

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

No

Document Name

Comment

The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.

Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.

In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.

The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:

7.3. Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; or

7.3.1.2. minimum design temperature; or

7.3.1.3. minimum demonstrated historical performance during previous cold weather events; or

7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes	0
Dislikes	0
Response	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	No
Document Name	
Comment	
TOP-003 contains the BA Data Specification, these requirements should be included in that Standard.	
Likes	0
Dislikes	0
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	No
Document Name	
Comment	
<p>The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.</p> <p>Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement's goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.</p> <p>In addition, "in the previous 5 years" should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the "minimum demonstrated historical performance during cold weather" requires an update only if there is a change.</p> <p>The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:</p> <p>7.3. Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:</p>	

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; or

7.3.1.2. minimum design temperature; or

7.3.1.3. minimum demonstrated historical performance during previous cold weather events; or

7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1

Answer

No

Document Name

Comment

The addition for R1 (1.2.6.) for TOP would be satisfied by R7 so it would be on the GO to provide information.

Likes 0

Dislikes 0

Response

Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable

Answer

No

Document Name

Comment

The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.

Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement's goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.

In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.

The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:

7.3. Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; or

7.3.1.2. minimum design temperature; or

7.3.1.3. minimum demonstrated historical performance during previous cold weather events; or

7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

No

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer

No

Document Name

Comment

There is no data specification requirement for the BA. So I am not clear why this question was asked. Did the SDT post the work files on the NERC website? Or make an error by asking this question?

Likes 0	
Dislikes 0	
Response	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	No
Document Name	
Comment	
<p>All data required by the BA should be the same data points as required for the RC and TOP. This will provide consistency across these three Functional Entities. BA data request should not be in EOP-011-2 but rather in TOP-003 R2. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003.</p> <p>AEPCO is signing on to ACES comments as well.</p>	
Likes 0	
Dislikes 0	
Response	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	No
Document Name	
Comment	
<p>TOP-003 contains the BA Data Specification, these requirements should be included in that Standard</p>	
Likes 1	WEC Energy Group, Inc., 5, OBrien Janet
Dislikes 0	
Response	
Ballard Mutters - Orlando Utilities Commission - 3	
Answer	No
Document Name	
Comment	

The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.

Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.

In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.

The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:

7.3. Generating unit(s) cold weather data, Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; and or

7.3.2. Generating unit(s):

7.3.2.11.2. minimum design temperature; or

7.3.2.21.3. minimum demonstrated historical performance during previous cold weather events; or in the previous 5 years;

Likes	0
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Dislikes	0
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Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer	No
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Document Name	
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Comment

The posted EOP-011-2 redline does not require the BA to make a change to its data specification. Balancing Authority data specification requirements should be addressed in TOP-003 Requirement R2. We do support the addition of language in EOP-011 Requirement R2 to include reliability impacts of cold weather or any other extreme weather conditions in a Balancing Authority’s Operating Plan(s).

Likes	1	Tennessee Valley Authority, 5, Thomas M Lee
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Dislikes	0
Response	
Dania Colon - Orlando Utilities Commission - 5	
Answer	No
Document Name	
Comment	
<p>Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement's goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.</p> <p>In addition, "in the previous 5 years" should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the "minimum demonstrated historical performance during cold weather" requires an update only if there is a change.</p> <p>The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:</p> <p>7.3. Generating unit(s) cold weather data, Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:</p> <p>7.3.1. Generating unit(s):</p> <p>7.3.1.1 operating limitations in cold weather; and or</p> <p>7.3.2. Generating unit(s):</p> <p>7.3.2.11.2. minimum design temperature; or</p> <p>7.3.2.21.3. minimum demonstrated historical performance during previous cold weather events; or in the previous 5 years;</p> <p>7.3.1.4 engineering analysis of expected operation limitations in cold weather.</p>	
Likes	0
Dislikes	0
Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	No
Document Name	

Comment

All data required by the BA should be the same data points as required for the RC and TOP. This will provide consistency across these three Functional Entities. BA data request should not be in EOP-011-2 but rather in TOP-003 R2. Recommend that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003 (with modifications, see below) these are data points the RC should want to ask for to ensure they know the capabilities of BES generators in their system during cold weather conditions.

7.3.1 requires “operating limitations” and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator’s cold weather data. At the end of 7.3.1 there is an “AND” this should be changed to an “OR”. A GO may have data specified in 7.3.1 and if don’t then they can use 7.3.2 to obtain the generator’s cold weather data via different methods.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 3

Answer No

Document Name

Comment

GRE supports the comments of the NSRF

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

There is no data specification requirement for the BA. So I am not clear why this question was asked. Did the SDT post the work files on the NERC website? Or make an error by asking this question?

Likes 0

Dislikes 0	
Response	
Richard Jackson - U.S. Bureau of Reclamation - 1	
Answer	No
Document Name	
Comment	
<p>The posted clean and redline versions of EOP-011 do not appear to identify any Balancing Authority data specification requirements.</p> <p>As identified for the data specifications for Reliability Coordinators and Transmission Operators, Reclamation recommends excluding hydroelectric generators from this requirement as they rely on water operations, for which cold weather considerations are already accounted by local operations and maintenance procedures.</p>	
Likes 0	
Dislikes 0	
Response	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
<p>The addition for R1 (1.2.6.) for TOP would be satisfied by R7 so it would be on the GO to provide information.</p>	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
<p>BPA supports Reclamation's comments.</p>	

Likes 0	
Dislikes 0	
Response	
Marty Hostler - Northern California Power Agency - 5	
Answer	No
Document Name	
Comment	
There is no data specification requirement for the BA. So I am not clear why this question was asked. Did the SDT post the work files on the NERC website? Or make an error by asking this question?	
Likes 0	
Dislikes 0	
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power	
Answer	No
Document Name	
Comment	
Instead of adding a new BA requirement in EOP-011, Tacoma Power recommends adding a sub-requirement to TOP-003 R2 for the BA to request data specifications from GO.	
Likes 2	Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	No

Document Name	
Comment	
AEP is unsure of the meaning or intent of this question, as we are unable to locate the proposed changes inferred by the question itself.	
Likes 0	
Dislikes 0	
Response	
Dylan Sontag - Silicon Ranch Corporation - 1 - SERC	
Answer	No
Document Name	
Comment	
There are no annual cold weather preparations for our solar facilities that need to be performed and our facilities are not limited in any way during cold weather.	
Likes 0	
Dislikes 0	
Response	
Kristina Marriott - First Solar, Inc. - 5	
Answer	No
Document Name	
Comment	
The industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.	
Likes 0	
Dislikes 0	
Response	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	No

Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx
Comment	
Likes 0	
Dislikes 0	
Response	
Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
I don't think that the phrase "Data Specification" optimally reflects the changes in EOP-011-2 for the BA. There is a requirement to plan for cold weather which may require them to request data, and they can request that data under the existing TOP-003 R2 which does not require modification.	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
PJM supports the IRC SRC comments.	
Likes 0	
Dislikes 0	
Response	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	Yes
Document Name	

Comment

Yes, PG&E generally agrees with the proposed modifications of EOP-011 with respect to the Balancing Authority.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Yes

Document Name

Comment

Exelon agrees with the placement of the Balancing Authority (BA) data specifications in the EOP-011 Reliability Standard.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

EEL agrees with the placement of Balancing Authority (BA) data specifications in EOP-011 Reliability Standard.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer

Yes

Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes 0	
Dislikes 0	
Response	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
<p>Allowing different planning entities the ability to make multiple requests of generators results in inefficiencies and can take focus away from more critical activities. A central, streamlined, and consistent process for submitting this type of data would benefit the grid. For greatest efficiency, NERC should proactively work with TOPs and RCs to identify pertinent information related to cold weather operating characteristics (and other areas of critical concern). NERC should consider if the Align tool, GADS portal, Misoperation Portal, or other similar centralized tools, could be used to streamline how / when these data requests are made. In addition, a centralized portal could include a data submission element such that a GO/GOP only must submit data once for it to be used, as required, by the appropriate planning entities (TOP, BA, RC).</p> <p>If a centralized tool is not developed, the SDT should add a minimum time requirement to R3/R4/R5 such that the planning entity is required to give ample notice to the entity from which it is requesting data. Currently, each planning entity has a different process and timeline for making data requests; as a GO/GOP registered in multiple regions we must understand and work within each planning entity's process. In addition, the onus should be on the planning entities to provide a fulsome, publicly available (on Align or NERC Website) list of entities required to submit data vs. requiring entities to rely on negative confirmation.</p>	
Likes 0	
Dislikes 0	
Response	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Evergy supports and incorporates by reference Edison Electric Institute's response to Question 4.	

Likes	0
Dislikes	0
Response	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
<p>AZPS agrees but would like to add the additional comments. "Cold weather" is not defined. "Extreme weather conditions" not defined. Is it based on temperature or geography? What is the scope of "cold" and "extreme"?</p> <p>Move 1.2.6 to be a sub-bullet under 1.2.5 and move 2.2.9 to be a sub-bullet under 2.2.8 (example below)</p> <p>1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and Reliability impacts of:</p> <ul style="list-style-type: none"> 1.2.5.1. cold weather conditions; and 1.2.5.2. any other extreme weather conditions <p>2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and Reliability impacts of:</p> <ul style="list-style-type: none"> 2.2.8.1. cold weather conditions; and 2.2.8.2. any other extreme weather conditions. 	
Likes	0
Dislikes	0
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
<p>Consistent with the NAGF, DTEE agrees with placement of Balancing Authority data specification requirements in the EOP-011 standard.</p>	

Likes 0	
Dislikes 0	
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
While Black Hills Corporation is not a BA, we do not see any reason to further break down EOP-011 R1.2.6 and 2.2.9	
Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
The NAGF agrees with placement of Balancing Authority data specification requirements in the EOP-011 standard.	
Likes 0	
Dislikes 0	
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
None.	
Likes 0	

Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company believes that this should be included in TOP-003-5 R2, as noted below in our response to Question 7.	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota	

or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to Standard, it should be replaced with the term “abnormally cold weather.”

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1

Answer

Yes

Document Name

Comment

If the standard is geared towards ensuring generators run during extreme weather events, should not the same performance factors be considered during ALL weather events? What critical generator auxiliaries are affected by weather events? Should the standard require an evaluation of all systems that are required to run/operate the generator, and have each of those systems evaluated for their limitations during various weather events? i.e. If a thermal unit requires river water as part of its cooling system, does the unit have any limitations during a drought? If so, does your plan address those/have a plan for that?

Likes 0

Dislikes 0

Response

Todd Bennett - Associated Electric Cooperative, Inc. - 3

Answer

Yes

Document Name

Comment

In addition to the current EOP-011 draft language, the following language should be added to draft TOP-003-5 R2 to address the BA: “Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather”

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer	Yes
Document Name	
Comment	
This is a " No " vote. ISO-NE recommends the Balancing Authority data specification requirements be defined under TOP-003 along with the TOP data specification requirements.	
Likes	0
Dislikes	0
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Talen agrees with placement of Balancing Authority data specification requirements in the EOP-011 standard.	
Likes	0
Dislikes	0
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	

Likes 0

Dislikes 0

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Tyson Archie - Platte River Power Authority - 5

Answer Yes

Document Name

Comment

Likes 1 Platte River Power Authority, 3, Kiess Wade

Dislikes 0

Response

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**John Allen - City Utilities of Springfield, Missouri - 1,3,4****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Janet OBrien - WEC Energy Group, Inc. - 5****Answer****Document Name****Comment**

Support comments submitted by Tom Breene of WEC Energy Group.

Likes 0

Dislikes 0

Response**Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6****Answer****Document Name****Comment**

See comments submitted by Edison Electric Institute".

Likes 0	
Dislikes 0	
Response	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	
Comment	
comments submitted	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
Texas RE agrees there should be data specification requirements for the Balancing Authority (BA) as the BA should have this data for its Operating Plan as proposed in the revised EOP-011-2 Requirement R2.	

In addition, however, Texas RE recommends that the SDT consider adopting similar unit-specific design specifications, minimum historical performance, and expected BES generating unit operation limitations data specification requirements for BAs in TOP-003-5 Requirement R2 as is currently established for TOPs in the proposed TOP-003-5 Requirement R1 and RCs in the proposed IRO-010-4 R1. The changes proposed in EOP-011 R2 require the BA to include the reliability impacts of cold weather conditions in its EOP-011 Operating Plan, but there does not appear to be a requirement for the BA to collect data related to design specifications and operating limitations as part of its data specification or for the GO to provide these parameters to the BA.

Likes 0

Dislikes 0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

Document Name

Comment

: BA data specification requirements for NIPSCO would likely be covered by MISO via CFR00001.

Likes 0

Dislikes 0

Response

5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?

Kristina Marriott - First Solar, Inc. - 5

Answer No

Document Name

Comment

We would like to better understand the requirements for freeze protection on Peak Resources, such as Wind and Solar generating sources.

Can maintenance and inspection be more defined by minimum requirements? If not, perhaps a FAQ / Supplementary Reference could provide additional details and examples.

Likes 0

Dislikes 0

Response

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer No

Document Name

Comment

If the equipment on-site does not require any specific cold weather maintenance, then this should not be a required.

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer No

Document Name

Comment

This requirement would be challenging to achieve at all plants on an annual basis. A more realistic alternative would be to tie this new "maintenance and inspections" requirement to regular generator maintenance intervals already in place at the entity.

Likes	0
Dislikes	0
Response	
Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	No
Document Name	
Comment	
<p>For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generators in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.</p>	
Likes	0
Dislikes	0
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	No
Document Name	
Comment	
<p>Platte River Power Authority suggests replacing annual with calendar year for the required maintenance and inspection schedule. Requiring actions to be performed each calendar year promotes consistency in audit approach across regions. Per the April 19, 2019 NERC CMEP Practice Guide, "annual" can be interpreted as once per calendar year, or a rolling 12-months. Calendar year is widely accepted across regions to be interpreted as January 1 to December 31 of each year. The use of calendar year is also consistent with other maintenance and testing standards such as PRC-005. This also allows registered entities the flexibility to complete maintenance and inspections that better align with generating plant maintenance cycles and rotating outages.</p>	
Likes	1
Dislikes	0
Platte River Power Authority, 3, Kiess Wade	
Response	
Bruce Reimer - Manitoba Hydro - 1	
Answer	No

Document Name	
Comment	
Annually is fine for entities with a limited number of generators, but this will become an extreme burden for companies like MH who has 100+ generators? Once every 3 calendar years (like blackstart testing) is recommended.	
Likes	0
Dislikes	0
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	
<i>R7 as a whole does not provide enough specificity. It is not clear what will be required for inspections, historical performance tracking, and awareness training in addition to the annual maintenance. Also, the term "calendar year" should be considered in lieu of "annual".</i>	
Likes	0
Dislikes	0
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	No
Document Name	
Comment	
Seattle City Light appreciates the effort made by the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. However, in the case of inspection requirements, Seattle does not feel this balance has been met. The inspection and documentation requirements specifically call out freeze protection for documentation and annual inspection. This specificity goes against the general approach of focusing new requirements and activities on cold weather conditions that are abnormal for a particular location or region. Freezing conditions and freeze protection are normal for the northern half of the continent. As written, these requirements require administrative documentation and activities for entities with facilities in such locations. Seattle recommends that these requirements be revised to focus on the objective of documenting and annually inspecting those specific measures implemented to provide operating protection during abnormally cold conditions, whatever those may be for a particular location.	
Likes	0
Dislikes	0

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer No

Document Name

Comment

Tacoma Power is supportive of specifying a periodicity of performing maintenance activities, if these activities are required. Instead of “annual,” Tacoma Power recommends specifying either “each calendar year”, “15-month” or “12-month” in accordance with the PER-005 Standards White Paper.

Likes 2 Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5

Answer No

Document Name

Comment

NO. There are no reliability improvements or cost estimates posted. Please provide the SDT's proposed cost versus reliability improvement benefit analysis, for each region, and for annual versus bi-annual inspection/maintenance.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation’s comments.

Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	No
Document Name	
Comment	
Part 7.2 should provide a list (or give examples) of minimum maintenance and inspection requirements for specific forms of freeze protection measures (e.g., what, at a minimum, would be required for maintenance and inspection of insulations, heat trace, etc).	
Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	No
Document Name	
Comment	
See response to Question 1.	
Likes 0	
Dislikes 0	
Response	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
Annual Maintenance and Inspections should not be made mandatory.	

Likes 0	
Dislikes 0	
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	No
Document Name	
Comment	
Duke Energy agrees with Part 7.2 Annual Inspection of generating unit(s) freeze protection measures but suggests Part 7.2. clarify that Annual Maintenance is to be performed on an as-needed basis.	
Likes 0	
Dislikes 0	
Response	
Richard Jackson - U.S. Bureau of Reclamation - 1	
Answer	No
Document Name	
Comment	
<p>Annual maintenance for generator types and geographic areas that have never had a problem with cold weather represents an added regulatory burden for a problem that these generators and geographic areas do not have. Given the history of Facilities in northern, colder climates, annual maintenance and inspection requirements may be excessive. Reclamation recommends Generator Owners follow guidance derived from manufacturer specifications and entity evaluations of policy, procedure, and maintenance.</p> <p>The terms “maintenance and inspection” are too vague. What type of inspections are intended to be required? Does this involve extensive inspections of internal equipment or is it a general life of material inspection? For an example of a clear, yet non-prescriptive presentation of inspection requirements, Reclamation recommends the SDT review FAC-501-WECC-3 Attachment A.</p> <p>Due to the variety of interpretations of the term “annual,” Reclamation recommends any instances of an annual requirement specify that the required activity take place “at least every 12 months, not to exceed 15 months.”</p>	
Likes 0	
Dislikes 0	
Response	

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

There are no reliability improvements or cost estimates posted. Please provide the SDT's proposed cost versus reliability improvement benefit analysis, for each region, and for annual versus bi-annual inspection/maintenance.

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5

Answer No

Document Name

Comment

Annual maintenance and inspection needs to be defined: will it be required annually, Jan.-Dec. or annually from the last maintenance? Our units are not taken off line annually. Maintenance is staggered so we don't have all units out the same year.

Likes 0

Dislikes 0

Response

Ballard Mutters - Orlando Utilities Commission - 3

Answer No

Document Name

Comment

Some of these equipment's maintenance could have a significantly shorter maintenance intervals per manufacturer's recommendation.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1**Answer** No**Document Name****Comment**

What constitutes maintenance and inspection for this requirement is not explicitly clear. Additionally, requirement 7.1 requires measures based on “unique factors” which could potentially be interpreted and implemented as each and every unit possessing different “unique” measures, maintenance, and inspection parameters. This could create a major burden on both compliance and enforcement. ACES suggests more clearly defining what is being required by defining the terms used in the SAR so that the standard can be measured, implemented, and enforced uniformly across the industry.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes 0

Response**Dennis Sismaet - Northern California Power Agency - 6****Answer** No**Document Name****Comment**

There are no reliability improvements or cost estimates posted. Please provide the SDT's proposed cost versus reliability improvement benefit analysis, for each region, and for annual versus bi-annual inspection/maintenance.

Likes 0

Dislikes 0

Response**Mike Magruder - Avista - Avista Corporation - 1****Answer** No**Document Name****Comment**

Annual Maintenance and Inspections should not be made mandatory.

Likes 0

Dislikes 0	
Response	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	No
Document Name	
Comment	
While annual inspection is reasonable for preparedness purposes, a required annual maintenance may not be appropriate to all technologies. For example, combined cycle unit outages may be every 2 years or more based on operational hours. Recommend some clarification as to what the SDT may be expecting this “annual maintenance” to address.	
Likes 0	
Dislikes 0	
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	No
Document Name	
Comment	
As noted in Question1: Annual is too broad of a term – define annual as each calendar year not to exceed fifteen months between occurrence.	
Likes 0	
Dislikes 0	
Response	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	No
Document Name	
Comment	
TMLP believes that an annual requirement is sufficient, but the specific timing of the maintenance and inspections should be further specified and/or additional guidance should be offered (such as prior to entering the winter season).	

Likes	0
Dislikes	0
Response	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	No
Document Name	
Comment	
<p>AZPS is in agreement with an annual seasonal preparedness requirement, however that is contingent upon what is the scope of that requirement. The “generating unit freeze protection” term is not defined. Does the freeze protection term mean the defined unit design criteria? AZPS recommends verbiage that clearly defines freeze protection or allows the utility to define the scope of the seasonal preparedness requirements in their own procedures.</p>	
Likes	0
Dislikes	0
Response	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	No
Document Name	
Comment	
<p>OGE suggests replacing “annual” with “calendar” year for the required maintenance and inspection schedule. Per the April 19, 2019 NERC CMEP Practice Guide, “annual” can be interpreted as once per calendar year, or a rolling 12-months. Calendar year is widely accepted across regions to be interpreted as January 1 to December 31 of each year. The use of calendar year is also consistent with other maintenance and testing standards such as PRC-005. This also allows registered entities the flexibility to complete maintenance and inspections that better align with generating plant maintenance cycles and rotating outages.</p>	
Likes	0
Dislikes	0
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	

Comment

Santee Cooper is in agreement of specifying a periodicity of performing maintenance activities but recommends these be required each calendar year instead of on an annual basis.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI

Answer No

Document Name

Comment

This does not capture the freeze protection measures that are put in place on an as-needed basis such as heaters, blankets, etc.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer No

Document Name

Comment

What constitutes maintenance and inspection for this requirement is not explicitly clear. Additionally, requirement 7.1 requires measures based on "unique factors" which could potentially be interpreted and implemented as each and every unit possessing different "unique" measures, maintenance, and inspection parameters. This could create a major burden on both compliance and enforcement. ACES suggests more clearly defining what is being required by defining the terms used in the SAR so that the standard can be measured, implemented, and enforced uniformly across the industry.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer No

Document Name	
Comment	
<p>'Annual' is not a defined term, consider using bright line criteria. This would ensure that this is a performance-based requirement.</p> <p>As stated by the Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team's white paper: "In some cases, the aggregated capability of the individual generating units may contribute to the reliability of the BPS; as such, there can be reliability benefit from ensuring that certain BES equipment utilized to aggregate the individual units to a common point of connection are operated and maintained as required in PRC-005. When evaluated individually, however, the generating units themselves do not have the same impact on BPS reliability as the system used to aggregate the units. The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility; this would be irrespective to whether the dispersed generation resource became unavailable due to occurrence of a legitimate fault condition or due to a failure of a control system, protective element, dc supply, etc." https://www.nerc.com/pa/Stand/Prjct201401StdrdsAppDispGenRes/DGR_White_Paper_v17_clean_01_13_2016_Final_rev1.pdf</p> <p>For dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, such as wind generation Facilities, each individual generating unit, a single wind turbine generator (WTG), can have many applicable freeze protections, that if not operational, could impede on the WTG's ability to operate to its minimum design temperature. However, as stated by Project 2014-01 Standards Drafting Team, "The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility;". Acciona would like to request the Project 2019-06 Cold Weather Standards Drafting Team consider whether Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, considering the precedent set by Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team. If the Project 2019-06 Cold Weather Standards Drafting Team determines that Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, then Acciona would like to suggest Project 2019-06 Cold Weather Standards Drafting Team consider a percentage/time-based approach for the applicable freeze protections installed in an individual generating units of dispersed power producing resources. For example, 20% of the applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on annual basis and 100% applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on a five year basis.</p>	
Likes	0
Dislikes	0
Response	
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	
<p>OKGE suggests replacing "annual" with "calendar" year for the required maintenance and inspection schedule. Per the April 19, 2019 NERC CMEP Practice Guide, "annual" can be interpreted as once per calendar year, or a rolling 12-months. Calendar year is widely accepted across regions to be interpreted as January 1 to December 31 of each year. The use of calendar year is also consistent with other maintenance and testing standards such as PRC-005. This also allows registered entities the flexibility to complete maintenance and inspections that better align with generating plant maintenance cycles and rotating outages</p>	
Likes	0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer No

Document Name

Comment

BC Hydro recommends that the language in R7.2 clarifies that "freeze protection measures" in R2 are those identified under R7.1.

Likes 0

Dislikes 0

Response

Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management

Answer No

Document Name

Comment

- Needs to be prior to the cold weather season for inspections and any necessary system repairs.
- Critical Paths should be identified:
 - Fuel resources
 - Instrument Air
 - Potable water
- Critical Paths need to be specified for:
 - Identified for heat trace
 - identified for heat blanket
 - Identified for barriers

Likes 0

Dislikes 0

Response

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer No

Document Name

Comment

No, PG&E believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations just as other utilities have commented. PG&E has a good handle on how cold weather impacts our facilities and how to respond without adding the additional requirement of a separate preparedness plan. PG&E Facilities have been designed to operate reliably in the conditional environment they exist in, most of which are located in cold mountainous terrain. Local Maintenance practices and procedures already exist as well as already established cold weather plans of which should be the only guidance necessary to continue reliable operation of PG&E's facilities. In the point of recommending a locational fit PG&E would suggests considering the development of a new FAC Standard as the location.

Likes 0

Dislikes 0

Response

Erin Green - Western Area Power Administration - 1,6

Answer

No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

No

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee's comments.

Likes 0

Dislikes 0

Response

Glenn Pressler - CPS Energy - 3

Answer	No
Document Name	
Comment	
Not clear on the “data specification requirement” added for the BA; appears to be adding BA requirement to add “Processes to prepare for and mitigate Emergencies including” for cold weather conditions; this is too vague to offer reliable solution to the 2021 cold weather event.	
Likes 0	
Dislikes 0	
Response	
Gladys DeLaO - CPS Energy - 1	
Answer	No
Document Name	
Comment	
Adding an “Annual maintenance and inspection of generating unit(s) freeze protection measures” requirement could appear beneficial from the outside, but such a requirement would not have helped prevent the Texas 2021 winter event. Such requirement would only be an administrative check box. Terms such as “Annual” is also too vague for example, in “7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures” should be tightened to be more specific, like quarter before winter season each calendar year.	
Likes 0	
Dislikes 0	
Response	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	
ERCOT refers the SDT to its response to No. 1 above. ERCOT also believes an additional inspection should be conducted immediately prior to any expected extreme cold weather event.	
Likes 0	
Dislikes 0	
Response	

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer Yes

Document Name

Comment

The drafting team should consider adding something like "not to exceed 15 months" similar to what's in other standards.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer Yes

Document Name

Comment

Talen supports the annual requirement for maintenance and inspection of generating unit freeze protection measures.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company believes this requirement could be viewed as somewhat vague, and that further clarification may be required other than just an “annual requirement”.	
Likes 0	
Dislikes 0	
Response	
Michael Brytowski - Great River Energy - 3	
Answer	Yes
Document Name	
Comment	
GRE supports the comments of the NSRF	
Likes 0	
Dislikes 0	
Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Suggest adding “not to exceed 15 calendar months” similar to what’s in other standards.	
Likes 0	
Dislikes 0	
Response	

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority	
Answer	Yes
Document Name	
Comment	
Maybe add verbiage to state inspection be, at a minimum, an annual requirement and not to exceed 15 calendar months.	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
The NAGF supports the annual requirement for maintenance and inspection of generating unit freeze protection measures.	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Consistent with the NAGF, DTEE supports the annual requirement for maintenance and inspection of generating unit freeze protection measures.	
Likes 0	
Dislikes 0	
Response	
Wayne Guttormson - SaskPower - 1	

Answer	Yes
Document Name	
Comment	
Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Evergy supports and incorporates by reference Edison Electric Institute's response to Question 5.	
Likes 0	
Dislikes 0	
Response	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
This requirement should be applicable to generators based on risk (i.e. not applicable to generators where operating in freezing conditions is standard operating procedure and does not equate an 'operating emergency'). Where this requirement is applicable, the SDT should consider allowing the entity to make a risk-based maintenance plan with timelines (frequencies and scope of work can be offered via tables as in PRC-005). This would reduce inefficiencies related to doing unnecessary maintenance work annually just to satisfy a compliance standard. If the SDT is opposed to offering different timelines for different equipment, a 15-month to 24-month timeline should be incorporated, rather than annual. This would allow sites to better align their maintenance- and inspection-related work with their regular maintenance outages.	
Likes 0	
Dislikes 0	
Response	

David Jendras - Ameren - Ameren Services - 3

Answer Yes

Document Name

Comment

Ameren Agrees with and supports NAGF comments

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer Yes

Document Name

Comment

The language within Requirement R7, subpart 7.2 is clear to ensure GOs conduct annual maintenance and inspection of their generating unit freeze protection.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer Yes

Document Name

Comment

An annual requirement is reasonable, but we recommend using terminology consistent with other standards i.e. every "calendar year" or "not to exceed 15 months."

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer Yes

Document Name

Comment

The language within Requirement R7, subpart 7.2 is clear to ensure GOs conduct annual maintenance and inspection of their generating unit freeze protection.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer Yes

Document Name

Comment

MISO supports the IRC SRC comments

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer Yes

Document Name

Comment

PJM supports the IRC SRC comments.

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Todd Bennett - Associated Electric Cooperative, Inc. - 3

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Scott McGough - Georgia System Operations Corporation - 3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Donna Johnson - Oglethorpe Power Corporation - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Michael Dillard - Austin Energy - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aaron Staley - Orlando Utilities Commission - 1

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>As noted in its response to Question 1, Texas RE recommends additional specificity around maintenance and inspection activities and periodicity in a manner similar to the minimum maintenance activities and maximum maintenance intervals established under PRC-005-6. As noted in its previous response, the 2019 Cold Weather Report specifically identified “[p]erforming periodic adequate maintenance and inspection of freeze protection elements (e.g., generating units’ heat tracing equipment and thermal insulation)” as a key element to ensure GOs adequately prepare for cold weather conditions. To that end, Texas RE believes that specifically defining both minimum maintenance and inspection activities, as well as maximum maintenance and inspection intervals is important. By way of example, the 2019 Cold Weather Report specifically recommends GOs adopt “<i>regular, periodic operational checks of heat tracing circuits.</i>” (2019 Cold Weather Report, at 101 (emphasis added)). Texas RE recommends that the SDT specify minimal activities associated with such operational checks and define a regular, periodic maintenance schedule to ensure consistency across generators. For these types of “inspection-oriented” activities, performing such steps on an annual basis may not be sufficient.</p> <p>GOs may be able to perform maintenance activities designed to ensure equipment functionality on an annual basis. Texas RE notes, however, that the 2019 Cold Weather Report recommended that GOs complete “freeze protection-related maintenance <i>prior to winter weather.</i>” (2019 Cold Weather Report, at 101). Accordingly, an annual requirement may not be sufficient to ensure that such freeze protection-related maintenance occurs in a timely fashion prior to a cold weather event. To address this, Texas RE recommends providing certain temporal parameters so that those activities are performed prior to winter, such as requiring annual maintenance occur between the months of April and October.</p>	
Likes 0	
Dislikes 0	
Response	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	

Comment

comments submitted

Likes 0

Dislikes 0

Response**Brian Evans-Mongeon - Utility Services, Inc. - 4****Answer****Document Name****Comment**

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response**Neil Shockey - Edison International - Southern California Edison Company - 5****Answer****Document Name****Comment**

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response**Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6****Answer****Document Name****Comment**

See comments submitted by Edison Electric Institute".

Likes 0

Dislikes 0

Response

6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer No

Document Name

Comment

If the RC, TOP, and/or BA are required to include generator design specifications (such as a manufacturer's minimum ambient operating temperature) and/or historical cold-weather performance information in its OPA or RTA or Real-time monitoring as currently proposed, ERCOT would need to develop system changes in order to use such data for all generators because ERCOT presently utilizes minimum design data for only wind and solar resources, some of which are designed to automatically shut down at certain temperatures. These system changes could take several years. If the alternative language ERCOT has proposed in response to Questions 2, 3, or 8 is approved, ERCOT would have no objection to a 12-month (or perhaps shorter) implementation timeline.

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer No

Document Name

Comment

PJM urges immediate implementation with a twelve month period before audibly compliant. At least in the PJM region, generators have already been undertaking these analyses due to our Capacity Performance and Manual requirements.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer No

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee's comments.

Likes 0

Dislikes 0

Response

Erin Green - Western Area Power Administration - 1,6

Answer

No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes 0

Dislikes 0

Response

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer

No

Document Name

Comment

No, PG&E recommends 18-24 months to implement EOP-011-2 following the effective date. This timeframe will allow the development and implementation of new requirements for the Applicable FEs.

Likes 0

Dislikes 0

Response

Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management

Answer

No

Document Name

Comment

12 months may not be enough time for plants to implement cold weather plans, recommend using the phased in approach (i.e. 25% at 12M, 75% at 24M, 100% at 36M)

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer No

Document Name

Comment

BC Hydro's assessment at this time is that the EOP-011 standard implementation would take 24 months from adoption due to initial assessment of equipment specifications.

Likes 0

Dislikes 0

Response

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer No

Document Name

Comment

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, CenterPoint Energy would request a minimum of 24 months to implement the changes.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer No

Document Name

Comment	
MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.	
Likes	0
Dislikes	0
Response	
George Brown - Acciona Energy North America - 5	
Answer	No
Document Name	
Comment	
Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.	
Likes	0
Dislikes	0
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	No
Document Name	
Comment	
OPC agrees with the NAGF recommendation that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.	
Likes	0
Dislikes	0
Response	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	No

Document Name	
Comment	
<p>NV Energy believes that initial planning and maintenance requirements can be initiated following twelve months from the effective date. However, NV Energy believes the implementation plan timeline should take into account required time for corrective actions found during the implementation period, and thus be extended to 18 months.</p>	
Likes	0
Dislikes	0
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	No
Document Name	
Comment	
<p>ACES recommends this be pushed to 24 months. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an annual maintenance and inspection process for those freeze protection measures. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.</p>	
Likes	0
Dislikes	0
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	No
Document Name	
Comment	
<p>See Tom Breene's comments.</p>	
Likes	0
Dislikes	0
Response	
David Jendras - Ameren - Ameren Services - 3	

Answer	No
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes 0	
Dislikes 0	
Response	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	No
Document Name	
Comment	
Twelve months to create a plan in compliance with EOP-011 R7 is sufficient, but the SDT should consider an additional 12-24 months for implementation and training.	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	No
Document Name	
Comment	
Instead of 12 months 18 months – It takes time to install winterization equipment.	
Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	

Answer	No
Document Name	
Comment	
Santee Cooper recommends an eighteen (18) month implementation plan allow registered entities the appropriate amount of time to develop the associated cold-weather preparedness plans, develop training materials, and train affected personnel.	
Likes 0	
Dislikes 0	
Response	
Wayne Guttormson - SaskPower - 1	
Answer	No
Document Name	
Comment	
Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	No
Document Name	
Comment	
Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, CEHE would request a minimum of 24 months to implement the changes.	
Likes 0	
Dislikes 0	
Response	

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer No

Document Name

Comment

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, Southern Indiana Gas & Electric Company would request a minimum of 24 months to implement the changes.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer No

Document Name

Comment

The implementation period for EOP-011 should be at least 18 months. Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer No

Document Name

Comment

Consistent with the NAGF, DTEE recommends that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.

Likes 0

Dislikes 0

Response

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer No

Document Name

Comment

Recommend this be pushed to 24 months, this allows the GO time to adopt the preparedness plans, perform activities and train in a managed fashion. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an Annual maintenance and inspection process for those freeze protection measures (this is noted since there must be GOs who do not have freeze protection measures in place per the past failure to start during cold weather). Budget cycles for most Entities (including GOs) is forecasted one year and purchased the following year. If this remains at the 12 month implementation plan, there may be small GOs with BES generators who may be non-compliant by not having enough time to implement their freeze protection measures or they may “boil down” there freeze protection measures due to “unique factors”.

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer No

Document Name

Comment

Black Hills Corporation Power Delivery department feels that more time would be needed than just 12 months for implementation. Suggest at least 24 months to account for unplanned outages, development of plans, and required training.

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

No

Document Name

Comment

The implementation period for EOP-011 should be at least 18 months. Winterization will be a capital-intensive undertaking for our generators in Florida, and twelve months may not be enough time for our agency to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being non-compliant.

Likes 0

Dislikes 0

Response

Justin Welty - NextEra Energy - Florida Power and Light Co. - 6

Answer

No

Document Name

Comment

A 12-month implementation seems reasonable. However, given the current concerns, it may be prudent to have a staggered implementation plan with high priority items be completed within the proposed 12-month implementation period. Considering "weather plans" should already exist having a staggered timeframe may be feasible.

Likes 0

Dislikes 0

Response

Mike Magruder - Avista - Avista Corporation - 1

Answer	No
Document Name	
Comment	
This is not enough time to implement. Two or three years would be achievable.	
Likes 0	
Dislikes 0	
Response	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	No
Document Name	
Comment	
The implementation period for EOP-011 should be at least 18 months. Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.	
Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	
Comment	
The NAGF recommends that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.	
Likes 0	
Dislikes 0	
Response	

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer No

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

A more appropriate implementation plan timeline might be two-three years depending on cost and potential work load GO/GOPs project for this new FERC/NERC mandated project and other regulatory agency existing/proposed obligations. In addition, time is needed to budget and obtain approvals for new capital investment dollars (labor/material) and new positions to meet new requirements.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer No

Document Name

Comment

ACES recommends this be pushed to 24 months. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an annual maintenance and inspection process for those freeze protection measures. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes 0

Response

Thomas Breene - WEC Energy Group, Inc. - 3

Answer

No

Document Name

Comment

Recommend this be 24 months, this allows the GO time to adopt the preparedness plans, perform activities and train in a managed fashion. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an Annual maintenance and inspection process for those freeze protection measures (this is noted since there must be GOs who do not have freeze protection measures in place per the past failure to start during cold weather). Budget cycles for most Entities (including GOs) is forecasted one year and purchased the following year. If this remains at the 12 month implementation plan, there may be small GOs with BES generators who may be non-compliant by not having enough time to implement their freeze protection measures or they may “boil down” there freeze protection measures due to “unique factors”.

Likes 1

WEC Energy Group, Inc., 5, OBrien Janet

Dislikes 0

Response

Ballard Mutters - Orlando Utilities Commission - 3

Answer

No

Document Name

Comment

Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.

A 36-month implementation schedule would be more reasonable.

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5**Answer** No**Document Name****Comment**

Please clarify the purpose of EOP-011 R7. If it is to require the generator owner to add new equipment to their plants to increase the cold weather preparedness then at least 36 Months would be a more appropriate time duration. If the requirement is just about formally determining the units existing capability and maintaining that capability thn 12 months is a sufficient time frame.

Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.

Likes 0

Dislikes 0

Response**Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF****Answer** No**Document Name****Comment**

Recommend this be pushed to 24 months. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an Annual maintenance and inspection process for those freeze protection measures (this is noted since there must be GOs who do not have freeze protection measures in place per the past failure to start during cold weather). Budget cycles for most Entities (including GOs) are forecasted one year and purchased the following year. If this remains at the 12-month implementation plan, there may be small GOs with BES generators who may be non-compliant by not having enough time to implement their freeze protection measures or they may “boil down” their freeze protection measures due to “unique factors”.

Likes 0

Dislikes 0

Response**Michael Brytowski - Great River Energy - 3****Answer** No**Document Name****Comment**

GRE supports the comments of the NSRF

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

A more appropriate implementation plan timeline might be two-three years depending on cost and potential work load GO/GOPs project for this new FERC/NERC mandated project and other regulatory agency existing/proposed obligations. In addition, time is needed to budget and obtain approvals for new capital investment dollars (labor/material) and new positions to meet new requirements.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer No

Document Name

Comment

An implementation period of 12 months may be restrictive to Facilities that have large footprints with long procurement processes, such as federal entities. Reclamation recommends a 24-month implementation period for EOP-011, IRO-010, and TOP-003 to account for necessary research, development, and procurement needs. At a minimum, the implementation period should be 24 months for EOP-011 because Generator Owners have never had to comply with this standard before.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name	
Comment	
Alternative - Duke Energy recommends a 24-month implementation period to allow for drafting of the plans, training, and development of the required maintenance work orders.	
Likes 0	
Dislikes 0	
Response	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
This is not enough time to implement. Two or three years would be achievable.	
Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	No
Document Name	
Comment	
Instead of 12 months implement an 18 month or 24-month plan	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No

Document Name	
Comment	
BPA supports Reclamation's comments.	
Likes 0	
Dislikes 0	
Response	
Marty Hostler - Northern California Power Agency - 5	
Answer	No
Document Name	
Comment	
NO. A more appropriate implementation plan timeline might be two-three years depending on cost and potential work load GO/GOPs project for this new FERC/NERC mandated project and other regulatory agency existing/proposed obligations. In addition, time is needed to budget and obtain approvals for new capital investment dollars (labor/material) and new positions to meet new requirements.	
Likes 0	
Dislikes 0	
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power	
Answer	No
Document Name	
Comment	
As noted in Tacoma Power's comments to Question 1, instead of specifying a Standard Implementation Plan timeline, each GO should perform a vulnerability assessment and then develop CAPs with appropriate implementation timelines.	
Likes 2	Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly
Dislikes 0	
Response	

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6**Answer** No**Document Name****Comment**

Considering the scope of this project which covers 3 standards the Implementation Plan should be extended to 24 months.

Likes 0

Dislikes 0

Response**Tyson Archie - Platte River Power Authority - 5****Answer** No**Document Name****Comment**

Platte River Power Authority suggests an eighteen (18) month implementation plan to provide enough specificity for an industry wide standard. An 18-month implementation plan allows registered entities the appropriate amount of time to develop the associated cold-weather preparedness plans, develop training materials, and train affected personnel, as well as allows for cold-weather training to potentially be aligned with other required training at generation sites.

Likes 1

Platte River Power Authority, 3, Kiess Wade

Dislikes 0

Response**Thomas Foltz - AEP - 5****Answer** No**Document Name****Comment**

While 12 months may be sufficient for some of the proposed obligations regarding preparedness itself, we do not believe it would be sufficient to accommodate all the various impacts related to operations. We believe 24 months would be more appropriate, and would allow entities the time necessary to develop the required documentation, including those related to communications.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer No

Document Name

Comment

A 12-month implementation does not allow enough time for adequate compliance. A minium of 36 months would be more adequate and would fall in line with other new requirements implemented in the past. It would take a minimum of 3 years to get this type of new program off the ground effectively.

Likes 0

Dislikes 0

Response

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer No

Document Name

Comment

The implementation plan could be replaced by a cold weather operations report due 12 months following the effective date which would detail any unique cold weather operations.

Likes	0
Dislikes	0
Response	
Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
Assuming the EOP-011 is not attempting to change a facilities cold weather design but is just requiring clarification and maintenance of that capability the 12 months should be sufficient.	
Likes	0
Dislikes	0
Response	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
The SDT should consider ways to expedite the implementation and effective date of the data specification requirements so that they can be in place prior to the next winter season following FERC approval. The Implementation Plan can be structured such that there are longer lead times for asset	

owners to meet the freeze protection measure requirements and preparedness plans; however, the ERO Enterprise should seek ways to inform the industry to begin preparations immediately after the Ballot Body approves the requirements.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports the IRC SRC comments

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Yes

Document Name

Comment

Exelon supports the proposed 12-month Implementation Plan.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF

Answer

Yes

Document Name

Comment

Issue is with EOP-011 (R 7.3) the items that is asked in this requirement needs clarification. Ambiguous for the Generations site to complete. Also, in this standard they are asking for five years of previous data which will be hard to retrieve.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

EEl supports the proposed 12-month Implementation Plan.

Likes 0

Dislikes 0

Response

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb

Answer

Yes

Document Name

Comment

Evergy supports and incorporates by reference Edison Electric Institute's response to Question 6.

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Yes

Document Name

Comment

Texas RE appreciates the SDT developing the language for initial performance not only for the reliability benefits but also for oversight clarification that often gets overlooked.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

Yes, Southern Company believes that 12 months is sufficient time to ensure compliance with the new requirements.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer

Yes

Document Name

Comment

The SDT should consider ways to expedite the implementation and effective date of the data specification requirements so that they can be in place prior to the next winter season following FERC approval. The Implementation Plan can be structured such that there are longer lead times for asset owners to meet the freeze protection measure requirements and preparedness plans; however, the ERO Enterprise should seek ways to inform the industry to begin preparations immediately after the Ballot Body approves the requirements

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer Yes

Document Name

Comment

Talen recommends that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Glenn Pressler - CPS Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott McGough - Georgia System Operations Corporation - 3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer Yes

Document Name

Comment

Likes 1

Dislikes 0

Tennessee Valley Authority, 5, Thomas M Lee

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Todd Bennett - Associated Electric Cooperative, Inc. - 3

Answer Yes

Document Name

Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 1	Xcel Energy, Inc., 1,3,5,6, Casuscelli Amy
Response	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kristina Marriott - First Solar, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response**Janet OBrien - WEC Energy Group, Inc. - 5****Answer****Document Name****Comment**

Support comments submitted by Tom Breene of WEC Energy Group.

Likes 0

Dislikes 0

Response**Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6****Answer****Document Name****Comment**

See comments submitted by Edison Electric Institute".

Likes 0

Dislikes 0

Response**Neil Shockey - Edison International - Southern California Edison Company - 5****Answer****Document Name****Comment**

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response

Don Stahl - Black Hills Corporation - 3

Answer

Document Name

Comment

comments submitted

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1

Answer

Document Name

Comment

Not applicable

Likes 0

Dislikes 0

Response

7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer No

Document Name

Comment

There are no specific cold weather parameters that would be provided for our solar facilities regarding how they will operate differently as they do not operate any differently.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

This will create a significant amount of work, both real and administrative. There is no history of the type of event causing a supply issue in the Northwest. The Southwest has experienced this (2011). This project is a result of the report on the 2018 South Central US weather event report,

attached for your convenience. Not sure this has ever been an issue in areas that normally experience cold. It has obviously been an issue in areas that are typically mild, and experienced very unusual cold.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer

No

Document Name

Comment

It is not clear what parameters are required or are being compared.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

No

Document Name

Comment

This question is not clear. Proposals do not require the TOP or RC to maintain a/any Cold Weather parameter(s), i.e. keep/preserve any parameter/data. Proposed modifications do require RCs/TOPs to maintain a data specification that has a provision for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, whether or not RC/TOPs are going to us the data.

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5

Answer

No

Document Name

Comment

TOP 003 R2 already allows the BA to request this data if needed, and EOP-011 requires the BA to plan for cold weather. It is not necessary to add a specific sub part under R2 to address cold weather data to the BA.

In Florida, a single weather parameter does not reflect the geographical reality of the State where a temperature gradient is the norm; the northern part could be 15 to 20 degrees cooler than the central part of it. The south Florida temperature could even be another 10 degrees warmer than Central Florida. In turn, each BA should be responsible for maintaining their own cold weather parameter like they do today for unit commitment and dispatching. The RC should be aware of any deviation considered to be an "Extreme Weather Event".

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer

No

Document Name

Comment

This language leads one to believe that every TOP and every RC will maintain its own "cold weather parameter," which is a term that has not been defined, and according to this language could lead to many different "cold weather parameters" across the country. Many entities participate in multiple regions and could be forced to comply with multiple "cold weather parameters," which could create a cost and compliance burden. "Cold weather," "extreme weather conditions," and "cold weather conditions" should be clearly defined using an objective measure nationwide. ACES suggests using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer

No

Document Name

Comment

This question is not clear. Proposals do not require the TOP or RC to maintain a/any Cold Weather parameter(s), i.e. keep/preserve any parameter/data. Proposed modifications do require RCs/TOPs to maintain a data specification that has a provision for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, whether or not RC/TOPs are going to us the data.

Likes 0

Dislikes 0	
Response	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
<p>This will create a significant amount of work, both real and administrative. There is no history of the type of event causing a supply issue in the Northwest. The Southwest has experienced this (2011). This project is a result of the report on the 2018 South Central US weather event. Not sure this has ever been an issue in areas that normally experience cold. It has obviously been an issue in areas that are typically mild and experienced very unusual cold.</p>	
Likes 0	
Dislikes 0	
Response	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	No
Document Name	
Comment	
<p>OGE believes that the proposed changes to TOP-003 R1 (for the TOP) are not necessary. The NERC Functional Model identifies the TOP as responsible for the Real-time operating reliability of the transmission assets under its control; not the keeper of Generator extreme weather parameters. As such, the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."</p> <p>As for the question on whether modifications to TOP-003 R2 (for the BA) are required to obtain cold weather parameter, we believe that it is unnecessary given R2 already includes language to specify "the data necessary for it to perform its analysis functions and Real-time monitoring" and Requirement 5 requires all applicable entities to provide the specified data.</p> <p>The TOP's Emergency Plans should be focused on maintaining the reliability of the Transmission System and responding to Operating Instructions from the BA and the RC, consistent with Recommendation 5 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Part of the language from Recommendation 5: <i>Balancing Authorities and Transmission Operators should conduct periodic capacity and energy emergency drills simultaneous with transmission emergency drills with their Reliability Coordinators, to ensure readiness, coordination of control room personnel to conduct multiple load-shed-related tasks while continuing to maintain situational awareness, and coordination between additional local control center and field personnel.</i></p>	
Likes 0	
Dislikes 0	

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer No

Document Name

Comment

This language leads one to believe that every TOP and every RC will maintain its own “cold weather parameter,” which is a term that has not been defined, and according to this language could lead to many different “cold weather parameters” across the country. Many entities participate in multiple regions and could be forced to comply with multiple “cold weather parameters,” which could create a cost and compliance burden. “Cold weather,” “extreme weather conditions,” and “cold weather conditions” should be clearly defined using an objective measure nationwide. ACES suggests using a basis off/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data.

Likes 0

Dislikes 0

Response

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer No

Document Name

Comment

OKGE believes that the proposed changes to TOP-003 R1 (for the TOP) are not necessary. The NERC Functional Model identifies the TOP as responsible for the Real-time operating reliability of the transmission assets under its purview; not the keeper of Generator extreme weather parameters. As such, the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."

As for the question on whether modifications to TOP-003 R2 (for the BA) are required to obtain cold weather parameter, we believe that it is unnecessary given R2 already includes language to specify "the data necessary for it to perform its analysis functions and Real-time monitoring" and Requirement 5 requires all applicable entities to provide the specified data.

The TOP's Emergency Plans should be focused on maintaining the reliability of the Transmission System and responding to Operating Instructions from the BA and the RC, consistent with Recommendation 5 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Part of the language from Recommendation 5: *Balancing Authorities and Transmission Operators should conduct periodic capacity and energy emergency drills simultaneous with transmission emergency drills with their Reliability Coordinators, to ensure readiness, coordination of control room personnel to conduct multiple load-shed-related tasks while continuing to maintain situational awareness, and coordination between additional local control center and field personnel.*

Likes 0

Dislikes 0

Response

Erin Green - Western Area Power Administration - 1,6

Answer No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes 0

Dislikes 0

Response

Glenn Pressler - CPS Energy - 3

Answer No

Document Name

Comment

The proposed changes to TOP-003 R1 (for the TOP) are not necessary. The TOP is responsible for reliability of the transmission assets under its control; not Generator extreme weather parameters. Also not clear how this will help prevent the Texas 2021 event and agree with other's that the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer No

Document Name

Comment

The proposed changes to TOP-003 R1 (for the TOP) are not necessary. The TOP is responsible for reliability of the transmission assets under its control; not Generator extreme weather parameters. Also, not clear how this will help prevent the Texas 2021 event and agree with other's that the

TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."

Likes 0

Dislikes 0

Response

Aaron Staley - Orlando Utilities Commission - 1

Answer

No

Document Name

Comment

I don't believe it is necessary to include the language in TOP-003. EOP-011 requires the BA to plan for cold weather. TOP-003 is to ensure the BA can receive the data it needs and TOP-003 R2 allows the BA to ask for data in addition to the existing sub-parts of R2. TOP-003 purpose does not include prescribing to the BA what data they need, but ensuring they have access to the data they determine they need.

Likes 0

Dislikes 0

Response

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

Yes

Document Name

Comment

The BA is responsible for establishing the next-day dispatch plan and this information would be necessary for them to know which resources are capable to be online during a cold weather event.

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer

Yes

Document Name

Comment

A Balancing Authority is “The responsible entity that integrates resource plans ahead of time, maintains Demand and resource balance within a Balancing Authority Area, and supports Interconnection frequency in real time.” and, as such, have a need for this information.

Likes 0

Dislikes 0

Response**Thomas Foltz - AEP - 5**

Answer

Yes

Document Name

Comment

Yes, we believe an equivalent of TOP-003's R1.3 should be added to R2 within this standard, pertaining to the BA.

Likes 1

Associated Electric Cooperative, Inc., 3, Bennett Todd

Dislikes 0

Response**Todd Bennett - Associated Electric Cooperative, Inc. - 3**

Answer

Yes

Document Name

Comment

Yes, an equivalent of TOP-003's R1.3 should be added to R2 within this standard, pertaining to the BA.

Likes 0

Dislikes 0

Response**Bruce Reimer - Manitoba Hydro - 1**

Answer

Yes

Document Name

Comment

The BA would also need to recognize the parameters, limits, constraints so that they can plan and posture for cold weather operation.

Likes 0

Dislikes 0

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

Yes

Document Name

Comment

The impact of cold weather event could impact BAs as much as the RCs and TOPs. Therefore BAs should also be aware of potential problems with generation not being able to perform due to cold weather and adding a similar requirement to standards for BAs as is proposed for RCs and TOPs would be prudent.

Likes 0

Dislikes 0

Response

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Yes

Document Name

Comment

Similar to what Seattle has discussed above, we recommend that the parameters to be collected and maintained should focus on abnormally cold weather, rather than cold weather in general (to which more than half the continent is subject each year).

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company believes that TOP-003-5 R2 should be modified to match R1 to ensure consistency.	
Likes 0	
Dislikes 0	
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Reasoning - Applicable BA and TOP could be separate registered entities.	
Likes 0	
Dislikes 0	
Response	
Michael Brytowski - Great River Energy - 3	
Answer	Yes
Document Name	

Comment

GRE supports the comments of the NSRF

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer Yes

Document Name

Comment

Texas RE recommends similar parameters be applied to the BA. The BA needs awareness to develop a more complete analysis of projected conditions. Without that awareness, a BA could be not as prepared for its responsibilities to balance generation and load during operations (as has been exhibited during the cold weather events driving these changes.) Texas RE supports changes to TOP-003-5 R2 to match that of R1 to allow all significant parties responsible for Reliable Operations to have the appropriate information to make informed decisions.

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer Yes

Document Name

Comment

Balancing Authority data specification requirements should be within TOP-003 Requirement R2.

Likes 1 Tennessee Valley Authority, 5, Thomas M Lee

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer Yes

Document Name	
Comment	
Utility Services supports the comments posted by the TAPS group.	
Likes 0	
Dislikes 0	
Response	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
As noted in response to Question 4, the BA data specification requirement should be consistent with the TOP and RC requirements.	
Likes 0	
Dislikes 0	
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
The BA data specification requirement should be consistent with the TOP and RC requirements.	
Likes 0	
Dislikes 0	
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	

Comment

Yes, seems this is even more critical to the BA since this cold weather project is focused mostly on generation, directly related to balancing.

However, Black Hills Corporation believes "cold weather parameters" requires further definition - this could be interpreted differently by industries based on location.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

Yes

Document Name

Comment

As noted in response to Question 4, the BA data specification requirement should be consistent with the TOP and RC requirements.

Likes 0

Dislikes 0

Response

Marcus Bortman - APS - Arizona Public Service Co. - 6

Answer

Yes

Document Name

Comment

AZPS agrees that there is BA applicability.

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer

Yes

Document Name	
Comment	
<p>The cold weather parameters of generating units are imperative for BAs to understand and incorporate into their analyses. Limitations on generating units imposed by severe cold weather would impact a BA's ability to execute its function of maintaining the load-generation balance within the BA Area. Establishing specifications for minimum historical performance during cold weather and expected operational limitations due to projected cold weather would assist the BA in its existing requirements under EOP-011 R2.2.3.</p> <p>Additionally, Recommendation 1 in the 2019 FERC and NERC Staff Report identifies the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively.</p> <p>Furthermore, Recommendations 2, 3, and 4 of Project 2019-06 Implementation Plan and the Project Purpose apply to BAs and require that they have similar data specification requirements.</p>	
Likes	0
Dislikes	0
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	
Comment	
<p>The cold weather parameters of generating units are imperative for BAs to understand and incorporate into their analyses. Limitations on generating units imposed by severe cold weather would impact a BA's ability to execute its function of maintaining the load-generation balance within the BA Area. Establishing specifications for minimum historical performance during cold weather and expected operational limitations due to projected cold weather would assist the BA in its existing requirements under EOP-011 R2.2.3. Additionally, Recommendation 1 in the 2019 FERC and NERC Staff Report identifies the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively. Furthermore, Recommendations 2, 3, and 4 of this Project 2019-06 Implementation Plan, and the very purpose of this Project apply to BAs and require that they have similar data specification requirements.</p>	
Likes	0
Dislikes	0
Response	
Wayne Guttormson - SaskPower - 1	
Answer	Yes

Document Name	
Comment	
Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Evergy supports and incorporates by reference Edison Electric Institute's response to Question 7.	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	
Comment	
The Balancing Authority should have a similar requirement for consistency and to perform its analysis during cold weather.	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	

Comment

Similar requirements for parameters consistent with those contained in R1 of TOP-003 and IRO-010 should be contained within R2 of TOP-003 to ensure the BA has the necessary cold weather data to perform their operational and planning responsibilities.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Yes

Document Name

Comment

The BA has a need for this information to perform their responsibilities.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer

Yes

Document Name

Comment

Based on the NERC Reliability Function Model and the tasks that a Balancing Authority (BA) completes, yes, BAs should also be required to maintain cold weather parameters consistent with the Transmission Operator and Reliability Coordinator.

Likes 0

Dislikes 0

Response

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer

Yes

Document Name

Comment

The cold weather parameters of generating units are imperative for BAs to understand and incorporate into their analyses. Limitations on generating units imposed by severe cold weather would impact a BA's ability to execute its function of maintaining the load-generation balance within the BA Area. Establishing specifications for minimum historical performance during cold weather and expected operational limitations due to projected cold weather would assist the BA in its existing requirements under EOP-011 R2.2.3. Additionally, Recommendation 1 in the 2019 FERC and NERC Staff Report identifies the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively. Furthermore, Recommendations 2, 3, and 4 of this Project 2019-06 Implementation Plan, and the very purpose of this Project apply to BAs and require that they have similar data specification requirements.

Likes 0

Dislikes 0

Response**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro****Answer**

Yes

Document Name**Comment**

BA functional entity would require similar weather information to what the TOP would, as the BA too performs a similar analysis and Real-time monitoring in Operations Planning Horizon.

Likes 0

Dislikes 0

Response**Daniel Gacek - Exelon - 1****Answer**

Yes

Document Name**Comment**

Exelon concurs with the EEI comments to Question 7.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0	
Dislikes 0	
Response	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes 0	
Dislikes 0	
Response	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	Yes
Document Name	
Comment	
Yes, PG&E generally supports maintaining cold weather parameters. Additionally, the reference to cold weather parameters may be better aligned with EOP-011-2 by adding extreme weather parameters as well.	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	

A Balancing Authority is “The responsible entity that integrates resource plans ahead of time, maintains Demand and resource balance within a Balancing Authority Area, and supports Interconnection frequency in real time.” and, as such, have a need for this information.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Yes

Document Name

Comment

CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Yes

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee's comments.

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Yes

Document Name

Comment

PJM supports the IRC SRC comments.

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer Yes

Document Name

Comment

ERCOT believes that the BA needs information about generator capability and availability in cold weather; however, ERCOT believes it may be better to state this more directly as a new obligation on the GOP in EOP-011 than as an obligation on RCs and BAs in IRO-010 and TOP-003. As discussed in ERCOT's response to Question 8, the BA, and not the RC, is the appropriate recipient of that information.

Likes 0

Dislikes 0

Response

Kristina Marriott - First Solar, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Erick Barrios - New York Power Authority - 6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thomas Breene - WEC Energy Group, Inc. - 3

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Scott McGough - Georgia System Operations Corporation - 3**

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Justin Welty - NextEra Energy - Florida Power and Light Co. - 6**

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill**

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Matthew Beilfuss - WEC Energy Group, Inc. - 4**

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

W. Dwayne Preston - Austin Energy - 3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Michael Dillard - Austin Energy - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Document Name

Comment

Talen has no comments.

Likes 0

Dislikes 0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

Document Name

Comment

The parameters for the BA should be similar to the TOP. However BA data specification requirements for NIPSCO would likely be covered by MISO via CFR00001

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5

Answer

Document Name

Comment

This question is not clear. Proposals do not require the TOP or RC to maintain a/any Cold Weather parameter(s), i.e. keep/preserve any parameter/data. Proposed modifications do require RCs/TOPs to maintain a data specification that has a provision for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, whether or not RC/TOPs are going to us the data.

Likes 0

Dislikes 0

Response

Don Stahl - Black Hills Corporation - 3

Answer

Document Name

Comment

comments submitted

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF has no comments.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment

DTEE would like to abstain with no comments

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

No Comment

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer

Document Name

Comment

Ameren Agrees with and supports NAGF comments

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute".

Likes 0

Dislikes 0

Response

8. Please provide any additional comments for the SDT to consider, if desired.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Document Name

Comment

ERCOT believes the GOP is the most appropriate provider of information about generator capability and availability during cold weather, and that the appropriate direct recipient of such information is the BA and TOP—not the RC. The BA is already required to have an operating plan and communicate the operating plan to its RC under TOP-002, Requirements R4 and R7. The BA could provide the relevant generator capability and availability information to the RC. Therefore, the Reliability Standards could be revised either to require GOPs to communicate cold-weather generator capability and availability to BAs or TOPs, or else require BAs and TOPs to include provisions for notification of such capability and availability in their data specifications, as described above in response to Question 3.

A GOP requirement to communicate generator capability and availability due to cold weather would be more straightforward than a data specification requirement, and could be included as a new R8 in EOP-011, if the proposed R7 for GOs is adopted. The language of R8 could read as follows:

R8. Each Generator Operator shall notify each impacted Balancing Authority and Transmission Operator of the capability and availability of each of its generating units based on any operating limitations or unit-specific design specifications during actual or anticipated cold weather conditions. [Violation Risk Factor: High] [Time Horizon: Operations Planning, Same Day Operations, and Real-Time Operations]

This change would require extending the applicability of EOP-011 to GOPs.

If the SDT makes any revisions to EOP-011, ERCOT suggests that the word “Operations” be retained in the title of EOP-011 because the standard still addresses implementation of operating plans in real-time operations. The title could be revised to be “Emergency Operations and Preparedness.”

ERCOT recommends that the time horizon for data specifications should be expanded to include the real-time and same-day time horizons.

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer

Document Name	
Comment	
<p>Austin Energy recommends that in section EOP-011-2, 7.3.2.2: GOs should be required to maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Additionally, effort should be made to estimate cold weather performance in the absence of actual data when possible.</p> <p>Recommend</p> <p>7.3 Generating unit(s) cold weather data, to include:</p> <p>7.3.1. Generating unit(s) operating limitations in extreme cold weather; and</p> <p>7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and</p> <p>7.3.3. Generating unit(s):</p> <p>7.3.3.1. minimum and maximum design temperature; or</p> <p>7.3.3.2. minimum demonstrated historical performance during extreme weather;</p>	
Likes	0
Dislikes	0
Response	
Gladys DeLaO - CPS Energy - 1	
Answer	
Document Name	
Comment	
<p>The addition of the phrase "any other" in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 is too general and would make requirement impossible for TOP to comply with.</p>	
Likes	0
Dislikes	0
Response	
Michael Dillard - Austin Energy - 5	
Answer	
Document Name	

Comment

Austin Energy recommends that in section EOP-011-2, 7.3.2.2: GOs should be required to maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Additionally, effort should be made to estimate cold weather performance in the absence of actual data when possible.

Recommend

7.3 Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in extreme cold weather; and

7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.3. Generating unit(s):

7.3.3.1. minimum and maximum design temperature; or

7.3.3.2. minimum demonstrated historical performance during extreme weather;

Likes 0

Dislikes 0

Response

Glenn Pressler - CPS Energy - 3

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 is too general and would make requirement impossible for TOP to comply with.

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Document Name

Comment

In addition to supporting the IRC SRC comments, PJM requests consideration of the following:

- Requesting the Standard Drafting Team to add definitions in the standard to define cold weather (recommend using NOAA data) and extreme weather conditions.
- (Given the long times between generation audit cycles) add an annual / seasonal requirement for Generation Owners to report plans for validation by the host RE/RC/TOP. Include annual spot checks outside audit cycles conducted by the host RC/TOP/RE.
- Future versions of this standard should consider more prescriptive plan standards by unit size, type, and fuel sources.
- Clear reporting, spot checks and auditing standards should accompany the final submittal of this standard to FERC.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee's comments.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Document Name

Comment

CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes 0

Dislikes 0

Response

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)

Answer	
Document Name	
Comment	
<p>SRC further suggests:</p> <ul style="list-style-type: none"> Removal of the word “any” in proposed EOP-011 sub-requirement 1.2.6.2 and 2.2.9.2; and use the wording “other extreme weather conditions”. The concern is the word “any” makes this requirement very broad and open to interpretation. Retain the current title: EOP-011-1 Emergency Operations. This request is due to the required inherent preparedness needed for operations; and R5 and R6 meeting the Time Horizon: Real-Time Operations. Suggest removing “Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather,” from IRO-010 R1.3 and including it in TOP-003. Leaving the IRO-010 R1.3 to state “Provisions for notification of expected BES generating unit operation limitations during local forecasted cold weather.” 	
Likes	0
Dislikes	0
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	
Document Name	
Comment	
<p>Austin Energy recommends that in section EOP-011-2, 7.3.2.2: <i>GOs should be required to maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Additionally, effort should be made to estimate cold weather performance in the absence of actual data when possible.</i></p> <p>Recommend</p> <p>7.3 Generating unit(s) cold weather data, to include:</p> <p>7.3.1. Generating unit(s) operating limitations in extreme cold weather; and</p> <p>7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and</p> <p>7.3.3. Generating unit(s):</p> <p>7.3.3.1. minimum and maximum design temperature; or</p> <p>7.3.3.2. minimum demonstrated historical performance during extreme weather;</p>	
Likes	0

Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	
Document Name	
Comment	
<p>If we assess that the extreme cold weather that could affect our generators is colder than has ever occurred in our region, how much colder would it have to be than the lowest ever temperature (in 20, 30, 50 years?) to excuse us from annual maintenance or checks that do not currently exist in our routines because they are not necessary or viable to do?</p> <p>Are they expecting us to have a different operational plan for cold weather than we have for other extreme weather events since it has been singled out (as opposed to high wind, extreme heat and fire, or excessive rain which are more plausible emergencies in our area).</p> <p>Will they accept a cold weather plan that shows that there has been no issues with the units for all temperatures in history since our water flows continuously on the river and doesn't freeze regardless of temperature... -</p> <p>Requiring training separately is mute if the plan does not identify any issues.....</p>	
Likes 0	
Dislikes 0	
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	
Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	
Likes 0	
Dislikes 0	
Response	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	
Document Name	
Comment	

n/a

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Document Name

Comment

MISO supports the IRC SRC comments

Likes 0

Dislikes 0

Response

Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management

Answer

Document Name

Comment

Miscellaneous comments for extreme cold weather events happen throughout the country in all regions.

Other areas that should be included along with freeze protection:

- Fuel supplies
- Extra backup reserve in place
- Incentives for facilities that ride through extreme cold conditions
 - o extreme cold weather needs to be a defined term

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer	
Document Name	
Comment	
Exelon concurs with the EEI comments to Question 8.	
On Behalf of Exelon, Segments: 1, 3, 5, 6	
Likes 0	
Dislikes 0	
Response	
Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3	
Answer	
Document Name	
Comment	
MidAmerican Energy Company Supports comments submitted by the MRO NERC Standard Review Forum (NSRF)	
Likes 0	
Dislikes 0	
Response	
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	
Document Name	
Comment	
TOP-003-5:	
Under R2, Subpart 2.2, the proposed draft has incorrectly removed notifications of current Protection System status or degradation that impacts System reliability. This should be corrected.	
Any modifications to the NERC Reliability Standards to address cold or other extreme weather conditions should align with the functions laid out in the NERC Functional Model and be consistent with the Recommendations of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Incorporating requirements for functions outside an entity's purview are counterproductive {C}[A1]	

Likes 0

Dislikes 0

Response

Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF

Answer

Document Name

Comment

Requesting a definition of cold weather.

Likes 1

CMS Energy - Consumers Energy Company, 4, Root Aric

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute".

Likes 0

Dislikes 0

Response

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 could make it impossible for entities to comply with. CenterPoint Energy recommends removing this language.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

The drafting team should ensure the new requirements are technology agnostic and apply to all resources necessary to maintain reliability. There have been several SARs lately to address this issue in other standards.

There isn't 'linkage' for the GO facility to go the PC/TP. A PC/TP may add this data into the MOD-032 requirements to plan in the Planning Horizon.

For EOP-011-2

4.2 Facilities:

Recommend the following to give clear guidance to what generators are to be in the GO's cold weather plan (this is currently approved on MOD-025-2).

For the purpose of this standard, the term, “applicable Facility” shall mean any one of the following:

4.2.1, All BES generators. This is a simple and to the point Applicability statement.

Part 1.2.6 Recommend that Part 1.2.6 not be updated as proposed and kept as currently approved in EOP-011-1, since “Reliability impact of extreme weather conditions” covers all weather conditions. Plus, “reliability impacts” are outputs of data that the TOP should be giving in TOP-003.

Part 2.2.9 Recommend that Part 2.2.9 not be updated as proposed and kept as currently approved in EOP-011-1, since “Reliability impact of extreme weather conditions” covers all weather conditions. Plus, “reliability impacts” are outputs of data that the BA should be giving in TOP-003.

Implementation Plan

Please note that Compliance Application Notice [\(CAN\) – 0012](#) is still active and may impact the Implementation Plan. Recommend the Implementation Plan to read:

General Considerations This implementation plan provides that entities shall have twelve months to become compliant with the revised Reliability Standards after the new effective date. And continues to read:

This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities (per IRO-010-4 and TOP-003-5), revised data specifications and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Does FAC-008 need to be modified to call out cold weather ratings?

- - The documentation shall contain assumptions used to rate the generator and at least one of the following:
 - Design or construction information such as design criteria, ratings provided by equipment manufacturers, equipment drawings and/or specifications, engineering analyses, method(s) consistent with industry standards (e.g. ANSI and IEEE), or an established engineering practice that has been verified by testing or engineering analysis.
 - Operational information such as commissioning test results, performance testing or historical performance records, any of which may be supplemented by engineering analyses.

Likes 0

Dislikes 0

Response

Donna Johnson - Oglethorpe Power Corporation - 5

Answer

Document Name

Comment

OPC suggests that training requirements (R7.4) should be added to PER standards versus being scattered within other standard families.

OPC agrees with the NAGF recommendation that R1.2 of EOP-011-2 be supplemented with, "Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components." This

verbiage is drawn from NERC's Reliability Guideline Gas and therefore should not be incorporated in planning models. Examples of such cold weather operating limitations include:

- River ice formations that impact generator water inlets
- Inlet air filters blocked by accumulating/drifting snow

- NG pipeline pressure fluctuations

Likes 0

Dislikes 0

Response

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Document Name

Comment

NV Energy would again like to commend the Cold Weather SDT on the work done for this project, as NV Energy does believe this is a necessary industry requirement, especially given the recent Freeze Event that hit the midwest and Texas. NV Energy just believes some additional clarification is required within the revisions prior to approval.

Likes 0

Dislikes 0

Response

Carl Pineault - Hydro-Quebec Production - 5

Answer

Document Name

Comment

Hydro-Quebec Production has not comments on the proposed changes.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Document Name

Comment

General Comments

The Guidelines and Technical Basis have been removed from EOP-011-2, IRO-010-4, and TOP-003-5 but the Technical Rationale document that retains the rationale for each document has not been posted with the current drafts. Before these Reliability Standards are approved, the Technical Rationale documents should be posted for industry review.

Comments for EOP-011-2

The previous title of EOP-011, Emergency Operations, should be retained or modified to include Preparedness since emergency operations remains the primary focus of this Reliability Standard. (e.g., Emergency Operations and Preparedness)

The Redline now includes a "Facilities" section but only identifies Generating Plants. EOP-011 covers more than Generating Plants and this section should be updated to cover all the facilities that the Reliability Standard covers.

Proposed modifications to Requirement R1, Subpart 1.2.6.2 and R2, Subpart 2.2.9.2 expand the language within the current approved Reliability Standard to address "any other" extreme weather conditions. The inclusion of the phrase "any other" is ambiguous from a compliance perspective. Additionally, the revised language could be read to require Registered Entities to prepare for extreme weather that has no applicability to the region(s) they reside (e.g., hurricane in Montana). EEI recommends clarifying the intent of proposed phrase "any other" in the Requirements R1 and R2 or removing it.

Comments for TOP-003-5

Requirement R2, Subpart 2.2 incorrectly removed notifications of current Protection System status or degradation that impacts System reliability. This should be corrected.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

Document Name

Comment

Please consider using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data to define "cold weather," "extreme weather conditions," and "cold weather conditions".

Thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer

Document Name

Comment

Ameren Agrees with and supports NAGF comments

Likes 0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

Capital Power appreciates the opportunity to participate in NERC's stakeholder consultation process. We recognize the risk that severe weather can have on the grid and appreciate the desire to implement a regulation to mitigate the risk. However, Capital Power believes that EOP-011 R7, as it is currently written, does not set out a clear or measurable path for entities to meet the reliability objective or the stated purpose of EOP-011. Specifically, Capital Power puts forward the following points for the ERO's consideration:

Clarity - R7 requires all applicable generators to develop a cold weather preparedness plan which includes certain defined elements. However, the defined elements are vague and subjective, which could lead to some entities having cold weather preparedness plans that meet the requirement from a compliance perspective, but which do not actually mitigate risk or meet the reliability objective. The Standard Drafting Team (SDT) should consider revising this requirement to align with the reliability objective more clearly. Specific opportunities for clarity include, but are not limited to:

- ‘Cold weather’ needs to be defined: the SDT should consider a definition of Cold Weather to offer entities in diverse geographical areas more definitive criteria.
- Burden of proof – Is the entity obligated to demonstrate through technical evidence (i.e. engineering design study, hardening of equipment) that the winter preparedness plan is effective and / or sufficient to mitigate and prepare for Cold Weather (i.e. mitigates the reliability risk) or is the existence of the principled based plan with the prescribed elements sufficient to meet the compliance requirement?
- If the entity is required to assess and/or harden every critical piece of equipment, the scope of work and associated costs would be significant. Capital Power recommends that GO/GOPs be in charge of determining appropriate cold weather preparedness measures; so long as these measures are documented, the performance of said measures is not currently considered in this principled based standard.
- Extreme weather and natural events are often unpredictable; a plan may not be comprehensive enough to cover every possible scenario, and operational decisions that differ from ‘the plan’ may be necessary in real time. If an entity is required to make decisions that differ from ‘the plan’ in real time, for safety or reliability reasons, they may find themselves out of compliance with the ‘implementation’ of EOP-011 R7. The Standard Drafting Team should consider the addition of an ‘exceptional circumstances’ clause, like the CIP standards.
- Additional clarification re. ‘freeze’ protection on peak / intermittent resources (wind / solar)
- Additional clarification re. maintenance and inspection requirements

Other Considerations:

- **Risk Based** – This requirement has been developed to meet an identified reliability risk; however, for many northern entities, operating in cold weather is standard operating procedure and does not generally equate to an ‘operating emergency’. These entities’ interests align with ensuring that their sites are ‘fit for duty’ in all weather conditions, and EOP-011 R7 would be an administrative exercise that offers little mitigation, given the minimal risk that cold weather poses in northern climates. The SDT should consider revising this requirement such that the applicability of R7 is based on risk at the discretion and /or on the specific request of the appropriate planning entity. For new generation, grid operators could mandate certain levels of cold weather technical requirements, including voltage and frequency requirements, via interconnection agreements.
- **Extreme Weather** - This standard does not currently consider extreme cold weather or extreme heat. Extremes in any direction can pose a risk to even the most prepared generator. The SDT should consider revising the standard to include extreme weather preparedness.
- **Fuel Supply Issues** - This standard does not account for fuel supply issues that can occur during extreme weather and which are, in general, outside of the GO’s control. In extreme natural events (including extreme weather), no matter how prepared the natural gas generator may be, if external NG pipelines freeze or fuel is redirected away from generators, the GO/GOP response options are limited.
- **Synergies** – There are other standards (i.e., MOD, FAC standards) that may require GO/GOPs to provide information about winter / summer operating specifications. The SDT should review standards with potential overlap / redundancies and work to consolidate all cold weather-related data requests into one standard.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI

Answer

Document Name

Comment

RE: EOP-011-2 R1.2.6.2 and R2.2.9.2 “any other extreme weather conditions”: We suggest the removal of the word “any.” The inclusion of the word “any” expresses a lack of restriction and could result in audit and compliance difficulties.

RE: TOP-003-5 R2.2: There appears to be an error in the revision of R2.2. We suggest that R2.2 should read as, "Provision for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability." Instead of "Provisions for notification of current Protection Remedial Action Scheme status or degradation that impacts System reliability."

RE: Guidelines and Technical Basis (GTB) sections of EOP-011, IRO-010, and TOP-003. Technical Rationale documents should be posted for industry review and comment since the GTB sections of EOP-011, IRO-010, and TOP-003 are being removed.

EOP-011-2, R1: *addition for clarification*

1.2.6. *Provisions to determine potential Reliability impacts of:*

Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that a process should be in place to address cold weather and other extreme conditions.

The drafting team should consider revising the use of the term cold weather conditions. Cold weather has different meanings to different locations. The drafting team should consider terms such as "below normal" or a "certain percentile below normal". Also is time a factor, a couple of hours to a couple of days?

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer

Document Name

Comment

What is the reason for removing the Guidelines and Technical Basis from each of these standards?

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

Document Name

Comment

TOP-003-5: Under R2, Subpart 2.2, the proposed draft has incorrectly removed notifications of current Protection System status or degradation that impacts System reliability. This should be corrected.

Any modifications to the NERC Reliability Standards to address cold or other extreme weather conditions should align with the functions laid out in the NERC Functional Model and be consistent with the Recommendations of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Incorporating requirements for functions outside an entity's purview are counterproductive.

Likes 0

Dislikes 0

Response

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb

Answer

Document Name

Comment

Evergy supports and incorporates by reference Edison Electric Institute's response to Question 8.

Likes 0

Dislikes 0

Response

Wayne Guttormson - SaskPower - 1

Answer

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response

Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County

Answer

Document Name

Comment

CHPD supports the efforts of the SDT to address the recommendations identified in the 2019 FERC and NERC staff report. CHPD also remains supportive of the addition of Requirements addressing Cold Weather preparedness however, CHPD has concerns over the language in these proposed revisions maintaining the requirement that all BES generating units would be required to develop and implement cold weather preparedness plans. It is CHPD's opinion that including all BES generating units continues to put an unnecessary compliance burden on the bulk of generating units that already operate reliably in historically cold climates.

CHPD requests the drafting team add language providing an exemption for those units located in historically cold climates that already operate reliably in routinely cold weather regions in order to not divert resources from valuable work in maintaining these generators.

Likes 0

Dislikes 0

Response

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 could make it impossible for entities to comply with. CEHE recommends removing this language.

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 could make it impossible for entities to comply with. Southern Indiana Gas & Electric recommends removing this language.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Marcus Bortman - APS - Arizona Public Service Co. - 6

Answer

Document Name

Comment

AZPS would also like further clarification on the following terms. "Cold weather" is not defined. "Extreme weather conditions" not defined. Is it based on temperature or geography? What is the scope of "cold" and "extreme"?

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

Document Name

Comment

EOP-011 Applicability: To avoid confusion, the SDT should delete the "Facilities" subsection from the Applicability section, and instead replace instances of "generating unit(s)" throughout the standard with "BES generator(s)." For example, the first sentence of Requirement R7 would read "Each Generator Owner shall... implement one or more cold weather preparedness plan(s) for its BES generator(s)." If the SDT nevertheless retains the Facilities subsection, to avoid confusion about whether facilities that do not fit the definition can nevertheless be "generating unit(s)," the subsection should be revised to read "For the purpose of this standard, the term "generating unit" *means* BES generators."

EOP-011 Purpose statement: The proposed purpose statement is unclear. We suggest that it instead read: "To ensure applicable entities have developed plan(s) to prepare and mitigate operating Emergencies."

EOP-011 Requirement R7: Overall, proposed R7 does not state a clear, measurable objective, and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Moreover, because the objective is not clearly stated, there is a significant risk that members of the drafting team or stakeholders are in fact working at cross-purposes due to having differing understandings of the objective.

"Develop, maintain, and implement": The standard should require entities to "implement" a plan, not "develop, maintain, and implement" it. It is impossible to implement a plan without developing and maintaining it; including independent requirements to "develop" and "maintain" the plan simply results in more opportunities for administrative noncompliance, with no benefit to reliability. We recognize that the SDT is using the same language as the existing requirements in the standard, but doing so unnecessarily perpetuates a preexisting mistake; the SDT should instead correct the mistake throughout the standard.

For the sake of clarity, R7.1 should be revised to refer to "specific" rather than "unique" factors: "Generating unit(s) freeze protection measures based on specific factors such as geographical location and plant configuration."

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Finally, with respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, "roles and responsibilities of site personnel" would be "contained in the cold weather preparedness plan." If the objective is for plant operating personnel (i.e. *GOP* personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read "Inform Generator Operator(s) with responsibility for Generator Owner's BES generator(s) of freeze protection measures in place at the applicable

BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment

DTEE supports the comments of the NAGF and would like to add that awareness training is not as effective as formal training. PER-006 was developed for the purpose of having a standard available to include all applicable plant operator training. Also, DTEE requests more information on the definition of “historical performance” as laid forth in EOP-011 R7.3.2.2, IRO-010 R1.3 and TOP-003 R1.3.

Thank you.

Likes 0

Dislikes 0

Response

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer

Document Name

Comment

No comments

Likes 0

Dislikes 0

Response

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer

Document Name

Comment

With respect to EOP-011 R7.3, we suggest removing the requirement to include the cold weather data within the cold weather preparedness plan. Though entities should be required to collect this information, it is administratively burdensome with little to no reliability benefit to include it within the cold weather preparedness plan. Additionally, for entities that use one fleetwide cold weather preparedness plan for multiple generation facilities, putting this information within the cold weather preparedness plan would be very burdensome without additional benefit. We recommend removing 7.3 and its subparts to a new requirement within EOP-011 so that the information is required to be collected, however, it does not have to be within the cold weather preparedness plan.

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

- Black Hills Corporation does not see any reason to further break down EOP-011 R1.2.6 and 2.2.9, Unless they specifically want to ensure that cold weather is addressed, which is fine. For R1.2.6, BHC would like to have some examples of what this might include for the TOP; i.e. tank heaters for SF6 breakers, low Nitrogen on BES transformers
- What exactly are the concerns for the TOP and their equipment specifically related to cold weather that would be associated with extreme weather events?
- If we talk about icing conductors, that’s sort of a different weather extreme than just cold weather.
- Beyond cold weather, are we to address icing, snow, wind, blizzard?
- From a Generator Owner/Operator perspective Black Hills agrees with NAGF question 8 comments

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

Document Name

Comment

EOP-011 Applicability: To avoid confusion, the SDT should delete the “Facilities” subsection from the Applicability section, and instead replace instances of “generating unit(s)” throughout the standard with “BES generator(s).” For example, the first sentence of Requirement R7 would read “Each Generator Owner shall... implement one or more cold weather preparedness plan(s) for its BES generator(s).” If the SDT nevertheless retains the Facilities subsection, to avoid confusion about whether facilities that do not fit the definition can nevertheless

be “generating unit(s),” the subsection should be revised to read “For the purpose of this standard, the term “generating unit” *means* BES generators.”

EOP-011 Purpose statement: The proposed purpose statement is unclear. We suggest that it instead read: “To ensure applicable entities have developed plan(s) to prepare and mitigate operating Emergencies.”

EOP-011 Requirement R7: Overall, proposed R7 does not state a clear, measurable objective, and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Moreover, because the objective is not clearly stated, there is a significant risk that members of the drafting team or stakeholders are in fact working at cross-purposes due to having differing understandings of the objective.

“Develop, maintain, and implement”: The standard should require entities to “implement” a plan, not “develop, maintain, and implement” it. It is impossible to implement a plan without developing and maintaining it; including independent requirements to “develop” and “maintain” the plan simply results in more opportunities for administrative noncompliance, with no benefit to reliability. We recognize that the SDT is using the same language as the existing requirements in the standard, but doing so unnecessarily perpetuates a preexisting mistake; the SDT should instead correct the mistake throughout the standard.

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on specific factors such as geographical location and plant configuration.”

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Finally, with respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. *GOP* personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Answer	
Document Name	
Comment	
<p>We understand the SDT is focusing on requirements for generators to address the first of the FERC recommendations. Following the issues in Texas this winter, as well as the MISO/SPP issues in the winters of 2018/2019, it seems prudent to quickly focus on additional requirements for RC, BA and TOP preparedness, thus addressing the remaining FERC recommendations.</p> <p>Additionally, coordination across critical infrastructure sectors needs to be considered. For example, natural gas firmness, that the natural gas pipelines have “winterization” plans similar to what is being asked for the generators, that capacity values for units is adjusted to winter capabilities (including solar) and if there is alternate fuel back up if gas not sufficient; especially for a multi-day event.</p>	
Likes 0	
Dislikes 0	
Response	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	
Document Name	
Comment	
<p>EOP-011 Applicability: To avoid confusion, the SDT should delete the “Facilities” subsection from the Applicability section, and instead replace instances of “generating unit(s)” throughout the standard with “BES generator(s).” For example, the first sentence of Requirement R7 would read “Each Generator Owner shall... implement one or more cold weather preparedness plan(s) for its BES generator(s).” If the SDT nevertheless retains the Facilities subsection, to avoid confusion about whether facilities that do not fit the definition can nevertheless be “generating unit(s),” the subsection should be revised to read “For the purpose of this standard, the term “generating unit” <i>means</i> BES <i>generators</i>.”</p> <p>EOP-011 Purpose statement: The proposed purpose statement is unclear. We suggest that it instead read: “To ensure applicable entities have developed plan(s) to prepare and mitigate operating Emergencies.”</p> <p>EOP-011 Requirement R7: Overall, proposed R7 does not state a clear, measurable objective, and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Moreover, because the objective is not clearly stated, there is a significant risk that members of the drafting team or stakeholders are in fact working at cross-purposes due to having differing understandings of the objective.</p> <p>“Develop, maintain, and implement”: The standard should require entities to “implement” a plan, not “develop, maintain, and implement” it. It is impossible to implement a plan without developing and maintaining it; including independent requirements to “develop” and “maintain” the plan simply results in more opportunities for administrative noncompliance, with no benefit to reliability. We recognize that the SDT is using the same language as</p>	

the existing requirements in the standard, but doing so unnecessarily perpetuates a preexisting mistake; the SDT should instead correct the mistake throughout the standard.

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on specific factors such as geographical location and plant configuration.”

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Finally, with respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. *GOP* personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF recommends that R1.2 of EOP-011-2 be supplemented with, “Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components.” This verbiage is drawn from NERC’s Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4, https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf)

The NAGF requests that the phrase “any other extreme weather conditions” used in Requirement 1.2.6.2 be clarified or removed.

The NAGF requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) operating limitations in cold weather”. We suggest that NERC specify that this requirement pertains only to known and predictable operating impacts for cold weather that affect plant capacity, start-up, or operational reliability. There are numerous cold weather vulnerabilities that cannot be accurately predicted and therefore should not be incorporated in planning models. Examples of such cold weather operating limitations include:

- River ice formations that impact generator water inlets

- Inlet air filters blocked by accumulating/drifting snow
- NG pipeline pressure fluctuations

The NAGF supports the option of allowing the Generator Owners to provide generator unit minimum design temperature (R7.3.2.1) or minimum demonstrated historical cold weather performance data (R7.3.2.2) as defined in EOP-011. The Reliability Coordinator (RC) and Transmission Operator (TOP) data specification plans need to enable submittal of the generator unit data accordingly.

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer

Document Name

Comment

We are not clear how this proposal is going to result in reliability improvements, only more costs and administrative burdens for everyone, especially our members.

The SDT has not provided any proposed reliability improvements or cost estimates. No mention of improving BA/RC weather/load forecasting during anticipated cold weather periods. No mention of increasing BA/RC controlled reserves for improved reliability, no mention in starting BA/RC controlled generation ahead of time to warm up equipment to improve reliability.

And the proposal does not require TOP or RC to use any data they will be required to obtain from GO/GOPs.

Additionally, the proposals do not require BAs, RCs, or TOPs to learn, or train anyone, on how to use the Cold Weather data that the SDT is proposing they be forced by NERC Standards to request from GO/GOPs.

Likes 0	
Dislikes 0	
Response	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	
Document Name	
Comment	
<p>Please consider using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data to define “cold weather,” “extreme weather conditions,” and “cold weather conditions”.</p> <p>Thank you for the opportunity to comment.</p>	
Likes 0	
Dislikes 0	
Response	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority	
Answer	
Document Name	
Comment	
<p>If the purpose of this project is for TOPs, BAs, and RCs to have awareness of generation operating limits during Cold Weather, there needs to be requirements for TOPs, BAs, and RCs to be trained on what to do with / how to use the information required from the GOs.</p>	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	

Comment

comments submitted

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5

Answer

Document Name

Comment

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on unique specific factors such as geographical location and plant configuration.”

With respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. GOP personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer

Document Name

Comment

Following are comments, suggestions and questions related to EOP-011

Comment 1: Entergy agrees with most of the changes to this standard, except the cold weather parameter (minimum design temp or 5 year average). The minimum design temp. is 32F for all units, but we deploy measures to keep unit on-line at temperatures well below that.

Comment 2:

R7.1 – add “designed” to describe freeze protection measures.. “Generating unit(s) **designed** freeze protection measures based on”. Temporary provisions added to further harden the cold weather capability are not part of the permanent plant configuration and change as conditions at the site vary.

R7.2 – add “designed” to describe freeze protection measures.. “Annual maintenance and inspection of generating unit(s) **designed** freeze protection measures”. Temporary provisions are erected and installed, but do not have annual maintenance. Conversely, temporary provisions typically require frequent inspection, often daily or more.

The point is permanently designed plant equipment is maintained and controlled differently from the temporary provisions needed to operate at freezing conditions and must have different maintenance and inspections applied to ensure the effectiveness. Bear in mind freeze protection measures include more than just heat trace. Permanent equipment design includes doors, door seals, insulation, heaters, intake screens (frazil ice), instrument cabinet heaters, ventilation louvers connected to ambient and heaters near the louvers, design features to protect exposed air systems (ventilation, isophase duct, compressed air) from condensation or icing, dewpoint and moisture monitors, design features to prevent forced draft cooling fan/cooling tower icing, intake water (frazil ice) features, and temperature and wind monitoring. Freeze protection measures also includes temporary structures (tenting), heat lamps, de-icing equipment, and heaters. Finally, systems (e.g. cooling towers) will require specified operating configurations that will change as icing conditions require.

As an example, if the wind was from a specified direction and speed, temperature was within a range favorable for ice accretion, and observations showed ice was forming on the electrical insulators, the plant was required to shut down. To help preclude shutdowns, we installed temporary heat lamps at the base of the insulators. If the temperature dropped enough, ice accretion would not occur. That is why I think it is important to bound and clarify what is meant by “freeze protection measures”.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or

*Is this referring to the lowest **ambient** temperature at which the generating unit can continually operate at full power using permanently installed equipment while not crediting temporarily installed freeze protection measures ?*

It should be noted that the Nuclear BUs are required to adhere to NRC requirements that stipulate operating the plant safely and being able to safely shut down the unit. There could be instances when the NERC standard may conflict with the NRC requirements with regards to the minimum design temperature discussed in 7.3.2.1.

7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years.

Is this referring to minimum ambient temperature that the generating unit successfully operated at full power in each of the previous 5 years while crediting temporarily installed freeze protection measures ?

7.4. Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan.

Is the population of the awareness training limited to those who operate the plant?

What is the required frequency or periodicity of conducting the awareness training?

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE has the following additional comments:

- The SDT should consider adding requirements to perform seasonal studies to assess expected conditions and the impacts of extreme weather or events for these expected conditions. There is currently no analysis required between the near-term transmission planning horizon (one year out) and the OPA/next day Operating Plans. The near-term transmission planning horizon analysis may be performed too far out to incorporate expected conditions, while OPA/next day Operating Plans may be performed too close to Real-time to address identified issues.
- The SDT should consider adding requirements for the PC and TP to collect data related to design specifications and operating limitations and incorporate this data into its planning studies. Due to the nature of issues related to cold weather operating limitations, awareness of these issues is needed as far out as possible to take action to remediate these issues.

Texas RE inquires as to whether the drafting team considered any winter weatherization or extreme weather requirements (for example, a backup generator) for GOPs at Control Centers. For example, do Control Centers over a certain threshold or that operates certain high-risk generators need to have some winter or extreme weather plan to account for thing like loss of power, personnel shortages, water outages, or building damage?

Likes 0

Dislikes 0

Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Document Name

Comment

The drafting team should ensure the new requirements are technology agnostic and apply to all resources necessary to maintain reliability. There have been several SARs lately to address this issue in other standards.

There isn't 'linkage' for the GO facility to go the PC/TP. A PC/TP may add this data into the MOD-032 requirements to plan in the Planning Horizon.

For EOP-011-2

4.2 Facilities:

Recommend the following to give clear guidance to what generators are to be in the GO's cold weather plan (this is currently approved on MOD-025-2).

For the purpose of this standard, the term, “applicable Facility” shall mean any one of the following:

4.2.1, All BES generators. This is a simple and to-the-point Applicability statement.

Part 1.2.6 Recommend that Part 1.2.6 not be updated as proposed and kept as currently approved in EOP-011-1, since “Reliability impact of extreme weather conditions” covers all weather conditions. Plus, “reliability impacts” are outputs of data that the TOP should be giving in TOP-003.

Part 2.2.9 Recommend that Part 2.2.9 not be updated as proposed and kept as currently approved in EOP-011-1, since “Reliability impact of extreme weather conditions” covers all weather conditions. Plus, “reliability impacts” are outputs of data that the BA should be giving in TOP-003.

Implementation Plan

Please note that Compliance Application Notice ([CAN](#)) – 0012 is still active and may impact the Implementation Plan. Recommend the Implementation Plan to read:

General Considerations This implementation plan provides that entities shall have twelve months to become compliant with the revised Reliability Standards after the new effective date. And continues to read:

This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities (per IRO-010-4 and TOP-003-5), revised data specifications and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Does FAC-008 need to be modified to call out cold weather ratings?

- o The documentation shall contain assumptions used to rate the generator and at least one of the following:
- o Design or construction information such as design criteria, ratings provided by equipment manufacturers, equipment drawings and/or specifications, engineering analyses, method(s) consistent with industry standards (e.g. ANSI and IEEE), or an established engineering practice that has been verified by testing or engineering analysis.
- o Operational information such as commissioning test results, performance testing or historical performance records, any of which may be supplemented by engineering analyses.

Likes 0

Dislikes 0

Response

Michael Brytowski - Great River Energy - 3

Answer

Document Name

Comment

GRE supports the comments of the NSRF

GRE is voting negative on the current first draft of the NERC Cold Weather project. This project and associated Reliability Standards will go through several drafts before it is finalized. The NERC standard development process is structured to ensure that industry has quality standards that meet the needs for the reliability planning and Reliable Operation of the North American Bulk Power Systems.

GRE fully supports NERC and the standards drafting team on the current Cold Weather project. The Cold Weather project does not consider the events that occurred in Texas resulting from the recent polar vortex, nor does GRE's position on the first draft of the project reflect GRE's commitment to the development of future cold weather Reliability Standards ensuring the reliability and resiliency of the North American Bulk Power System.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

Document Name

Comment

We are not clear how this proposal is going to result in reliability improvements, only most costs and administrative burdens for everyone, especially our members.

The SDT has not provided any proposed reliability improvements or cost estimates. No mention of improving BA/RC weather/load forecasting during anticipated cold weather periods. No mention of increasing BA/RC controlled reserves for improved reliability, no mention is starting BA/RC controlled generation ahead of time to warm up equipment to improve reliability.

And the proposal does not require TOP or RC to use any data they will be required to obtain from GO/GOPs.

Additionally, the proposals do not require BAs, RCs, or TOPs to learn, or train anyone, on how to use the Cold Weather data that the SDT is proposing they be forced by NERC Standards to request from GO/GOPs.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer

Document Name

Comment

Reclamation does not agree that cold weather should be added universally to reliability standards. Hydroelectric plants have been operating reliably in various extreme temperature bands for over 100 years.

EOP-011 Requirement R7 identifies that Generator Owners shall develop and implement cold weather plans. Reclamation objects to the vague term “cold weather.” The term is subjective and unclear. What may be “cold” in one region may be “normal” in another; what may be “cold” to humans may have no effect on generating equipment. Does “cold weather” involve precipitation, wind, temperature fluctuations, etc.? Reclamation recommends the term “cold weather” be defined in terms of its expected effect on generating equipment to address the objective of the cold weather modifications; that is, preventing weather-related detriments to reliability.

Reclamation recommends the SDT clarify the “cold weather data” identified in Requirement R7.3. What are the requirements for reporting cold weather data? When does the 5-year clock begin? What data is actually required? The language in R7.3.2.2 is more appropriate to be contained in a data specification from a Transmission Operator or Balancing Authority; therefore, Reclamation recommends R7.3.2.2 be deleted from EOP-011 and the language placed in TOP-003.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Document Name

Comment

- The title should be revised from “Emergency Preparedness” to “Emergency Operations and Preparedness” to capture the full scope of EOP-011.
- “Any other extreme weather conditions” in EOP-011 Requirement 1.2.6.2 and 2.2.9.2 should be re-worded to “other extreme weather conditions”. Including the word “any” potentially expands the scope of this project. Additionally, the SDT should provide additional clarification of the meaning of “other extreme weather conditions” in the RSAW.

Likes 0

Dislikes 0

Response

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1

Answer

Document Name

Comment

More specificity is needed in Part 7.3 as to what will be required to show a generators operating limitations in cold weather.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

BPA supports Reclamation's additional comments.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 5

Answer

Document Name

Comment

We are not clear how this proposal is going to result in reliability improvements, only most costs and administrative burdens for everyone, especially our members.

The SDT has not provided any proposed reliability improvements or cost estimates. No mention of improving BA/RC weather/load forecasting during anticipated cold weather periods. No mention of increasing BA/RC controlled reserves for improved reliability, no mention is starting BA/RC controlled generation ahead of time to warm up equipment to improve reliability.

And the proposal does not require TOP or RC to use any data they will be required to obtain from GO/GOPs.

Additionally, the proposals do not require BAs, RCs, or TOPs to learn, or train anyone, on how to use the Cold Weather data that the SDT is proposing they be forced by NERC Standards to request from GO/GOPs.

Likes 0

Dislikes 0

Response

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer

Document Name

Comment

Tacoma Power recognizes that the SAR for Project 2019-06 only authorizes the SDT to consider cold-weather related impacts. However, there are other extreme weather events, like the heat wave event experienced in August 2020 in California, which might warrant a new specific suite of Standard(s) that analyze extreme weather event vulnerabilities of generating units. If the SDT utilizes the model of Project 2013-03 (Geomagnetic Disturbance Mitigation), then it may be easier in the future to include additional extreme weather events in the vulnerability assessments, if needed. This approach (i.e., perform vulnerability assessment, identify risks, communicate results, and then implement corrective actions if needed) could potentially resolve other entity's concerns about EOP-011 R7 requiring unnecessary or not applicable corrective actions. Tacoma Power seeks the SDT's feedback on whether an approach similar to Project 2013-03 is feasible.

If the SDT decides to keep EOP-011 R7 as currently written, then Tacoma Power recommends deleting "Real-Time Operations" from the Time Horizon. None of the R7 sub-parts are related to the identified Time Horizon of Real-Time Operations. These activities are more closely related to the Operations Planning or Long-Term Planning Time Horizons.

Likes 2

Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly

Dislikes 0

Response

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Document Name

Comment

Seattle City Light is prepared to ballot in the affirmative for these Standard revisions once the term "cold weather" is clarified to apply to "abnormally cold weather" and the documentation and annual inspection requirements of EOP-011 likewise are clarified to focus on protections implemented for operation during "abnormally cold weather" and references to "freezing" (which imply a continent-wide definition of what is "cold weather") are deleted.

Likes 0

Dislikes 0

Response

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer	
Document Name	
Comment	
<p>As stated above, WECC recommends that requirements in IRO-008-2 and TOP-002 should be added for RCs, and TOPs to consider upcoming severe weather events in their Operational Planning Analyses. A requirement should also be added for the BAs to be aware of upcoming weather conditions and associated impacts to the generation fleet in their BA area so they appropriate Operating Plans could be developed.</p> <p>In addition, WECC believes that the appropriate winterization requirements for generation units should be coordinated between the Generation Owners, Transmission Planners and Planning Coordinators.</p>	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	
Document Name	
Comment	
<p>With regards to development and implementation of these new requirements, NRG respectfully requests NERC to address the winter preparedness recommendations and remain independent of adequacy issues, where jurisdiction resides with the states.</p>	
Likes 0	
Dislikes 0	
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	
Document Name	
Comment	
<p><i>It is suggested that any NERC/FERC investigation regarding the February 2021 severe cold weather be tracked and recommendations should be incorporated into this project.</i></p> <p><i>The SDT efforts with this project are appreciated</i></p>	
Likes 0	

Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	
Document Name	
Comment	
<p>EOP-011-2, R7.3 - more specificity would be helpful. It's not clear what constitutes "operating limitations".</p> <p>TOP-003-5 says the TOP can ask the GOP for 'expected limitations' during cold weather based on design specifications or historical performance. This sounds like the same requirement of EOP-011-2 to require a cold weather plan that includes cold weather design or historical limitations. The concern is that three different entities (TOP, RC, GOP) are collecting cold weather data. It would make sense to coordinate so the GOP does not have to create three "cold weather plans". These three Standards should make clear there is only one "cold weather plan" required.</p> <p>Same comment for IRO-010 as for TOP-003.</p>	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	
Document Name	
Comment	
<p>Platte River Power Authority requests clarification for EOP-011-2 Requirement R7 Part 7.4 - awareness training on the roles and responsibilities of personnel. The implementation plan states "conduct awareness training on the roles and responsibilities of personnel under Requirement R7 Part 7.4 by the effective date of the Reliability Standard". Does this imply that no refresher or on-going training is required in the Generator Owner's cold weather preparedness plan?</p>	
Likes 1	Platte River Power Authority, 3, Kiess Wade
Dislikes 0	
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	

Document Name	
Comment	
AECI supports the objectives of the project and the drafting team's efforts.	
Likes 0	
Dislikes 0	
Response	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	
Document Name	
Comment	
ISO-NE further suggests:	
<ul style="list-style-type: none"> Removal of the word "any" in proposed EOP-011 sub-requirement 1.2.6.2 and 2.2.9.2; and use the wording "other extreme weather conditions". The concern is the word "any" makes this requirement very broad and open to interpretation. Retain the current title: EOP-011-1 Emergency Operations. This request is due to the required inherent preparedness needed for operations; and R5 and R6 meeting the Time Horizon: Real-Time Operations. Suggest removing "Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather," from IRO-010 R1.3 and including it in TOP-003. Leaving the IRO-010 R1.3 to state "Provisions for notification of expected BES generating unit operation limitations during local forecasted cold weather." 	
Likes 0	
Dislikes 0	
Response	
Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	
Document Name	
Comment	
This continues to be an effort to force every GO to meet requirements that are a problem for a subset of the GO's. Generation plants are built to operate with consideration to certain risks. Those entities that are in areas that may have extreme cold weather problems have chosen to take on that risk by not installing equipment that would protect them during extreme weather events. Windmills and Gas Plants that lack cold weather protection should be encouraged to retrofit, or have plans. Conversely, it is not appropriate to require northern located hydro plants to put shelfware processes in place, and be subject to compliance obligations because some in the industry fail to take reasonable precautions.	

Likes	0	
Dislikes	0	
Response		
Donald Lock - Talen Generation, LLC - 5		
Answer		
Document Name		
Comment		
<p>Talen recommends that R1.2 of EOP-011-2 be supplemented with, "Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components." This verbiage is drawn from NERC's Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4, https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf)</p> <p>The NAGF requests that the phrase "any other extreme weather conditions" used in Requirement 1.2.6.2 be clarified or removed.</p> <p>Talen requests clarification regarding the Requirement 7.3.1 request for "Generating unit(s) operating limitations in cold weather". We suggest that NERC specify that this requirement pertains only to known and predictable operating impacts for cold weather that affect plant capacity, start-up, or operational reliability. There are numerous cold weather vulnerabilities that cannot be accurately predicted and therefore should not be incorporated in planning models. Examples of such cold weather operating limitations include:</p> <ul style="list-style-type: none"> • River ice formations that impact generator water inlets • Inlet air filters blocked by accumulating/drifted snow <p>NG pipeline pressure fluctuations</p>		
Likes	1	Associated Electric Cooperative, Inc., 3, Bennett Todd
Dislikes	0	
Response		
John Allen - City Utilities of Springfield, Missouri - 1,3,4		
Answer		
Document Name		
Comment		

The drafting team should ensure the new requirements are technology agnostic and apply to all resources necessary to maintain reliability. There have been several SARs lately to address this issue in other standards. Perhaps the BES definition could be referenced to establish the scope of resources applicable to the standard.

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Likes 1	Associated Electric Cooperative, Inc., 3, Bennett Todd
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Dislikes 0	
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Response

Kristina Marriott - First Solar, Inc. - 5

Answer	
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Document Name	
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Comment

Does wind and solar differ in these requirements?

We would like some direction on how wind and solar may differ in freeze protection, inspections and maintenance activities in comparison to traditional generation.

Likes 0	
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Dislikes 0	
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Response

Scott McGough - Georgia System Operations Corporation - 3

Answer	
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Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBF03-11-21.docx
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Comment

Likes 0	
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Dislikes 0	
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Response

Comments received from Scott McGough, Georgia System Operations Corporation

Questions:

1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

- Yes
 No

Comments:

- Although requirements R1 and R2 require TOPs and BAs to submit their plans for RC approval, the proposed requirement R7 does not have a corresponding requirement for GOs to submit their plans to the BA or TOP for approval. Such coordination at the BA and TOP area level is critical to ensuring that GO plans are properly evaluated for each of the areas within which its plants operate and well-coordinated with all entities responsible for the overall reliability of the grid. While RCs have ultimate authority and oversight, BAs and TOPs also have obligations to maintain reliability within their areas. The coordination of GO plans with BAs and TOPs as well as RCs during extreme weather events will allow such GO plans to be considered during the operational planning of all responsible entities, ensuring more cohesive, coordinated operational planning between and amongst all responsible entities.
 - To ensure cohesiveness, the training requirements (requirement R7.4) should be added to PER standards versus being scattered within other standard families.
2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

- Yes
 No

Comments:

- New requirement R1.3 feels overly specific and redundant of R1.1. It singles out activities surrounding cold weather, but does not address other extreme weather conditions that could affect grid conditions, e.g., extreme heat, humidity, and rain/wind events. GSOC respectfully suggests that the entire sub-requirement could be more effective as an example listed under R1.1.

3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

- Yes
 No

Comments:

- New requirement R1.3 feels overly specific and redundant of R1.1. It singles out activities surrounding cold weather, but does not address other extreme weather conditions that could affect grid conditions, e.g., extreme heat, humidity, and rain/wind events. GSOC respectfully suggests that the entire sub-requirement could be more effective as an example listed under R1.1

4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

- Yes
 No

Comments:

- Requirements R1.2.6 and R2.2.9 narrowly focus on cold weather amid existing references to extreme weather. While these would be demonstrative as examples, the current structure seems redundant.

5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?

- Yes
 No

Comments:

6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

- Yes
 No

Comments:

7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.

Yes

No

Comments:

8. Please provide any additional comments for the SDT to consider, if desired.

Comments:

Additional remarks on Proposed EOP-011-2

- Cold weather and minimum performance terms are not defined. It is suggested the SDT consider defining both terms to ensure consistent understanding as well as consistent approaches and focus regarding reliability benefits.

Consideration of Comments

Project Name:	2019-06 Cold Weather EOP-011-2, IRO-010-4, TOP-003-5
Comment Period Start Date:	1/27/2021
Comment Period End Date:	3/12/2021
Associated Ballots:	2019-06 Cold Weather EOP-011-2 IN 1 ST 2019-06 Cold Weather IRO-010-4 IN 1 ST 2019-06 Cold Weather TOP-003-5 IN 1 ST

There were 104 sets of responses, including comments from approximately 235 different people from approximately 150 companies representing the 10 Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, contact Vice President of Engineering and Standards [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?
6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Questions

7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.
8. Please provide any additional comments for the SDT to consider, if desired.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
CenterPoint Energy Houston Electric, LLC	Ben Burnett	1	Texas RE	CEHE Project 2019-06 Cold Weather	Daniela Hammons	CenterPoint Energy Houston Electric, LLC	1	Texas RE
					Ben Burnett	CenterPoint Energy Houston Electric, LLC	1	Texas RE
Santee Cooper	Chris Wagner	1		Santee Cooper	Rene' Free	Santee Cooper	1,3,5,6	SERC
					Jennifer Richards	Santee Cooper	1,3,5,6	SERC
					Paul Camilletti	Santee Cooper	1,3,5,6	SERC
					Rodger Blakely	Santee Cooper	1,3,5,6	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					LaChelle Brooks	Santee Cooper	1,3,5,6	SERC
Tennessee Valley Authority	Dennis Chastain	1,3,5,6	SERC	Tennessee Valley Authority	DeWayne Scott	Tennessee Valley Authority	1	SERC
					Ian Grant	Tennessee Valley Authority	3	SERC
					Brandy Spraker	Tennessee Valley Authority	5	SERC
					Marjorie Parsons	Tennessee Valley Authority	6	SERC
Jennie Wike	Jennie Wike		WECC	Tacoma Power	Jennie Wike	Tacoma Public Utilities	1,3,4,5,6	WECC
					John Merrell	Tacoma Public Utilities (Tacoma, WA)	1	WECC
					Marc Donaldson	Tacoma Public Utilities (Tacoma, WA)	3	WECC
					Hien Ho	Tacoma Public Utilities (Tacoma, WA)	4	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Terry Gifford	Tacoma Public Utilities (Tacoma, WA)	6	WECC
					Ozan Ferrin	Tacoma Public Utilities (Tacoma, WA)	5	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Nick Fogleman	Prairie Power Incorporated	1,3	SERC
					Susan Sosbe	Wabash Valley Power Association	3	RF
					Scott Brame	North Carolina Electric	3,4,5	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						Membership Corporation		
					David Hartman	Arizona Electric Power Cooperative	1	WECC
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3		DTE Energy - DTE Electric	Adrian Raducea	DTE Energy - Detroit Edison Company	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
ISO New England, Inc.	Kathleen Goodman	2	NA - Not Applicable, NPCC	Standards Review Committee (SRC)	Ben Li	IESO	2	NPCC
					Greg Campoli	NYISO	2	NPCC
					Matthew Goldberg	ISO-NE	2	NPCC
					Liz Axson	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Mark Holman	PJM	2	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Lincoln Electric System	Kayleigh Wilkerson	5		Lincoln Electric System	Kayleigh Wilkerson	Lincoln Electric System	5	MRO
					Eric Ruskamp	Lincoln Electric System	6	MRO
					Jason Fortik	Lincoln Electric System	3	MRO
					Danny Pudenz	Lincoln Electric System	1	MRO
MRO	Kendra Buesgens	1,2,3,4,5,6	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Christopher Bills	City of Independence Power & Light	3,5	MRO
					David Heins	Omaha Public Power District	3	MRO
					Douglas Webb	Evergy	1,3,5,6	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Jamie Monette	Allete - Minnesota Power, Inc.	1	MRO
					Jodi Jensen	Western Area Power Administration - Upper Great Plains East (WAPA)	1,6	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO
					Matthew Harward	Southwest Power Pool, Inc.	2	MRO
					LaTroy Brumfield	American Transmission Company, LLC	1	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Bryan Sherrow	Kansas City Board Of Public Utilities	1	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	NA - Not Applicable	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Joe DePoorter	Madison Gas and Electric	4	MRO
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC,Texas RE	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Southern Indiana Gas	Leslie Hamby	3,5,6	RF	SIGE Project 2019-06	Erin Spence	Southern Indiana Gas	6	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
and Electric Co.						and Electric Co.		
					Larry Rogers	Southern Indiana Gas and Electric Co.	5	RF
					Ryan Abshier	Southern Indiana Gas and Electric Co.	3	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Public Utility District No. 1 of Chelan County	Meaghan Connell	5		PUD No. 1 of Chelan County	Ginette Lacasse	Public Utility District No. 1 of Chelan County	1	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Glen Pruitt	Public Utility District No. 1 of Chelan County	6	WECC
Northern California Power Agency	Michael Whitney	3		NCPA	Scott Tomashefsky	Northern California Power Agency	4	WECC
					Marty Hostler	Northern California Power Agency	5,6	WECC
					Marty Hostler	Northern California Power Agency	5,6	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Cogentrix Energy Power Management, LLC	Mike Hirst	5	NPCC,RF,SERC	Cogentrix Energy Power Management	Mike Hirst	CEPM	5	NPCC
					Gerry Adamski	Cogentrix Energy Power Management, LLC	5	RF
					Kristy Gedman	CEPM	5	SERC
					Kieth Sebastain	RISEC	5	NPCC
					Justin Castagna	Rumford Power	5	NPCC
					Robert Kulbacki	Effingham County Power	5	SERC
					Phil dooley	Mid-GA Cogen	5	SERC
					Keith Charles	Mid-GA Cogen	5	SERC
					Tom Bartley	EP Mass	5	NPCC
					Alan Douglass	EP Mass	5	NPCC
					Ralph Jones	EP Rocksprings	5	RF
					Kevin Bieu	Tiverton Power	5	NPCC
					Jake Manner	Bridgeport Energy	5	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
					Jim Howell	Southern Company - Southern Company Services, Inc. - Gen	5	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
				Committee no UI	Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Helen Lainis	IESO	2	NPCC
					David Kiguel	Independent	7	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Shivaz Chopra	New York Power Authority	5	NPCC
					Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Cristhian Godoy	Con Ed - Consolidated Edison Co. of New York	6	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					Nurul Abser	NB Power Corporation	1	NPCC
					Randy MacDonald	NB Power Corporation	2	NPCC
					Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
					Vijay Puran	NYSPS	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Quintin Lee	Eversource Energy	1	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Jim Grant	NYISO	2	NPCC
					John Pearson	ISONE	2	NPCC
					John Hastings	National Grid USA	1	NPCC
					Michael Jones	National Grid USA	1	NPCC
					Nicolas Turcotte	Hydro-Quebec TransEnergie	1	NPCC
					Chantal Mazza	Hydro-Quebec	2	NPCC
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Western Electricity Coordinating Council	Steven Rueckert	10		WECC Cold Weather	Steve Rueckert	WECC	10	WECC
					Saad Malik	WECC	10	WECC
					Vic Howell	WECC	10	WECC
					Steve Ashbaker	WECC	10	WECC
					Tim Reynolds	WECC	10	WECC

1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Kristina Marriott - First Solar, Inc. - 5

Answer No

Document Name

Comment

Although we are able to locate and understand our entities requirements, we believe the industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.

Likes 0

Dislikes 0

Response

Thank you for your comment and the SDT understands your concerns. Based on industry comments, the majority of industry did not agree with the development of a new standard. Therefore, the SDT determined the best fit for these modifications is within the three standards (EOP, IRO, and TOP).

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer No

Document Name

Comment

While the proposed change in EOP-011-1 R2.2.9 is acceptable, some of the language in R7 is not. Overall, the requirement language does not state a clear measurable objective and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the [Standards Process Manual](#). Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Additionally, the requirement to “develop and maintain” along with responsibilities to provide awareness training in R7.4 are administrative in nature adding associated costs without commensurate reliability benefit. By requiring the entity to “implement” the plan, it is implied that the plan is developed and maintained and personnel are aware of their roles and responsibilities. This can be confirmed via ERO CMEP activities (internal control evaluations). Therefore, the language changes below are provided for consideration by the 2019-06 SDT. The reliability objective was taken from page 86 of [The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018](#):

*R7. Each Generator Owner shall implement one or more cold weather preparedness plan(s) for its generating unit(s) **to maximize generator output and availability for BES reliability during these conditions**. The cold weather preparedness plan(s) shall include the following, at a minimum*

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures; and

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather; and

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or

7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years;

7.4. DELETED

Likes	1	Associated Electric Cooperative, Inc., 3, Bennett Todd
Dislikes	0	

Response	
<p>Thank you for your comment. The SDT made additional modifications to Requirement R7 within EOP-011-2. The SDT modified the training requirement to better align with the FERC recommendation and decided to retain awareness training based on the importance of “winter-specific and plant-specific awareness training” outlined in “The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018” and has expanded the requirement to include Generator Operators.</p>	
<p>Dylan Sontag - Silicon Ranch Corporation - 1 - SERC</p>	
Answer	No
Document Name	
Comment	
<p>Cold weather operations are heavily weighed into the design phase of the facility and every part of the plant is designed to operate at the lowest ASHRAE temperature expected for the site the facility is constructed at. This may make sense as an evaluation performed once at the beginning of the project to prove that facilities will operate as expected during cold weather, but no special procedures are required to be performed annually and this should not be an annual requirement.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The annual evaluation is only to the extent that specific events of the previous year would alter the cold weather preparedness plan. There is no expectation of a complete design review of the facility or its cold weather plan.</p>	
<p>Laura Nelson - IDACORP - Idaho Power Company - 1</p>	
Answer	No
Document Name	
Comment	

Idaho Power believes this new requirement is quite onerous and will require a large amount of work to complete. Idaho Power has a good handle on how cold weather impacts our facilities and how to respond without adding the additional requirement of a preparedness plan.

The proposed data specifications are extremely work intensive and, in some cases, may not be obtainable. For example, 7.3.2.1. is not something available for some facilities, and obtaining "5 years" of data for 7.3.2.2. is not something readily available for several plants. It could require new systems and additional years of data collection to meet these data requests.

Idaho Power has several questions for NERC to consider going forward:

- 1) Will entities be provided with a procedure detailing how to create this plan, or are entities expected to develop a procedure from scratch?
- 2) Will entities be provided a base template for a plan, or are entities expected to start from scratch?
- 3) How will NERC define the term "cold weather"? The term "cold weather" is too vague without appropriate specificity.

Likes 0

Dislikes 0

Response

The SDT commends your entity for understanding the impact of cold weather on generating facilities including the appropriate response. If this is the case, the conditions listed in R7 should readily be available and previously provided to the respective entities. The importance of minimum design temperature has been stressed in the findings and recommendations resulting from cold weather events of 2011, 2014 and 2018.

Response to Additional Questions:

Question 1 – No, but entities are encouraged to utilize the NERC Reliability Guideline, Generator Unit Winter Readiness – Current Industry Practices, which contains information how to develop an effective cold weather preparedness plan. In addition, the SDT recommends an entity reach out to its respective Regional Entities for assistance and guidance on developing a cold weather preparedness plan.

Question 2 – Entities can refer to the NERC Reliability Guideline, Generator Unit Winter Readiness – Current Industry Practices as a basis for developing a cold weather preparedness plan.

Question 3 – Although “cold weather” related to winter preparedness is generally considered to be ambient temperatures below 32 degrees F or temperatures below the freezing point based on the effects of wind chill, each geographic region or area will be permitted to establish their own interpretation of cold weather based on historical winter weather conditions.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

The SDT understands and appreciates your concerns. As explained in previous responses to industry comments, the extensiveness of each entity’s cold weather preparation plan would be based on their specific geographic area and past cold weather experiences. Also, for those generators that regularly operate in freezing weather, it is assumed that although a formal cold weather preparation plan may not have been established, these facilities already implement the necessary practices to ensure winter readiness.

Thomas Foltz - AEP - 5

Answer No

Document Name

Comment

R7 as currently proposed includes training requirements. NERC has worked hard to eliminate duplicate requirements throughout the standards as this can potentially lead to multiple violations for the same single incident. With the exception of EOP-005 and EOP-006, PER-006 covers training requirements. We believe any new training requirements associated with Cold Weather should be included within PER-006 by revising R1.

In addition, the Rationale for R3 within the Guidelines and Technical Basis section provides insight into the reasoning behind the Operating Plan, and the RC’s review of an entity’s Operating Plan. The SDT may want to consider also adding the Generator Operator as well, as instruction from the Transmission entities would likely involve the Generator Operator.

We also believe there needs to be some clarity within the proposed revisions on what actions the receiving entity should, or perhaps should-not, take as a result of receiving this provided information.

AEP has chosen to vote negative on EOP-011, driven by our concerns stated in the first paragraph above related to training requirements.

Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
Dislikes 0	

Response

The SDT thanks you for your comments and understands your concerns. Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. The Additionally, the SDT modified moved the training requirements by removing it from Requirement R7 and consolidating training awareness into a single requirement in (R8) within EOP-11.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer	No
Document Name	

Comment

EOP-011-1 is applicable to System Operators (TOP, BA, RC). Adding GO applicability to EOP-011-2 with proposed Requirement 7 does not appear to be a good fit. NIPSCO suggests that creating a new standard may be more appropriate here, similar to what was done with EOP-010-1 GMD Operations. (The SDT discussion above regarding a new standard is noted)

Likes 0

Dislikes 0

Response

Thank you for your comment and the SDT understands your concerns. Based on industry comments, majority of industry did not agree with the development of a new standard. Therefore, the SDT determined the best fit for these modifications is within the three standards (EOP, IRO, and TOP).

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer

No

Document Name

Comment

Overall, Tacoma Power supports the efforts of the SDT to address the recommendations identified in the 2019 FERC and NERC Staff Report, and concurs that additional measures are necessary to prevent the repeat cold weather events experienced over the last decade. However, Tacoma Power believes there's a more effective and appropriate strategy to fully address the issues underlying these events.

First, Tacoma Power recommends maintaining the current focus of EOP-011 on Real-Time Operations performed by NERC-Certified System Operators in response to an emergency. The recommendations prescribed in the 2019 FERC and NERC Staff Report are related to long-term planning or normal operation Time Horizons. Both the FAC Standards (Facilities Design, Connections, and Maintenance) and the MOD Standards (Modeling, Data, and Analysis) are better suited to capture Requirements necessary to ensure facilities are adequately designed, maintained, and to perform analysis to confirm generation capacity/capability. Tacoma Power requests clarification from the

SDT as to why maintenance or design changes (e.g. freeze protection measures) are not contained in the FAC or MOD Standards, and how these activities are tied to Real-Time operations performed during an emergency.

As an alternative to adding maintenance and design requirements to EOP Standards, Tacoma Power recommends the SDT approach extreme cold weather events similar to how the industry approached GMD events in Project 2013-03. Instead of prescriptive requirements, the SDT should develop requirements to 1) assess vulnerabilities, 2) communicate results of assessments, and 3) evaluate/identify CAPs, which could include maintenance, design changes, and operating plans. This approach would ensure that vulnerabilities are identified, and only facilities with cold weather vulnerabilities need mitigative actions. These Requirements could be added to a modified MOD-025, which already contains Requirements for GOs to perform testing and studies, or a standalone FAC or MOD Standard. These requirements added to MOD-025 might look like the following:

“RX. Generator Owners shall complete a benchmark Cold Weather Vulnerability Assessment at least once every 60 calendar months. [Violation Risk Factor: High] [Time Horizon: Long-term Planning]

RY. Generator Owners shall communicate to their respective Transmission Planner any vulnerabilities identified in RX that could negatively impact applicable generation facility capacity or availability. [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

RZ. Generator Owners that conclude through the Cold Weather Vulnerability Assessment conducted in Requirement RX that their generation facility has vulnerabilities that could impact generator output and availability during these conditions, shall develop a Corrective Action Plan (CAP) addressing how the vulnerabilities are mitigated. The CAP shall: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

RZ.1 Be developed within one year of completion of the Cold Weather Vulnerability Assessment.

RZ.2 Include necessary maintenance activities, cold weather preparation plans, and freeze protection methods.”

Project 2013-03 also created EOP-010, which provides for the Real-Time response and actions performed by the NERC-Certified System Operators in response to GMD events. Tacoma Power recommends the SDT evaluate EOP-010 and consider utilizing this structure and Requirement language for any new cold weather related EOP Requirements. For example, a new EOP-011 requirement could be worded as follows:

“...RX. Each Transmission Operator shall develop, maintain, and implement a cold weather Operating Procedure or Operating Process to mitigate the effects of extreme cold weather events on the reliable operation of its respective system. At a minimum, the Operating Procedure or Operating Process shall include: [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning, Same-day Operations, Real-Time Operations]...”

Lastly, Tacoma Power does not support adding training requirements to EOP Standards. NERC has worked hard to eliminate duplicate requirements throughout the Standards as this can potentially lead to multiple violations for the same single incident. With the exception of EOP-005 and EOP-006, PER-006 covers training requirements for plant personnel. Tacoma Power recommends moving the EOP-011 Part R7.4 training requirements to PER-006. The purpose of PER-006 is “[t]o ensure that personnel are trained on specific topics essential to reliability to perform or support Real-time operations of the Bulk Electric System.” Training of personnel for cold weather preparedness is essential to reliability and supports real-time operations of the BES. Additionally, PER-006 is applicable to GO personnel and is not related to Operator certifications contained in PER-005 (PER-005 personnel are explicitly excluded in the PER-006 applicability). Therefore, PER-006 is a more appropriate location for this new training requirement than EOP-011, which is focused on NERC-certified System Operator actions during or following an emergency.

In order to incorporate this new GO training requirement to PER-006, Tacoma Power recommends adding a second Requirement and modifying the applicability section, similar to the following:

New PER-006 Requirement:

“R2. Each Generator Operator shall provide training to personnel identified in Applicability section 4.1.1.2 on the roles and responsibilities of site personnel contained in the applicable cold weather preparedness plan. [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]

M2. Each Generator Operator shall have available for inspection, evidence that the applicable personnel completed training. This evidence may be documents such as training records showing successful completion of training that includes training materials, the name of the person, and date of training.”

New PER-006 Applicability:

“4.1.1.2 Plant personnel who are responsible for performing actions contained in the applicable entities cold weather preparedness plan. (Applicable only to R2)”

Likes 2	Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly
Dislikes 0	
Response	
<p>Thank you for your comment. The SDT does not believe maintenance or design changes related to items such as freeze protection measures are appropriate for the FAC standards- such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. The areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.</p> <p>Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. The Additionally, the SDT modified moved the training requirements by removing it from Requirement R7 and consolidating training awareness into a single requirement in (R8) within EOP-11.</p>	
Marty Hostler - Northern California Power Agency - 5	
Answer	No
Document Name	
Comment	
<p>NO.</p> <p>NCPA supports TAPS comments.</p>	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to TAPS.	

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
BPA supports Reclamation's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to Reclamation.	
Erick Barrios - New York Power Authority - 6	
Answer	No
Document Name	
Comment	
<ol style="list-style-type: none"> 1. Our facilities are located in Northeast Region; they are prepared for extreme weather. This would just cause an Administrative redundancy of cold weather plans that already exist and have historically been in place from their initial design. <ul style="list-style-type: none"> o Instead of blanket requirements to address cold weather, possibly develop requirements to 1) assess vulnerabilities based on generator location, 2) communicate results of assessments, and 3) evaluate/identify CAPs, which could include maintenance, design changes, and operating plans. This approach would ensure that all vulnerabilities are captured, and only facilities with cold weather risks need to take mitigative actions. 2. Training requirements belong in the PER Standards and not EOP Standards. Recommend moving R7.4 to PER-006-1. 3. EOP-011 is written for Emergency Operations (recovery and mitigation) and is not written from the perspective of preparing generation facilities for emergencies. 	

4. EOP-011 requirements deal with real-time operations. Requirements that deal with design or maintenance are not real-time measurements.
5. Proposed EOP-011 R7 changes may not address the root cause behind the recent cold weather failures. The cause of these failures is that the generating units were not designed for low frequency high impact weather events.

Likes 1

Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s).

Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Additionally, the SDT moved the training requirements from Requirement R7 into a single requirement in R8 within EOP-11.

Glen Farmer - Avista - Avista Corporation - 5

Answer

No

Document Name

Comment

This requirements implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.

Likes 0

Dislikes	0
Response	
The SDT has lengthened the implementation time to 18 months based on industry comments.	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	No
Document Name	
Comment	
<p>Duke Energy agrees with the placement of cold weather preparedness plan requirements within EOP-011. However, Duke Energy suggests the following EOP-011 clarifications/modifications:</p> <p>(1) Delineate the fact that Generator Owners wouldn't normally communicate with the Balancing Authority or Reliability Coordinator relative to cold weather preparedness plans;</p> <p>(2) Although EOP-011-1 currently contains proposed Requirements R1.2.6.2 and R2.2.9.2 ("any other extreme weather conditions") language, suggest deleting proposed Requirements R1.2.6.2 and R2.2.9.2 and allowing proposed R1.2.6.1 and R2.2.9.1 to serve as the exclusive extreme weather language;</p> <p>(3) Add a provision for the Transmission Operator/Balancing Authority to review the Generator Operator Winter Preparedness Plan;</p> <p>(4) Remove R7.3.2 and subsections. These additional administrative requirements do not improve reliability, and nowhere does it describe how this information will be utilized;</p> <p>(5) The NERC functional entity for "7.4. Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan" should be changed to reflect a GOP responsibility instead of the GO.</p>	
Likes	0
Dislikes	0
Response	

Thank you for your comments. The SDT has taken your comments into consideration and modified substantial portions of the language.

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer No

Document Name

Comment

Reclamation does not agree with the changes to EOP-011 Section 4, Applicability. The purpose of EOP-011 is Emergency Preparedness. Cold weather is seasonal and expected, not an emergency. Hydroelectric generators already have local cold weather plans (e.g., seasonal plants, water restrictions due to temperature, etc.). Reclamation recommends Section 4.2.1 be revised to clarify that the standard does not apply to hydroelectric generators or to certain geographic locations.

Recent events in ERCOT were associated with extreme weather across much of the US; however, only one geographic area experienced a disruption in reliability. The same area was associated with an event 10 years ago (September 2011 Southwest Blackout Event). The recurrence in the same area 10 years later supports the position that FERC is seeking to regulate the entire US on an issue that is specific to geography and type of generation. For the other areas of the country and other types of generators that routinely prepare for and experience cold weather, new requirements to document plans and provide training entail new administrative and financial burdens with low potential for increases to reliability.

Reclamation identifies that the placement of the new requirement in EOP-011 will make EOP-011 newly applicable to many Generator Owners across the nation. No other emergency preparedness requirements are attached to Generator Owners in this standard. The addition of a new standard adds a burden that may not be necessary in light of other standards that already apply to Generator Owners which could be leveraged to accomplish the goal. Reclamation recommends the SDT consider other standards for the Generator Owner cold weather requirements, such as PER standards for the training requirements and PRC standards for the maintenance practices and policies.

Likes 1 Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre

Dislikes 0

Response

Thank you for your comments. Although the SDT understands that cold weather is normally expected, if the proper cold weather preparations are not implemented and maintained, the cold weather can result in an emergency such as those experienced in 2011, 2014, 2018 and the recent issues in Texas. Since some generating facilities have cold weather preparations already in place, those facilities only need to ensure that their existing plans meet the conditions of the revised standard.

Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Additionally, the SDT moved the training requirements from Requirement R7 into a single requirement in R8 within EOP-11.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	No
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Document Name	
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Comment

See TAPS comments.

Likes	0
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Dislikes	0
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Response

Please see the SDT's response to TAPS.

Michael Brytowski - Great River Energy - 3

Answer	No
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Document Name	
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Comment

GRE supports the comments of the NSRF

Likes	0
Dislikes	0
Response	
Please see the SDT's response to NSRF.	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	No
Document Name	Question 1.PNG
Comment	
<p>The MRO NSRF understand the intent of this Project and supports the updating of the three applicable Standards. We are also aware of a reduced timeline to get to a Final Ballot. Our Standard Development Process is so designed for multiple revision of Standards during a Project's life cycle. The MRO NSRF's current set of comments are to assist the Drafting Team in ensuring that an effective and efficient set of updated continent-wide Standards are Results-Based and support the Reliable Operation and resiliency of our BPS during cold weather.</p> <p>All additional Requirements need to state a clear measurable objective in order to meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. The following recommendations should assist the SDT in fulfilling the writing of a results-based standard.</p> <p>The MRO NSRF is pointing out that the Purpose Statement states, "... that Operating Plans are coordinated within a RC Area", which includes the proposed GO plan(s). The currently enforceable EOP-011-1 the TOP (in R1) and the BA (in R2) requires the RC to review and approve those Operating Plans. The proposed plan(s) per R7 (for the GO) does not state that any GO Cold Weather plan is required to be reviewed and approved by the RC. The Purpose Statement needs to be updated to reflect the overall object of ALL the contained Requirements. Recommend that the Purpose Statement simply read as, "To ensure each TOP, BA and GO has developed plan(s) to mitigate operating Emergencies to maintain the adequately level of reliability of the BES", or words of that effect. This simplified Purpose Statement then allows each Requirement to specifically address what is needed to be accomplished to support the adequate level of reliability that is required for BES operations.</p> <p>R7 does not state a clear measurable objective. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Additionally, the requirement to "develop and maintain" along with responsibilities to provide</p>	

awareness training in R7.4 are administrative in nature adding associated costs without commensurate reliability benefit. By requiring the entity to “implement” the plan, it is implied that its developed and maintained and personnel are aware of their roles and responsibilities. This can be confirmed via ERO CMEP activities (internal control evaluations). Therefore, the language changes below are provided for consideration by the 2019-06 SDT. The reliability objective was taken from page 86 of [The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018](#):

R7, The basis of R7 is to have a “preparedness” plan, “preparedness” is defined as “*the quality or state of being prepared*”. This is interpreted as the GO is to have a plan to assist in “starting” only, hence a “preparedness plan”. If this is not the intention, the SDT should clearly state what the intention is.

Part 7.1, Delete “unique factors”. Which is an ambiguous word, recommend using “specific factors”. This implies a clearer objective for each BES generator’s specific configuration.

Part 7.3.1, requires obtaining “operating limitations” and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator’s cold weather data. At the end of 7.3.1 there is an “AND” this should be changed to an “OR”. A GO may have data specified in 7.3.1 and if don’t then they can use 7.3.2 to obtain the generator’s cold weather data via different methods.

Part 7.3, Recommend that within 7.3 (or its replacement), there is an additional part that reads; “Based on engineer analysis to determine minimum cold weather performance”. This wording is currently used in PRC-027-1 supplement material and is a catch all when the GO cannot obtain manufacture cold weather design limitations or temperature(s).

Part 7.3.2.2, Requires a previous (rolling) 5 years of data. Every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. Recommend that “in the previous 5 years” be deleted. This will remove the “rolling” data requirement. The NSRF recommends that a recommended amount of time for past performance be at least five years of cold weather data and this would be published in a Guideline and Technical document.

Part 7.4, Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan. The requirement of awareness training is unclear and not sure how it supports reliability. Since R7 only requires freeze protection measures and annual maintenance and inspection of those freeze protection measures, plus minimum design elements, not sure how awareness training is going to enforce reliability. Being “aware” of something cannot be measured such as training on a task can be measured. So, I can be “aware” that when it is cold outside my generator may not start. Plus, the “awareness” is for the roles and responsibilities of site personnel. I’m sure plant personnel are aware what the plant electrician does, what the control room operator does, etc.

Recommend 7.4 be deleted since it is an administrative element of R7. The use of an ambiguous word like “awareness” will be viewed like “familiar” as in soon to be retired PRC-001-1.1(ii). You cannot measure awareness. With any identification of freeze protection measures within the preparedness plan, they become part of the BES generator. Someone within the applicable entity will be performing an annual inspection (most likely via a checklist) and thus, the freeze protections will perform as designed. Plus, awareness of the freeze protection measures to the GO is fruitless, since they installed the freeze protection measures.

Based on the previous concerns, the NSRF suggests the following changes to R7: (File attached)

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT has taken your comments into consideration and incorporated large portions of them in the revised standards. Please see the updated modifications.

The SDT decided to retain awareness training based on the importance of “winter-specific and plant-specific awareness training” outlined in “The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018” and has modified the training requirement to better align with the FERC/NERF report.

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer

No

Document Name

Comment

The FERC recommendation on training was limited to operators. However, requirement 7.4 in EOP-011 has no such limitation. Please limit the training scope to the FERC recommendation.

“Any other extreme weather conditions” added to sections 1.2.6.2 and 2.2.9.2 in EOP-011 opens up the standard to require addressing any weather condition, e.g. tornados, hurricanes, dust storms, floods, etc. This is not possible to forecast so how is an entity to do this? The concern being addressed is Cold Weather. Please limit the scope to this concern.

In EOP-011, if you have 7.3.1, why do you need to also have 7.3.2? Need to change the “and” in 7.3.1 to an “or”.	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
<p>Thank you for your comments. The SDT modified the training requirement to better align with the FERC recommendation outlined in “The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018.”</p> <p>“Extreme weather conditions” is legacy language applicable to TOP and BA Operating Plans and was not added by this SDT. It should not be impacted by the current modifications.</p>	
Ballard Mutters - Orlando Utilities Commission - 3	
Answer	No
Document Name	
Comment	
<p>For Florida entities it will be challenging to develop cold weather plans with the “cold” weather we experience. See #4 below.</p> <p>Training requirements belong in the PER Standards and not EOP Standards. Recommend moving R7.4 to PER-006-1. EOP-011 is written for Emergency Operations not for preparing generation facilities for emergencies.</p>	
Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
Dislikes 0	
Response	
<p>Thank you for your comments. As explained in previous responses to industry comments, the extensiveness of each entity’s cold weather preparation plan would be based on their specific geographic area, configuration and past cold weather experiences.</p>	

Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Additionally, the SDT moved the training requirements from Requirement R7 into awareness to a single requirement R8 within EOP-11.

Scott McGough - Georgia System Operations Corporation - 3

Answer No

Document Name [2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx](#)

Comment

{C}o {C}Although requirements R1 and R2 require TOPs and BAs to submit their plans for RC approval, the proposed requirement R7 does not have a corresponding requirement for GOs to submit their plans to the BA or TOP for approval. Such coordination at the BA and TOP area level is critical to ensuring that GO plans are properly evaluated for each of the areas within which its plants operate and well-coordinated with all entities responsible for the overall reliability of the grid. While RCs have ultimate authority and oversight, BAs and TOPs also have obligations to maintain reliability within their areas. The coordination of GO plans with BAs and TOPs as well as RCs during extreme weather events will allow such GO plans to be considered during the operational planning of all responsible entities, ensuring more cohesive, coordinated operational planning between and amongst all responsible entities.

{C}o To ensure cohesiveness, the training requirements (requirement R7.4) should be added to PER standards versus being scattered within other standard families.

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see SDT modifications to the TOP and EOP standards.

Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Additionally, the SDT moved the training requirements from Requirement R7 into a single requirement in R8 within EOP-11.

Kayleigh Wilkerson - Lincoln Electric System - 5, Group Name Lincoln Electric System

Answer No

Document Name	
Comment	
Although supportive of the intent of the Cold Weather Project, LES believes additional clarity is needed within EOP-011 R7 for Generator Owners. As such, LES supports the comments provided by the MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	No
Document Name	
Comment	
Cold weather preparedness plans and generating unit cold weather data does not belong in an EOP Standard. Nothing in the proposed Standard is related to operational actions during an Emergency. Currently EOP Standards are applicable to the RC, BA, TOP, and GOPs, introducing the GO changes the nature of the EOP family of Standards. Preparedness plans are more in the nature of preventive maintenance similar the treatment of batteries in the PRC Standards. We recommend including these requirements in the FAC or MOD Standards	
Regarding part 7.3.2.2 , if the GO does not have design data, a previous (rolling) 5 years of data is required. Every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. Recommend that "in the previous 5 years" be deleted. This will remove the "rolling" data requirement. Recommended amount of time for past performance be at least five years of cold weather data and this would be published in a Guideline and Technical document.	
Likes 1	WEC Energy Group, Inc., 5, OBrien Janet
Dislikes 0	

Response

Thank you for your comment. The SDT does not believe maintenance or design changes related to items such as freeze protection measures are appropriate for the FAC standards- such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. As an example, the areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.

The SDT agrees with the removal of “in the previous 5 years” and has removed this language from part 7.3.2.2.

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

See TAPS comments.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to TAPS.

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer No

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes	0
Response	
Please see the SDT's response to TAPS.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
<p>This requirement implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has increased the implementation time to 18 months.	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	No
Document Name	
Comment	
<p>Cold weather preparedness plans and generating unit cold weather data does not belong in an EOP Standard. Nothing in the proposed Standard is related to operational actions during an Emergency. Currently EOP Standards are applicable to the RC, BA, TOP, and GOPs, introducing the GO changes the nature of the EOP family of Standards. Preparedness plans are more in the nature of preventive</p>	

maintenance similar the treatment of batteries in the PRC Standards. We recommend including these requirements in the FAC or MOD Standards.

Part 7.3.2.2, If the GO does not have design data it requires, a previous (rolling) 5 years of data. Every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. Recommend that “in the previous 5 years” be deleted. This will remove the “rolling” data requirement. The NSRF recommends that a recommended amount of time for past performance be at least five years of cold weather data and this would be published in a Guideline and Technical document.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT does not believe maintenance or design changes related to cold weather preparation are appropriate for the FAC standards such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. As an example, the areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.

The SDT agrees with the removal of “in the previous 5 years” and has removed this language from part 7.3.2.2.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to MRO NSRF.

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	No
Document Name	
Comment	
<p>Southern Indiana Gas & Electric Company (SIGE) believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations. The cold weather preparedness plan(s) requirement should not be in any of the EOP standards. EOP standards should remain for emergency events such as blackouts, loss of control center, GMD events, and reporting.</p> <p>The FAC Standards focus on facility design, connections, and maintenance and therefore more applicable for the inclusion of ratings and parameters in which facilities should be operated during hot and cold weather conditions.</p> <p>It is our suggestion to develop a new FAC Standard which covers Generation and TO/TOP Substation Winterization practices and requirements. The new Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations. The current EOP-011 would continue to focus on TOP/BA procedures to mitigate emergency situations, if they arise, including severe weather conditions.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SDT does not believe maintenance or design changes related to cold weather preparation are appropriate for the FAC standards such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. As an example, the areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.</p>	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	No
Document Name	
Comment	

CenterPoint Energy Houston Electric, LLC (CEHE) believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations. The cold weather preparedness plan(s) requirement should not be in any of the EOP standards. EOP standards should remain for emergency events such as blackouts, loss of control center, GMD events, and reporting.

The FAC Standards focus on facility design, connections, and maintenance and therefore more applicable for the inclusion of ratings and parameters in which facilities should be operated during hot and cold weather conditions.

It is our suggestion to develop a new FAC Standard which covers Generation and TO/TOP Substation Winterization practices and requirements. The new Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations. The current EOP-011 would continue to focus on TOP/BA procedures to mitigate emergency situations, if they arise, including severe weather conditions.

Likes	0
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Dislikes	0
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Response

The SDT does not believe maintenance or design changes related to cold weather preparation are appropriate for the FAC standards such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. As an example, the areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.

Wayne Guttormson - SaskPower - 1

Answer	No
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Document Name	
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Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes	0
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Dislikes	0
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Response	
Please see the SDT's response to MRO NSRF.	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	
<p>Santee Cooper supports the efforts of the SDT to address the recommendations identified in the 2019 FERC and NERC Staff Report, and agrees that additional measures are necessary to prevent the repeat cold weather events. Santee Cooper requests further clarification around several of the additional requirements as currently drafted.</p> <p>Santee Cooper recommends that the requirements in EOP-011 remain requirements performed by NERC Certified System Operators in response to an emergency. The new Requirement 7 is related to long-term planning or normal operations. The FAC standards and the MOD standards are better suited to capture Requirements necessary to ensure facilities are adequately designed, maintained, and to perform analysis. Alternatively, a new EOP standard could be created that is solely associated to the GO for these requirements.</p> <p>Santee Cooper requests further clarification on 7.3: For example, if the design temperature is not available and a historical performance has to be utilized does that five years start when the standard becomes effective? There would be a similar concern if a GO doesn't have the design temperature or has not been tracking historical performance versus temperature. This requirement needs to be a phased-in to allow GOs to begin gathering the historical performance of units.</p> <p>Santee Cooper would also like clarification on what data should be collected and included in the historical performance.</p> <p>For R7.4, the PER-006 standard that becomes effective on April 1, 2021 should be revised to include training requirements associated with a GO.</p> <p>Santee Cooper also requests clarification around the awareness training. The implementation plan requires "awareness training on the roles and responsibilities of personnel under Requirement R7 Part 7.4 by the effective date of the Reliability Standard". Is this a one time training that has to be completed prior to the effective date of the standard or is there an expectation that training be provided on a</p>	

routine or periodic basis? It would be helpful if there were some further clarification on what all should be included in the awareness training.

Likes 0

Dislikes 0

Response

The SDT does not believe maintenance or design changes related to cold weather preparation are appropriate for the FAC standards such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. As an example, the areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards. Based on industry comments, majority of industry did not agree with the development of a new standard. Therefore, the SDT determined the best fit for these modifications is within the three standards (EOP, IRO, and TOP).

The SDT removed the 5 year language from the standard. Please see updated modifications.

Regarding data collection in order to demonstrate historical performance, the SDT advises that your facility contact your engineering/performance group for guidance.

Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. The Additionally, the SDT modified moved the training requirements by removing it from Requirement R7 and consolidating training awareness into a single requirement in (R8) within EOP-11.

Regarding the awareness training, it would be up to the entity on how often training would be complete as outlined in the entities cold weather preparedness plan(s).

David Hathaway - WEC Energy Group, Inc. - 6

Answer

No

Document Name

Comment

See Tom Breene's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to Tom Breene.

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

No

Document Name

Comment

NV Energy would like to commend the Cold Weather SDT on the work done for this project, as NV Energy does believe this is a necessary industry requirement, especially given the recent Freeze Event that hit the midwest and Texas.

NV Energy believe the regional guidelines provided by WECC (and potentially other Regional Entities), WECC Extreme Cold Weather Preparation Guideline, provide more sufficient requirements for for generation assets to ensure reliability of Bulk Electric Systems (BES). NV Energy would recommend the SDT review Regional Entity guidelines, and incorporate language to strengthen the compliance requirements.

NV Energy also cannot agree to R7.3.2.2 as currently written, as additional clarity on existing language and concerns with the creation of a rolling 5-year requirement being additional burdensome from an evidentiary standpoint.

NV Energy is unclear on what is expected to show "demonstrated historical performance". An assumption can be made that an Entity would need to show "successful" historical performance, but again, what does that mean: "The unit did not take an outage due to cold weather?", "It ran as expected?", "We did take an outage due to cold weather events, and that is part of the historical performance record, too".

Part 7.3.2.2 as written, creates a rolling timeline for evidence, as it request the previous (rolling) 5 years of data. Thus, every year, the GO will need to update their data to cover the previous 5 years if part 7.3.2.2 is used to gather cold weather data. NV Energy believes that the majority of the data produced for this requirement would ultimately be unnecessary, as the foundation of this requirement is for extreme cold weather events. NV Energy would recommends that “in the previous 5 years” be deleted. This will remove the “rolling” data requirement. And another option would be to request the a finite number of coldest weather days during a finite timeline to review generating unit performance against.

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) The intentions of the cold weather preparedness standard is to supplement the established policies, practices, guidelines and procedures of other organizations such as Regional Entities, ISOs, RTOs, etc. (2) The SDT removed five years from the EOP-011 standard. Please see updated modifications. (3) Demonstrating historical performance would indicate what capacity and how long the unit was able to operate during cold weather conditions.

George Brown - Acciona Energy North America - 5

Answer No

Document Name

Comment

General:

Acciona Energy USA Global, LLC (Acciona) understands the purpose and industry need of Project 2019-06 Cold Weather. The comments provided by Acciona are to ensure the uniqueness of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition are accounted for by the Standards Drafting Team. Giving appropriate consideration for this emerging generation segment will ensure that any new requirements related to cold weather preparedness are performance and capability based, unambiguous and all applicable entities will be able to reasonably implement them, ultimately bolstering the reliability of the BPS during cold weather events.

§4.2. Facilities & Requirement R7. Terminology

Proposed §4.2 is unnecessary and should be removed. According to the NERC Glossary of Terms (GoT): Generator Owner is defined as an Entity that owns and maintains generating Facility(ies). The GoT defines Facility as a set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.). As such, in the proposed Requirement R7. all occurrences of ‘generating unit(s)’ should be replaced with ‘generating Facility(ies)’, which is commonly known term in the industry and is officially defined in the NERC GoT. Additionally, using the term ‘generating Facility(ies)’ in Requirement R7. would remove any ambiguity in regards to what equipment the requirement is applicable to, as ‘generating Facility(ies)’ encompasses all BES Elements required to import/export energy to the Transmission system. Notwithstanding using the term ‘generating Facility(ies)’ would be consistent with terminology in other NERC Standards, such as NERC Reliability Standard FAC-008-3 – Facility Ratings, that may be referenced in association with Requirement R7.

Requirement R7.

Acciona has concerns about the term ‘maintain’. As currently written the term refers to maintaining the cold weather preparedness plan (CWPP). As it relates to CWPP what is the periodicity for maintenance and what should the maintenance include? These are items that need to be defined to ensure consistent implementation and that this is a performance-based requirement.

Requirement R7.1.

Acciona is unclear what Requirement R7.1. is requiring. Acciona believes that Standards Drafting Team (SDT) is requesting Generator Owners (GO) to identify the generation Facility freeze protection measures that if not functioning would impede on the generation Facility(ies) ability to operate to either its minimum design operating temperature or minimum operational temperature based on demonstrated historical performance during cold weather. If this is in fact the case then the GO must first determine the minimum ambient temperature in which the facility can operate at. As currently written this is not a capability-based requirement.

Unique is defined as being the only one of its kind; unlike anything else. Acciona suggests removing the term ‘unique’ as there are probably more ‘common’ factors than ‘unique’ factors as it relates to freeze protection. Acciona believes the term ‘plant configuration’ as it relates to freeze protection is too ambiguous. For the purposes of the cold weather preparedness plan (CWPP) only freeze protections that impede on the generation Facility(ies) ability to operate to its minimum design operating temperature or minimum operational temperature demonstrated by historical performance during cold weather should be in scope. This would ensure that this is a capability-based requirement.

Requirement R7.2.

‘Annual’ is not a defined term, consider using bright line criteria. This would ensure that this is a performance-based requirement.

As stated by the Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team’s white paper: “In some cases, the aggregated capability of the individual generating units may contribute to the reliability of the BPS; as such, there can be reliability benefit from ensuring that certain BES equipment utilized to aggregate the individual units to a common point of connection are operated and maintained as required in PRC-005. When evaluated individually, however, the generating units themselves do not have the same impact on BPS reliability as the system used to aggregate the units. The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility; this would be irrespective to whether the dispersed generation resource became unavailable due to occurrence of a legitimate fault condition or due to a failure of a control system, protective element, dc supply, etc.”

https://www.nerc.com/pa/Stand/Prjct201401StdrdsAppDispGenRes/DGR_White_Paper_v17_clean_01_13_2016_Final_rev1.pdf

For dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, such as wind generation Facilities, each individual generating unit, a single wind turbine generator (WTG), can have many applicable freeze protections, that if not operational, could impede on the WTG’s ability to operate to its minimum design temperature. However, as stated by Project 2014-01 Standards Drafting Team, “The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility;”. Acciona would like to request the Project 2019-06 Cold Weather Standards Drafting Team consider whether Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, considering the precedent set by Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team. If the Project 2019-06 Cold Weather Standards Drafting Team determines that Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, then Acciona would like to suggest Project 2019-06 Cold Weather Standards Drafting Team consider a percentage/time-based approach for the applicable freeze protections installed in an individual generating units of dispersed power producing resources. For example, 20% of the applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on annual basis and 100% applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on a five year basis.

Requirement R7.3.1.

‘Cold weather’ is not a defined term and is interpreted differently depending on a generation Facility(ies) geographic location’s climate. Acciona suggests that ‘operating limitations’ in scope should be the ones that impede on the generation Facility(ies) ability to operate to its minimum design operating temperature or minimum operational temperature demonstrated by historical performance during cold weather. This would ensure that this is a capability-based requirement.

Requirement R7.3.2., 7.3.2.1. & 7.3.2.2.

Acciona suggests using the term ‘minimum design operating temperature’ and ‘minimum demonstrated operating temperature’ in R7.3.2.1. & R7.3.2.2, respectively. This would ensure that only the minimum ambient temperature that would impede on the generation Facility(ies) ability to operate are in scope. Using this also ensures only freeze protections and operating limitations that would impede on the generation Facility(ies) ability to operate to its minimum design operating temperature or minimum operational temperature demonstrated historical performance during cold weather should be in scope.

Requirement R7.4.

Acciona is recommending the removal of this Requirement R7.4. as it does not provide a performance, risk, and competency-based reliability requirement that support an effective defense-in-depth strategy nor does it identify a clear and measurable expected outcome. As stated in Requirement R7. the cold weather preparedness plan (CWPP) must be ‘implemented’. It is inherent that to ‘implement’ the CWPP site personnel would already be required, either directly or indirectly, to be aware of the required task. For example, Requirement R7.2. requires annual maintenance and inspection of freeze protections to be a part of the CWPP. Therefore, for a Generator Owner (GO) to successfully implement its CWPP qualified site personnel would need to perform the annual maintenance and inspection of freeze protections, which makes them aware of their roles & responsibilities as related to the CWPP.

Acciona suggests the following language based on the aforementioned comments:

R7. Each Generator Owner shall develop, maintain, and implement one or more documented cold weather preparedness plan(s) for its generating Facility(ies) as follows:

7.1. The cold weather preparedness plan(s) shall include the following, at a minimum:

7.1.1. generation Facility(ies) cold weather data including:

7.1.1.1. minimum design operating temperature; or

7.1.1.2. minimum demonstrated operating temperature based on historical performance during the coldest weather periods in the previous 5 years; and

7.1.1.3. generation Facility(ies) operating limitations that would prevent the generation Facility(ies) from operating to the temperatures identified in R7.1.1.1. or 7.1.1.2.;

7.1.2. the generation Facility(ies) freeze protection measures that allow the generation Facility(ies) to operate to the temperatures identified in R7.1.1.1. or 7.1.1.2.;

7.2. At least once per calendar year and with no more than 15 calendar months between, Generator Owners shall review the cold weather preparedness plan(s);

7.3. At least once per calendar year and with no more than 15 calendar months between, Generator Owners shall perform maintenance and inspection of generating Facility(ies) freeze protection measures as identified in Requirement R7.1.2.

7.3.1 Freeze protection measures as identified in Requirement R7.1.2. that are physically located in the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition shall be maintained and inspected as follows:

~ 20% of the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition located at a single generation Facility shall have 100% of each individual generating units freeze protection measures as identified in Requirement R7.1.2. maintained and inspected at least once per calendar year and with no more than 15 calendar months between; and

~ 100% of the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition located at a single generation Facility shall have 100% of each individual generating units freeze protection measures as identified in Requirement R7.1.2. maintained and inspected at least once per rolling 60 calendar month period.

(Please note Requirement R7.3.1. is suggested language only if Project 2019-06 Cold Weather Standards Drafting Team determines that Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition)

Likes 0

Dislikes	0
Response	
<p>Thank you for your comments. The purpose statement has been updated to reflect the new requirements for EOP-011-2. Please see the updated modifications to the EOP-011-2 standards, which address some of your concerns.</p> <p>Based on much deliberation over the term generating Facility, the SDT determined generating units is the appropriate facility term for the EOP-011 standard. Lastly, the SDT is not defining cold weather as a glossary term. This will be defined with your cold weather preparedness plan based on geographical regions.</p>	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	No
Document Name	
Comment	
<p>MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.</p>	
Likes	0
Dislikes	0
Response	
<p>Please see the SDT's response to MRO NSRF.</p>	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	

CenterPoint Energy believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations. The cold weather preparedness plan(s) requirement should not be in any of the EOP standards. EOP standards should remain for emergency events such as blackouts, loss of control center, GMD events, and reporting.

The FAC Standards focus on facility design, connections, and maintenance and therefore more applicable for the inclusion of ratings and parameters in which facilities should be operated during hot and cold weather conditions.

It is our suggestion to develop a new FAC Standard which covers Generation and TO/TOP Substation Winterization practices and requirements. The new Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations. The current EOP-011 would continue to focus on TOP/BA procedures to mitigate emergency situations, if they arise, including severe weather conditions.

Likes	0
Dislikes	0

Response

Thank you for your comments. Although the SDT understands that cold weather is normally expected, if the proper cold weather preparations are not implemented and maintained, the cold weather can result in an emergency such as those experienced in 2011, 2014, 2018 and the recent issues in Texas.

The SDT does not believe maintenance or design changes related to cold weather preparation would be appropriate to be included in the family of FAC standards since areas such as freeze protection measures focus on the boiler, support systems, and balance of plant which is outside the scope and intentions of the FAC standards. In addition, majority of industry agreed with EOP-011 to be the right location for these requirements.

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer	No
Document Name	

Comment

The term “cold weather” can have varied interpretation across the continent. The use of “any other” to extreme weather conditions in addition to “cold weather conditions” within the provisions of proposed R1.2.6 and R2.2.9 provisions of the Standard implies that cold weather is an extreme weather condition. BC Hydro operates many months of the year in cold weather conditions, which are not considered abnormal nor they result in operating Emergencies subject to EOP-011. If the “cold weather” term will become part of EOP-011, BC Hydro recommends that a clarification/definition within the context of extreme weather conditions be also developed.

The requirements for Generator Owner cold weather preparedness plans as drafted in Requirement R7 include provisions for freeze protection measures (R7.1), maintenance (R7.2), training (R7.4). BC Hydro’s view is that such provisions are better suited to appropriate Facility maintenance and/or design, and personnel training standards. BC Hydro recommends that EOP-011 do not include GO-applicable preparedness plans and that EOP-011 remain applicable to BA, RC and TOP functional entities.

BC Hydro Generation equipment are mostly physically located inside in climate controlled buildings. The equipment located in the switchyard outside of the building and which are exposed to weather conditions, are managed by Generator Owner and Transmission Owner functional entities. BC Hydro recommends that SDT considers applicability of the proposed cold weather preparedness plan(s) to the Transmission Owner functional entity.

Likes	0
Dislikes	0

Response

Thanks for your comments. The SDT has stated in previous responses to industry, that although a definition of “cold weather” was suggested, it would be very difficult to develop a consistent and acceptable term since there are different interpretations across the ERO and varying weather conditions.

The SDT does not believe maintenance or design changes related to cold weather preparation would be appropriate to be included in the family of FAC standards since areas such as freeze protection measures focus on the boiler, support systems, and balance of plant which is outside the scope and intentions of the FAC standards. In addition, majority of industry agreed with EOP-011 to be the right location for these requirements.

The SDT determined to focus on the findings and recommendations of the South Central Cold Weather Event report which did not identify significant issues and concerns with Transmission Owners.

Erin Green - Western Area Power Administration - 1,6	
Answer	No
Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT response to Western Area Power Administration, Sean Erickson, Segment 1.	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
<p>The EOP-011 should remain for emergency operation events, such as blackouts, and procedures to mitigate emergency situations, if they arise. These procedures would include emergency events following severe weather conditions. Winterization preparedness and practice requirements should be defined under FAC Standards or a new EOP specific for cold weather events. Adding 1.2.6 and 2.2.9 just seems like a redundant way to add something specific for the cold weather event issue, where do you stop?.</p> <p>Would be supportive of GO cold weather requirements, such as redlined in EOP-011, however concerns with some of the existing redline wording includes:</p> <p>R7.1 – the word “unique” is ambiguous. Suggest factual measure based on factual numbers and historical possible temperatures.</p> <p>R7.3.2.1 and R7.3.2.2 – the minimum design temp or the 5-years reference is not sufficient to protect against what happened in the Texas 2021 event. Would need 100+ year worst imaginable wording to even get close to providing protection.</p>	

Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Although the SDT understands that cold weather is normally expected, if the proper cold weather preparations are not implemented and maintained, the cold weather can result in an emergency such as those experienced in 2011, 2014, 2018 and the recent issues in Texas</p> <p>The SDT does not believe maintenance or design changes related to cold weather preparation would be appropriate to be included in the family of FAC standards since areas such as freeze protection measures focus on the boiler, support systems, and balance of plant which is outside the scope and intentions of the FAC standards.</p> <p>Please see the modifications made by the SDT, by removing the 5-year reference.</p>	
Gladys DeLaO - CPS Energy - 1	
Answer	No
Document Name	
Comment	
<p>The EOP-011 should remain for emergency operation events, such as blackouts, and procedures to mitigate emergency situations, if they arise. These procedures would include emergency events following severe weather conditions. Winterization preparedness and practice requirements should be defined under FAC Standards or a new EOP specific for cold weather events. Adding 1.2.6 and 2.2.9 just seems like a redundant way to add something specific for the cold weather event issue, where do you stop?.</p> <p>Would be supportive of GO cold weather requirements, such as redlined in EOP-011, however concerns with some of the existing redline wording includes:</p> <p>R7.1 – the word “unique” is ambiguous. Suggest factual measure based on factual numbers and historical possible temperatures.</p> <p>R7.3.2.1 and R7.3.2.2 – the minimum design temp or the 5-years reference is not sufficient to protect against what happened in the Texas 2021 event. Would need 100+ year worst imaginable wording to even get close to providing protection.</p>	

Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Although the SDT understands that cold weather is normally expected, if the proper cold weather preparations are not implemented and maintained, the cold weather can result in an emergency such as those experienced in 2011, 2014, 2018 and the recent issues in Texas</p> <p>The SDT does not believe maintenance or design changes related to cold weather preparation would be appropriate to be included in the family of FAC standards since areas such as freeze protection measures focus on the boiler, support systems, and balance of plant which is outside the scope and intentions of the FAC standards.</p> <p>The SDT removed the 5-year reference from EOP-011.</p>	
Janet OBrien - WEC Energy Group, Inc. - 5	
Answer	No
Document Name	
Comment	
Support comments submitted by Tom Breene of WEC Energy Group.	
Likes	0
Dislikes	0
Response	
Please see the SDT response to Tom Breene of WEC energy Group.	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	

Comment

Talen agrees with placement of the new Generator Owner cold weather preparedness plan(s) requirement in the EOP-011 standard.

Likes 0

Dislikes 0

Response

Thank you for your support.

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer

Yes

Document Name

Comment

ISO New England (ISO-NE) supports the inclusion of these requirements in EOP-011; however, recommends the SDT now consider including provisions for non-BES Generators aggregated at a BES station as being included in the NERC Compliance Enforcement Program.

We also offer additional comments for EOP-011:

EOP-011, 3. Purpose expand to include the Generator Operator function as follows:

Purpose: To ensure each Transmission Operator, Balancing Authority, Generator Owner and Generator Operator has developed plan(s) to mitigate and prepare for operating Emergencies; and that Transmission Operator and Balancing Authority Operating Plans are coordinated within a Reliability Coordinator Area.

EOP-011, 4. Applicability expand to include the Generator Operator as one of the Functional Entities.

EOP-011-2, R1: addition for clarification

1.2.6. Provisions to determine potential Reliability impacts of:

Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that that a process should be in place to address cold weather and other extreme conditions.

EOP-011-2, R7: Just as TOPs and RCs (in R1 and R2) "shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analysis, Real-time monitoring, and Real-time Assessments", GOs should be required to provide the information that is requested by the TOP and RC.

We also recommend the SDT consider the below modifications to R7 (some of which are from ISOs that have such mitigation/requirements in-place due to previous experience), including a recommendation to provide a clear, measurable objective for Part 7.1. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit.

R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s)

7.1.1 provisions to include the impact of precipitation (e.g. sleet, snowpack)

7.2 Annual maintenance and inspection of freeze protection measures; and

7.3. minimum design temperature or minimum demonstrated historical performance during cold weather in the previous 5 years or maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Such Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in extreme cold weather; and

7.3.2. Generating unit(s) operating limitations in extreme hot weather; and

7.3.3. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.4. Generating unit(s):

7.3.4.1. minimum and maximum design temperature; or

7.3.4.2. minimum demonstrated historical performance during extreme weather;

R8. Each Generator Operator shall develop, maintain, and implement one or more cold weather preparedness plan(s) for the generating Facility(ies) it operates. The cold weather preparedness plan(s) shall include the following at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

8.1. Awareness training on the detailed roles and responsibilities of site personnel contained in the cold weather preparedness plan, including notifications to BAs/RCs/TOPs regarding generator availability and operating limitations during extreme weather.

ISO-NE recommends the SDT consider adding frequency and timing for the training requirement, such as “Annual” and “within 60 days of the start of the season.”

ISO-NE recommends adding provisions for the reliability impacts of hot weather as a separate numbered item. Cold weather is being addressed in this Standard update, but hot weather considerations as well as impacts of extreme precipitation events are similarly important to monitor and understand. Implementing cold weather requirements now and waiting for a hot weather event to implement hot weather requirements may be a mistake.

ISO New England (ISO-NE) supports the inclusion of these requirements in EOP-011; however, recommends the SDT now consider including provisions for non-BES Generators aggregated at a BES station as being included in the NERC Compliance Enforcement Program.

We also offer additional comments for EOP-011:

EOP-011, 3. Purpose expand to include the Generator Operator function as follows:

Purpose: To ensure each Transmission Operator, Balancing Authority, Generator Owner and Generator Operator has developed plan(s) to mitigate and prepare for operating Emergencies; and that Transmission Operator and Balancing Authority Operating Plans are coordinated within a Reliability Coordinator Area.

EOP-011, 4. Applicability expand to include the Generator Operator as one of the Functional Entities.

EOP-011-2, R1: addition for clarification

1.2.6. Provisions to determine potential Reliability impacts of:

Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that that a process should be in place to address cold weather and other extreme conditions.

EOP-011-2, R7: Just as TOPs and RCs (in R1 and R2) "shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analysis, Real-time monitoring, and Real-time Assessments", GOs should be required to provide the information that is requested by the TOP and RC.

We also recommend the SDT consider the below modifications to R7 (some of which are from ISOs that have such mitigation/requirements in-place due to previous experience), including a recommendation to provide a clear, measurable objective for Part 7.1. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit.

R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s)

7.1.1 provisions to include the impact of precipitation (e.g. sleet, snowpack)

7.2 Annual maintenance and inspection of freeze protection measures; and

7.3. minimum design temperature or minimum demonstrated historical performance during cold weather in the previous 5 years or maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Such Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in extreme cold weather; and

7.3.2. Generating unit(s) operating limitations in extreme hot weather; and

7.3.3. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.4. Generating unit(s):

7.3.4.1. minimum and maximum design temperature; or

7.3.4.2. minimum demonstrated historical performance during extreme weather;

R8. Each Generator Operator shall develop, maintain, and implement one or more cold weather preparedness plan(s) for the generating Facility(ies) it operates. The cold weather preparedness plan(s) shall include the following at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

8.1. Awareness training on the detailed roles and responsibilities of site personnel contained in the cold weather preparedness plan, including notifications to BAs/RCs/TOPs regarding generator availability and operating limitations during extreme weather.

ISO-NE recommends the SDT consider adding frequency and timing for the training requirement, such as “Annual” and “within 60 days of the start of the season.”

ISO-NE recommends adding provisions for the reliability impacts of hot weather as a separate numbered item. Cold weather is being addressed in this Standard update, but hot weather considerations as well as impacts of extreme precipitation events are similarly important to monitor and understand. Implementing cold weather requirements now and waiting for a hot weather event to implement hot weather requirements may be a mistake.

Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The NERC Standards only apply to BES generation. Please see the updated modifications to EOP-011 incorporating some of your comments regarding a new requirement R8 to address awareness training. The provisions of the SAR were only to address the findings and recommendations from the South Central Cold Weather Event, and the SAR scope is limited to cold weather.</p>	
<p>Todd Bennett - Associated Electric Cooperative, Inc. - 3</p>	
Answer	Yes
Document Name	
Comment	
<p>While the proposed change in EOP-011-1 R2.2.9 is acceptable, some of the language in R7 is not. Overall, the requirement language does not state a clear measurable objective and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Additionally, the requirement to “develop and maintain” along with responsibilities to provide awareness training in R7.4 are administrative in nature adding associated costs without commensurate reliability benefit. By requiring the entity to “implement” the plan, it is implied that the plan is developed and maintained and personnel are aware of their roles and responsibilities. This can be confirmed via ERO CMEP activities (internal control evaluations). Therefore, the language changes below are provided for consideration by the 2019-06 SDT. The reliability objective was taken from page 86 of The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018:</p> <p><i>R7. Each Generator Owner shall implement one or more cold weather preparedness plan(s) for its generating unit(s) to maximize generator output and availability for BES reliability during these conditions. The cold weather preparedness plan(s) shall include the following, at a minimum</i></p> <p><i>7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;</i></p> <p><i>7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures; and</i></p>	

7.3. *Generating unit(s) cold weather data, to include:*

7.3.1. *Generating unit(s) operating limitations in cold weather; and*

7.3.2. *Generating unit(s):*

7.3.2.1. *minimum design temperature; or*

7.3.2.2. *minimum demonstrated historical performance during cold weather in the previous 5 years;*

7.4. **DELETED**

Likes 1	Sho-Me Power Electric Cooperative, 1, Dawson Peter
Dislikes 0	

Response

Thank you for your comments. The SDT understands your concerns and has modified the training requirements and consolidated the training requirements to a single requirement within EOP-11. The SDT does not agree with deleting awareness training based on the importance of “winter-specific and plant-specific awareness training” outlined in “The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018”.

Bruce Reimer - Manitoba Hydro - 1

Answer	Yes
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Document Name

Comment

Why is there a need to specifically identify cold weather events here? The current standard states that "Reliability impacts of extreme weather conditions." shall be considered when building Emergency Plans. Will extreme heat, or drought be added in the future as well? Is this being suggested since regions that do not typically experience cold weather events were recently impacted and had not considered them during their plan development? Would it not be better to leave the statement as is, and provide examples of each type of

event? i.e. 1.2.6. Reliability impacts of extreme weather conditions, such as ice/snowstorms, heat wave, drought, heavy rains, flooding, earthquakes, wind events, landslides, tsunami, etc.?

Likes 0

Dislikes 0

Response

Thank you for your comments. Cold weather events are specifically identified to ensure that the responsible functional entities direct their efforts to this type of weather condition. Although it is understood that extreme weather conditions may include situations such as extreme heat, drought, hurricanes, etc., weather conditions additional to cold weather are outside the scope of the SAR. The extreme events language within the requirement is legacy language and not changes have been made to impact it.

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

Yes

Document Name

Comment

We agree with the requirement, however we believe that there should be coordination between Generation Owners, Transmission Planners and Planning Coordinators on the appropriate level of winterization requirements and minimum design temperature requirements. Transmission Planners and Planning Coordinators have the visibility of the entire generation fleet within their area and therefore, should have the ultimate responsibility to set the appropriate minimum design, operating and cold start temperature requirements for the Generator Owners.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SAR scope identifies the Generator Owner, Generator Operator, Reliability Coordinator, Balancing Authority, and Transmission Operator as impacted functional entities based on the FERC Report and industry feedback during the SAR's development.

Minimum design temperature of a generating unit is initially established by the engineering firm that designed the facility. The Generator Owner needs to ensure that are aware of the minimum design temperature and maintain the facility so that it can operate at this temperature. Likewise, only the Generator Owner can determine the operating and cold start temperatures based on actual operating data, testing and analysis. For each of these cases, the temperatures should be provided to the entities which request this information.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer Yes

Document Name

Comment

Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to a Standard, it should be replaced with the term “abnormally cold weather.”

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT considered your suggestion regarding “abnormally cold weather” when revising EOP-011. The standard is intended to cover cold weather; and abnormally cold weather could be considered a sub-set of cold weather or an extreme weather condition which the BA already covers in its Emergency Operating Plan under EOP-011.

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
<p>Many generating units exist in tropic/subtropic parts of the US where the proposed cold weather requirements are much more burdensome than necessary. Of course, the proposed change recognizes this in Part 7.1 when discussing “<i>unique factors such as geographical location</i>”. However, the proposed change continues to require identification of “<i>generating unit operating limitations in cold weather</i>” (Part 7.3.1) regardless of whether the generating unit is located in a geographical location where cold weather requirements are minimal or non-existent. The section should include specificity as to what geographic areas would require addressing parts 7.2, 7.3, and 7.4.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comments. Although a geographic area may not normally experience cold weather, unusual changes in weather patterns, such as the Polar Vortex, may periodically occur which prevents the SDT from adding specificity to the standard.</p>	
<p>Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company</p>	

Answer	Yes
Document Name	
Comment	
<p>Southern Company agrees that EOP-011 is the best fit for this new cold weather preparedness plan requirement. Southern Company offers the following suggestions for the SDT.</p> <ol style="list-style-type: none"> 1. Revise the wording of proposed requirement 7.3.2.2 <ol style="list-style-type: none"> a. The current wording is not specific enough on what data is being asked for (Temperature, operational limitations, etc.). b. Additionally, as currently written, the GO could provide the minimum design temperature or the unit’s minimum demonstrated historical performance within the last 5 years. If the historical performance within the last five years is significantly higher than the design temp, and this number is the one provided to the RC/BA, it could cause the RC/BA to be overly conservative. For example, a unit provides a demonstrated historical performance in the last 5 years of 25 degrees, however the unit has a design temperature of 15 degrees, but since the RC/BA only has the 25 degree data point, they are overly conversative/cautious in their system setup since they do not know the unit’s full capabilities (designed to 15 degrees). c. Suggest re-wording to “If design temperature is not available, the minimum historical temperature in cold weather in the previous 5 years in which the unit has demonstrated full output operation”. 2. Discuss moving proposed requirement 7.4 to PER-006 <ol style="list-style-type: none"> a. Would ensure consistency as PER-006’s Purpose is “to ensure that personnel are trained on specific topics essential to reliability to perform or support Real-time operations of the Bulk Electric System.” Comment is intended to capture the GO/GOP training requirements in regards to this cold weather standard only, and not to reflect GO/GOP attendance at other training outlined in PER-006. b. Would require that the GO be added to the Applicability of PER-006 if moved c. Would require that the Functional Entity language (specifically existing GOP language) be revisited to ensure alignment and consistency with the new cold weather preparedness training requirement 	

3. GOP applicability

a. There are instances where “Company X” owns a facility and “Company Y” operates and maintains the facility. In some of these instances this 3rd party operator is the registered GOP.

b. There could be compliance conflicts if a GO is held accountable for this new requirement and the associated cold weather preparedness plan that it “develops and maintains”, but one that a separate GOP “implements” on their behalf. There are also training considerations here as currently written (GO training the GOP).

Likes 0

Dislikes 0

Response

The SDT has taken your suggestions into consideration when revising EOP-011. The SDT understands your concerns and has modified the training requirements and consolidated the training requirements to a single requirement within EOP-11. Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. The Additionally, the SDT modified moved the training requirements by removing it from Requirement R7 and consolidating training awareness into a single requirement in (R8) within EOP-11.

Dania Colon - Orlando Utilities Commission - 5

Answer

Yes

Document Name

Comment

For Florida entities it will be challenging to develop cold weather plans with the “cold” weather we experience. See #4 below.

Training requirements belong in the PER Standards and not EOP Standards. Recommend moving R7.4 to PER-006-1.

Likes 0

Dislikes	0
Response	
Thank you for your comment. As the SDT stated in earlier responses to industry, it is understood that the scope and complexity of cold weather preparedness plans will vary across the ERO. Each Generator Owner will have to determine the appropriate plan based on their geographic area and weather conditions.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
The NAGF agrees with placement of the new Generator Owner cold weather preparedness plan(s) requirements in the EOP-011 standard. Consolidating the GO cold weather preparedness plan requirements under one standard (EOP-011) provides clarity to industry rather than spreading the requirements over multiple standards (ex. FAC-003).	
Likes	0
Dislikes	0
Response	
The SDT appreciate your support of this effort.	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	
Comment	
While we agree to the placement of the requirements as part of R1.2.6, we recommend having cold weather conditions as a subset of extreme weather conditions, see suggested edit below	

1.2.6. Reliability impacts of:

1.2.6.1. extreme weather conditions

1.2.6.2. cold weather

1.2.6.3 other extreme weather conditions

For R7.4 Awareness Training – two items to consider:

- Requirement focuses on GO/ cold weather only. Recommend this is expanded to incorporate other or specified extreme weather conditions
- Requirement does not specify how often the training needs to be provided, however, during the SDT Webinar annual training was noted as the intended periodicity. If that is indeed the expectation, recommend the SDT clarify the requirement. From a higher level perspective, we are concerned with the number of GO/GOP training requirements that are being introduced in various standards. Recommend NERC staff consider consolidation of training requirements.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT understands your concerns and has modified the training requirements and consolidated the training requirements to a single requirement within EOP-11. Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. The Additionally, the SDT modified moved the training requirements by removing it from Requirement R7 and consolidating training awareness into a single requirement in (R8) within EOP-11.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer

Yes

Document Name

Comment

Black Hills Corporation agrees that Requirement 7 can remain in EOP-011 however;

- Should Add to the applicability, Transmission Owner (TO) that own synchronous condensers. i.e. like stated in MOD-025 applicability 4.1.2.
- Because generators are designed specific to their “location/type/etc.” – this requirement will take “Plans” not just a Plan. They would need to be unit specific. This will take time to develop for entities with large numbers of BES applicable Facilities/Plants.
- 7.2 “Annual” is not acceptable; change to more consistent periodicity as stated in other Reliability Standards. Example: 12 calendar months not to exceed 15 calendar months.
- 7.3 Cold Weather Data: to get usable performance data for the TOP/BA’s – this would involve a lot of time/extra work for both the TOP Real Time individuals as well as the GO generator facility management. Many older generators do not have the capabilities of prior data, as well as the TOP not having generator data to provide to them in order to direct them to what time frame of performance data is needed.
- 7.3.1. operating limitations in cold weather can vary by the conditions of the “extreme” weather. This is hard to define.
- Per 7.3.2.1. is the minimum design temperature enough to even help the TOP in Real Time and Emergencies? Black Hills Corporation TOP does not think so, as they feel this is part of the gap!
- 7.3.2.2. designated 5 Years – where did that time frame come from? This does not seem consistent with evidence retention periods of other reliability standards. Taking this to 1.2. Evidence Retention section; ...retains from last audit (page 7 of 21 draft). This could spread data to be kept 10-12 years based on the GO Regional Entity audit schedule.
- 7.4 What constitutes “Awareness” and how often? This needs to be clarified. Mandatory Training seems ‘over the top’ in that knowing how to operate their generator units by the “site operators” is part of their job. This is felt to be a waste of site operators valuable time. Operators react to all conditions as needed.

Likes 0

Dislikes 0

Response

Thank you for your comments. Although the SDT appreciates your suggestion regarding the ownership of synchronous condensers, this equipment is primarily used for reactive support and was not a concern identified in the South Central Cold Weather event.

It is understood that an entity may need to develop separate cold weather preparedness plans for each generating unit based on their configuration and characteristics. The time to develop different plans will be taken into consideration in the implementation plan of the standard.

Regarding “annual”, the SDT took your concern into consideration when revising EOP-011.

Regarding “cold weather data” and the possible time required to collect and organize this data will be taken into consideration in the implementation plan of the standard.

Regarding “operating limitations” the SDT took this into consideration when revising EOP-011.

Regarding “minimum design temperature”, since this may not be available or known by the Generator Owner, historical performance data can be used as a proxy or an engineering study to determine the data may be used in the alternative.

The SDT removed the “5 year” period from the standard sub-part. Please see the SDTs modifications made to EOP-011.

The SDT understands your concerns and has modified the training requirements and consolidated the training requirements to a single requirement within EOP-11. The SDT does not agree with deleting awareness training based on the importance of “winter-specific and plant-specific awareness training” outlined in “The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018”.

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer	Yes
Document Name	
Comment	
DTEE agrees with the NAGF for placement of the new Generator Owner cold weather preparedness plan(s) requirements in the EOP-011 standard. Consolidating the GO cold weather preparedness plan requirements under one standard (EOP-011) provides clarity to industry rather than spreading the requirements over multiple standards (ex. FAC-003).	

Likes	0
Dislikes	0
Response	
The SDT appreciates your support of this effort.	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	Yes
Document Name	
Comment	
TMLP agrees that EOP-011 is the most effective place to insert cold weather requirements, though we disagree with the current proposed redlines. Concerns will be addressed in the later questions.	
Likes	0
Dislikes	0
Response	
The SDT appreciates your support of this effort and will attempt to address any concerns when revising EOP-011.	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
AZPS agrees but also recommends adding Generator Operator to the scope of R7 as they are the ones that will be implementing the weather preparedness plans.	
“Cold weather” is not defined. “Extreme weather conditions” is not defined. Is it based on temperature or geography? What is the scope of “cold” and “extreme”?	

Likes	0
Dislikes	0
Response	
<p>The SDT has taken your recommendation to add Generator Operator to R7 when revising EOP-011. The SDT will not attempt to define “cold weather” since there will be different interpretations across the geographic areas of the ERO. Examples of “extreme weather conditions” may include hot weather/droughts, high winds, heavy rains, etc.</p>	
<p>Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb</p>	
Answer	Yes
Document Name	
Comment	
<p>Evergy supports and incorporates by reference Edison Electric Institute’s response to Question 1.</p>	
Likes	0
Dislikes	0
Response	
<p>Please see the SDT’s response to EEI Q1.</p>	
<p>Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE</p>	
Answer	Yes
Document Name	
Comment	

OGE agrees with including the GO cold weather preparedness plan requirements within EOP-011; however, we do have concerns with the proposed Requirement 7, as detailed below:

R7.1 – the usage of the word “unique” is ambiguous. We suggest removing “unique”. Our proposed R7.1 language:

- 7.1. Generating unit(s) freeze protection measures based on factors such as geographical location and plant configuration;
- R7.3.2.2 – It is not clear whether the demonstrated historical performance data is for a rolling 5-years since the proposed requirement language is not clear on whether the GOs will need to review their cold weather preparedness plan annually. We suggest removing the 5 years requirement language and including the amount of time for past performance (at least 5 years of cold weather data) to be published in an Implementation Guidance or Technical Rationale document. We recommend adding an additional subpart if both R7.3.2.1 and R.7.3.2.2 cannot be met. Our proposed R7.3.2.2 and R7.3.2.3 language:
 - “7.3.2.2. minimum demonstrated historical performance during cold weather ; or”
 - “7.3.2.3. engineering analysis to determine minimum cold weather performance.”

Likes 0

Dislikes 0

Response

The SDT has taken your concerns into consideration when revising EOP-011. Please see the EOP-011 standard for additional modifications.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI

Answer

Yes

Document Name

Comment

Agree with the addition, however, our Generators are located in North East (Temperate Region), they are prepared for extreme but possible conditions. This would just cause an Administrative redundancy of cold weather plans that already exist and have historically been in place from their initial design.

Likes	0
Dislikes	0
Response	
Thank you for your comments. Since cold weather plans have already existed, all that is needed is to ensure that the plans align with EOP-011.	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to NAGF.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports the placement cold weather requirements within Requirement R7, in EOP-011.	
Likes	0
Dislikes	0

Response	
That SDT team thanks you for your support.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Xcel Energy agrees with the addition of the proposed new requirement in EOP-011. In regards to proposed R3, we acknowledge that some older plants may not have documented minimum design temperatures, and aren't sure that a 5 year view of historical performance would be adequate to cover some of the more extreme events.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT removed the "5 year" phrase from R3. Please see the updated modifications.	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
In EOP-011(R 7.3) needs an explanation on what is required on historical performance.	
Likes	1
Dislikes	0
Response	
Thank you for your comment. Please see the measures of the standard as this will provide you with examples of evidence may be.	

Thank you for your comment. Please see the measures of the standard as this will provide you with examples of evidence may be.

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer Yes

Document Name

Comment

OGE agrees with including the GO cold weather preparedness plan requirements within EOP-011; however, we do have concerns with the proposed Requirement 7, as detailed below:

{C}· R7.1 – the usage of the word “unique” is ambiguous. We suggest removing “unique”. Our proposed R7.1 language:

{C}o {C}“7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;”

{C}· R7.3.2.2 – It is not clear whether the demonstrated historical performance data is for a rolling 5-years since the proposed requirement language is not clear on whether the GOs will need to review their cold weather preparedness plan annually. We suggest removing the 5 years requirement language and including the amount of time for past performance (at least 5 years of cold weather data) to be published in an Implementation Guidance or Technical Rationale document. We recommend adding an additional subpart if both R7.3.2.1 and R.7.3.2.2 cannot be met. Our proposed R7.3.2.2 and R7.3.2.3 language:

{C}o {C}“7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years; or”

{C}o {C}“7.3.2.3. engineering analysis to determine minimum cold weather performance.”

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the updated modifications made by the SDT. The word “unique” has been removed from R7 Part 7.1. and 5 years has been removed from R7 Part 7.3.2.2.

Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
<p>Exelon supports the placement of cold weather requirements within Requirement R7, in EOP-011.</p> <p>On Behalf of Exelon, Segments: 1, 3, 5, 6</p>	
Likes	0
Dislikes	0
Response	
The SDT appreciates your support of this effort.	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	Yes
Document Name	
Comment	
<p>CEPM agrees with the inclusion of the GO requirements in EOP-011 R7 with these considerations:</p> <ul style="list-style-type: none"> - While the requirement gives the plant the latitude to come up with its own plan for cold weather preparedness, it also leaves open the possibility that any failure of the unit during cold weather operations could be considered a violation - Should there be requirements to update the plan if historical performance indicate the plan was not effective? <ul style="list-style-type: none"> o No obligation to produce an effective/successful plan - What is the expectation if weather exceeds the design basis of the plant? 	

- Should there be some trigger (i.e. seasonal, calendar quarter, temperature, etc...) to invoke plan?
- No indication as to how often awareness training should take place.

Likes 0

Dislikes 0

Response

Thank you for your comments. If failure of the unit during cold weather is a direct result of deficiencies of the plan that did not meet all the conditions of R7, then it may be considered possible violation. However, the requirements are not intended to incorporate a must-run requirement and the SDT recognizes that multiple issues could contribute to a failure to start or run.

The cold weather preparedness plan should be updated when there is any deficiency identified.

It is assumed that the cold weather preparedness plan is effective/successful when the generating unit has not experienced a failure to start, derate or trip causing by a freezing issue during cold weather.

At times, it is assumed that weather will exceed the design basis of the plant. For these situations, the respective entities should have been made aware per EOP-011.

The time to invoke the cold weather preparedness plan is left to the discretion of the Generator Owner based on their knowledge and understanding of the plant design, configuration and operating experience.

It is up to the entity on how often training is completed. The SDT would recommend considering turnover, new employees, preparation before the winter period begins.

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

[2019-06_Cold_Weather_Unofficial_Comment_Form_MISO_03-12-21.pdf](#)

Comment

MISO is supportive of this project and supports the joint comments filed by the IRC SRC.

In addition, MISO believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in Part 7.1 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. We recommend the SDT establish a national reference with geographic locational emphasis that can be used as a standard for consistency of application across the NERC footprint. As to what reference it should be, we leave it up to the SDT to produce some factors. As an example, something like the USDA gardening zone map may be sufficient as a temperature reference.

Recommended language:

R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. freeze protection measures based on factors such as geographical location and plant configuration that are adequate to operate through extreme temperatures and weather. The methodology used to establish extreme temperatures for each solely and joint owned unit shall be one or more industry standards such as the USDA Plant Hardiness Zone Map.

Likes	0
Dislikes	0

Response

Thank you for your comments. Please see the SDT’s response to IRC SRC. The SDT decided to utilize “generating unit” rather than “Facilities,” and declined to add a requirement that the cold weather plans be reviewed and tested as the language introduces ambiguity into the requirements which the SDT was not able to resolve. With regards to your suggestion to include a metric methodology or industry standard such as a weather map, the SDT determined that an industry-wide definition could not be established since geographic areas have their own interpretation; but the SDT is reviewing the issue for potential inclusion in supporting documentation.

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer Yes

Document Name

Comment

No, PG&E believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations just as other utilities have commented. PG&E has a good handle on how cold weather impacts our facilities and how to respond without adding the additional requirement of a separate preparedness plan. PG&E Facilities have been designed to operate reliably in the conditional environment they exist in, most of which are located in cold mountainous terrain. Local Maintenance practices and procedures already exist as well as already established cold weather plans of which should be the only guidance necessary to continue reliable operation of PG&E’s facilities. In the point of recommending a locational fit PG&E would suggests considering the development of a new FAC Standard as the location.

Additionally, neither cold nor extreme weather are defined in this proposed standard nor in NERC’s Glossary of Terms.

PG&E recommends that the Distribution Provider (DP) be included in the Applicable FEs. NERC’s Functional Model v5.1 details the roles and relationships for each FE. Specifically, the DP is tasked to provide and implement load-shed capability. Timely and accurate load shedding is key to responsiveness to any Reliability Coordinator (RC) directives which support reliability of the grid during extreme weather events. This comment is specific to section 1.2.6 and 1.2.6.2 in the proposed draft of EOP-011-2. A corresponding requirement, evidence retention and VSLs should be developed to clarify the expectations for the DP, largely around the ability to support implementation of load shedding in a defined timeframe.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT agrees that any cold weather preparedness plan should be a S.O.P. Since it appears that your entity has already established cold weather preparedness plans, all this is required is to ensure that the plans align with EOP-011, R7.

The SDT determined that an industry-wide definition could not be established since geographic areas have their own interpretation. Also, since extreme weather was a term previously used in the existing EOP-011, the SDT determined that it would not be appropriate to develop a definition.

Although the SDT agrees that load shedding capability is important for any significant event, the main focus of the revised standard is cold weather preparedness from a generating unit prospective as required by the findings and recommendations of the South Central Cold Weather event

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)

Answer	Yes
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Document Name	
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Comment

IRC SRC supports the inclusion of these requirements in EOP-011; however, recommends the SDT now consider including provisions for non-BES Generators aggregated at a BES station as being included in the NERC Compliance Enforcement Program.

We also offer additional comments for EOP-011:

EOP-011, 3. Purpose expand to include the Generator Operator function as follows:

Purpose: To ensure each Transmission Operator, Balancing Authority, Generator Owner and Generator Operator has developed plan(s) to mitigate and prepare for operating Emergencies; and that Transmission Operator and Balancing Authority Operating Plans are coordinated within a Reliability Coordinator Area.

EOP-011, 4. Applicability expand to include the Generator Operator as one of the Functional Entities.

EOP-011-2, R1: addition for clarification

1.2.6. Provisions to determine potential Reliability impacts of:

Requirement 1.2 states the TOP's Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the

TOP must have a plan(s) to address. This addition will clarify that that a process should be in place to address cold weather and other extreme conditions.

EOP-011-2, R7: Just as TOPs and RCs (in R1 and R2) “shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analysis, Real-time monitoring, and Real-time Assessments”, GOs should be required to provide the information that is requested by the TOP and RC.

We also recommend the SDT consider the below modifications to R7 (some of which are from ISOs that have such mitigation/requirements in-place due to previous experience), including a recommendation to provide a clear, measurable objective for Part 7.1. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit.

R7. Each Generator Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s)

7.1.1 provisions to include the impact of precipitation (e.g. sleet, snowpack)

7.2 Annual maintenance and inspection of freeze protection measures; and

7.3. minimum design temperature or minimum demonstrated historical performance during cold weather in the previous 5 years or maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Such Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in extreme cold weather; and

7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and

7.3.3. Generating unit(s):

7.3.3.1. minimum and maximum design temperature; or

7.3.3.2. minimum demonstrated historical performance during extreme weather;

R8. Each Generator Operator shall develop, maintain, and implement one or more cold weather preparedness plan(s) for the generating Facility(ies) it operates. The cold weather preparedness plan(s) shall include the following at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

8.1. Awareness training on the detailed roles and responsibilities of site personnel contained in the cold weather preparedness plan, including notifications to BAs/RCs/TOPs regarding generator availability and operating limitations during extreme weather.

The IRC SRC recommends the SDT consider adding frequency and timing for the training requirement, such as “Annual” and “within 60 days of the start of the season.”

The IRC SRC questions adding provisions for the reliability impacts of hot weather as a separate numbered item. Cold weather is being addressed in this Standard update, but hot weather considerations as well as impacts of extreme precipitation events are similarly important to monitor and understand. Implementing cold weather requirements now and waiting for a hot weather event to implement hot weather requirements may be a mistake.

Likes 0

Dislikes 0

Response

Thank you for your comments and the SDT appreciates your support. As clarification, the NERC Standards only apply to BES generation. Please see the updated modifications to EOP-011 incorporating some of your comments regarding language modifying existing language and a new requirement R8 to address awareness training. The SDT considered defining the training requirement and decided to allow the Generator Owner and Generator Operator to determine the frequency and timing for the training. The SDT appreciates your comments regarding hot weather and the standards reflect the scope of the SAR. Issues outside the SAR’s scope are unable to be addressed by the SDT.

Jamie Johnson - California ISO - 2

Answer	Yes
Document Name	
Comment	
CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to the ISO/RTO Counsel Standards Review Committee.	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
OPG concurs with the NPCC Regional Standards Committee's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to NPCC Regional Standards Committee.	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	

In addition to supporting the IRC SRC comments, PJM requests consideration of the following **modifications to the proposed requirements**:

R7. Each Generation Owner shall develop, maintain, and implement one or more cold weather preparedness plan(s) **that are documented with supporting source data** for its solely and jointly owned generator Facility(ies). The extreme weather preparedness plan(s) shall be reviewed, tested, and applicable portions shall be implemented prior to each applicable season, and shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

R7.1 freeze protection measures based on unique factors such as geographical location and plant configuration are adequate to operate through extreme temperatures and weather that are consistent with the geography and meteorology for the location of the unit(s) **as validated by their host RC.**

R7.3 Generating unit(s) cold weather data to include: minimum design temperature for new units or units with limited historical performance during cold weather; and demonstrated historical performance during cold weather for units with historical cold weather performance. (To replace: Minimum design temperature; or minimum demonstrated historical performance during cold weather in the previous 5 years.)

Requesting the Standard Drafting Team to add definitions in the standard to define cold weather (recommend using NOAA data) and extreme weather conditions.

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the SDT's response to IRC SRC. The SDT determined that an industry-wide definition could not be established since geographic areas have their own interpretation. Also, since extreme weather was a term previously used in the existing EOP-011, the SDT determined that it would not be appropriate to develop a definition.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

ERCOT agrees with the placement of cold weather preparedness plan requirements within EOP-011 and supports a requirement that Generator Owners (GO) develop, maintain, and implement cold weather preparedness plans for generating units. ERCOT supports the proposed requirement to mandate weatherization plans as an important first step in ensuring reliability. However, an effective Reliability Standard would need to include clear and enforceable metrics, which the plan must be designed to achieve. ERCOT notes that generators in the ERCOT Region have been required to have weatherization plans for many years. It is apparent based on the February 2021 extreme cold weather event that having a plan may not be sufficient by itself to ensure reliability. ERCOT would support a subsequent Reliability Standard project in order to specify these clear and enforceable metrics.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT appreciates your support of this effort and is aware that subsequent standard(s) may be required to address other concerns.

Aaron Staley - Orlando Utilities Commission - 1

Answer

Yes

Document Name

Comment

Please clarify if EOP-011 R7 is an effort to change the cold weather design of units, for example requiring a unit not designed to operate below freezing to now operate below freezing. Or if its just requiring the operator to basiclly clarify the units capabilities and maintain that capability.

Please remove the five year as a rigid requirement in R7 part 7.3.2.2, simply stating historical performance over cold weather provides for a more complete response from the Generator Owners on the capability of their equipment. It could be stated as "for example over the last five years". Alternately the SDT could allow for other time windows as long as the Generator Owner had a technical rationale for the different time window.

Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The standard is requiring the Generator Owner to confirm the generating unit's capability during cold weather. The SDT removed 5 years from R7 Part 7.3.2.2.	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 1	Platte River Power Authority, 3, Kiess Wade
Dislikes 0	
Response	

Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE appreciates the Standard Drafting Team’s (SDT) initial efforts to enhance the NERC Reliability Standards to ensure that Generator Owners (GOs), Balancing Authorities (BAs) and Transmission Operators (TOPs) take adequate steps to prepare for cold weather conditions. Texas RE notes that the 2019 FERC and NERC Staff Report on the South Central United States Cold Weather BES Event of January 18, 2018 (“2019 Cold Weather Event Report”) specifically commented that “[a] mandatory Reliability Standard would require [GOs] to properly prepare for extreme cold weather, and would help [Reliability Coordinators (RCs)] and BAs identify units which may not be able to perform during an extreme cold weather event.” (2019 Cold Weather Report, at 89). Texas RE supports the SDT’s efforts to implement the mandatory Reliability Standard described in the 2019 Cold Weather Report to require, among other things, GOs to develop, maintain, and implement cold weather preparedness plans as a new Requirement R7 in the existing EOP-011 Standard.</p> <p>While Texas RE believes the proposed EOP-011-2 Requirement R7 reflects the general cold weather preparedness recommendations set forth in the 2019 Cold Weather Report, Texas RE believes that the SDT should consider incorporating additional specificity from the report in developing more specific, measurable requirements. In particular, Texas RE recommends incorporating more specific elements identified in the 2019 Cold Weather Report to establish (1) clear timeframes for implementing cold weather preparedness plans, (2) minimum, measurable requirements for GO cold weather preparedness plans, and (3) more specific criteria around minimum maintenance activities and their periodicity. Texas RE further recommends including provisions for RCs to review GO cold weather preparedness plans, in a manner consistent with the RC reviewing BA and TOP data for cold weather per IRO-010 and TOP-003, to ensure adequate cold weather preparedness measures are in place.</p> <p>Texas RE will first set forth its comments on these items in Requirement R7, as well as some general suggestions regarding other EOP-011 revisions. Texas RE will then provide some general comments regarding potential revisions to proposed EOP-011 Requirements R1 and</p>	

R2 to better implement the new Requirement R7 provisions in connection with TOPs and BAs, as well as additional revisions to the EOP-011 attachments.

Timeframes for Implementing Cold Weather Preparedness Plans (Requirement R7)

As part of the “Generator Sound Practices” section in the 2019 Cold Weather Report, NERC and FERC staff specifically recommended GOs complete “freeze protection-related maintenance *prior to winter weather.*” (Cold Weather Report, at p. 101). Consistent with this recommendation, Texas RE believes the SDT should specify that GOs should implement one or more cold weather preparedness plans “*seasonally prior to the expected onset of winter conditions, and review annually.*” The will clarify that timely preparation and implementation of winter weather protections should occur in advance of potential cold weather events, including actions that could require longer lead-times.

Minimal Measurable Requirements (Requirement R7, Part 7.1)

While the requirement is written to be flexible, Texas RE recommends creating measurable requirements for implementing freeze protection measures and technologies so there are clear criteria for the GO, as well as to promote consistent implementation of protective measures. For example, the SDT could consider incorporating the 2019 Cold Weather Report recommendation to specifically require continuous monitoring of heat tracing systems though displays and indicator lights as a measurable, minimal element of a GO cold weather preparedness plan.

With all such requirements, the SDT could also consider preserving generator flexibility by requiring either adoption of the minimal measures or a documented justification for why such measures were not adopted as part of the cold weather preparedness plan. However, if justifying specific freeze protection measures, generators should consider more than their geographic location and plant configuration. Rather, Texas RE suggests that generators should also be required to consider local historical weather extremes and critical components that, if affected by cold conditions, would result in startup failure, derate, or tripping of the unit or units as part of the generator’s analysis of the measures necessary to implement an adequate cold weather preparedness plan, including the possible justifications for not taking certain freeze protection measures.

Specific Criteria and Periodicity for Maintenance and Inspection Activities (Requirement 7, Part 7.2)

Texas RE agrees with the SDT there should be a requirement for GOs to perform maintenance and inspection activities regarding freeze protection measures. The 2019 Cold Weather Report specifically identified “[p]erforming periodic adequate maintenance and inspection of freeze protection elements (e.g., generating units’ heat tracing equipment and thermal insulation)” as a key element to ensure GOs

adequately prepare for cold weather conditions. To that end, Texas RE believes that specifically defining both minimum maintenance and inspection activities, as well as maximum maintenance and inspection intervals (in a similar format to the existing protection system maintenance and testing requirements in PRC-005) is important. By way of example, the 2019 Cold Weather Report specifically recommends GOs adopt “regular, periodic operational checks of heat tracing circuits.” (2019 Cold Weather Report, at 101). Texas RE recommends that the SDT specify minimal activities associated with such operational checks and define a regular, periodic maintenance schedule to ensure consistency across generators. In a similar vein, the SDT should consider including criteria for maintenance activities, such as performing maintenance on generating units’ heat tracing equipment and thermal insulation to properly test equipment functionality. Texas RE generally recommends that maintenance activities be performed at least on an annual basis.

Additional Recommended Revisions

In proposed EOP-011-2 Requirement 7, Part 7.1, Texas RE suggests replacing the term “unique” with the term “site-specific.” The term “site-specific” better describes geographical and plant configuration factors specific to a generation unit.

In proposed EOP-011-2 Requirement 7, Part 7.3.1, the propose language could possibly be read to be limited to low temperatures. Texas RE recommends specifying broader attributes of extreme cold weather events, such as freezing precipitation, which can have independent impacts. Texas RE suggests revising the language in Part 7.3.1 as follows: “Generating unit(s) operating limitations in cold weather due to temperature, icing, snow loads, or other factors; and”.

In proposed EOP-011-2 Requirement 7, Part 7.3.2, Texas RE recommends more specificity to account for other factors such as ice build-up and snow load, which could have significant, detrimental reliability impacts that are independent from freezing temperature, especially for renewables. Texas RE recommends revising Part 7.3.2 as follows: “Minimum design temperature specifications applicable for winter conditions such as temperature, icing, or snow relevant to the facility.”

Texas RE is concerned Part 7.3.3.2 allows the GO to use minimum demonstrated historical performance during cold weather solely from the previous five years of cold weather data. This is a short time-frame for historical performance and is unlikely to capture extreme events that occur much less frequently than every five years. By way of example, such a standard would have excluded 2011 generator performance data from 2021 generator cold weather preparedness plans in the Texas RE footprint, meaning that such information would not have been considered in preparations for the most recent severe cold weather event. Texas RE recommends GOs be required to obtain more detailed data related to generator performance in order to accurately identify temperatures at which the generator would

encounter any operating limitations identified, including use of the most extreme weather event experienced at the facility’s geographic location as an outer bound.

Texas RE also recommends clarifying what the performance is during cold weather. Texas RE inquires how the TOP and RC will interpret this performance to perform the OPA, Real-time monitoring, and Real-time Assessments.

Requirement 7, Part 7.4

Texas RE agrees with the requirement for site personnel to have training. Texas RE recommends adding a more specific part to document the roles and responsibilities of the personnel. Additionally, there should be a periodicity for personnel to receive training on the cold weather preparedness plan as well as a provision that training be conducted prior to the winter season.

Requirements for TOPs and BAs to take specific actions (Requirements R1 and R2)

Texas RE recommends including specific actions that Transmission Operators (TOPs) in Requirement R1 and Balancing Authorities (BAs) in Requirement R2 should take as part of the implementation of the Operating Plans to mitigate operating Emergencies in their respective areas. As it is currently written, only inclusions of reliability impact are required, not actions themselves, such as notification, cancellation or recall, reconfiguration, redispatch.

Attachments

Attachment 1

In section A. 2, Texas RE recommends stating that RCs will notify GOs of EEAs so as to be consistent with the standard language. The following language could be added: “For an EEA resulting from cold weather, the Reliability Coordinator shall also notify Generator Owners within its Reliability Coordinator Area.”

In section 3.4, Texas RE recommends revising 0.1 to the following: “The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Generator Owners, Balancing Authorities and Transmission Operators within its Reliability Coordinator Area.”

The SDT could also consider changing the numbering as it does not look correct.

Likes 0

Dislikes	0
Response	
<p>Thank you for your comments. The SDT has taken your recommendations into consideration when revising EOP-011. The SDT declines to add a requirement for the RC to review the cold weather plans due to such issues as resource availability and lack of expertise. In addition, the SDT appreciates your references to the sound practices outlined in the FERC Report. Consistent with the FERC’s dicta that the review team did not make a determination which practices are considered “best” nor include such proscriptions in the formal recommendations, the SDT declines to add proscriptive practices to the requirements, but would defer to the Generator Owner to determine which practices to implement consistent with the official NERC Reliability Guideline on generator unit winter readiness and the sound practices outlined in the FERC report. The SDT considered defining the training requirement and decided to allow the Generator Owner and Generator Operator to determine the frequency and timing for the training. Consistent with the FERC Report, the SAR dictates the parameters of how the RC, BA and TOP are to utilize the data but does not state proscriptive actions the RC, BA or TOP must take, and therefore the SDT believes that suggestion is out of scope for this project.</p>	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	
Comment	
comments submitted	
Likes	0
Dislikes	0
Response	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	

Comment	
SCE supports EEI's comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to EEI.	
Kenya Streater - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute".	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to EEI.	

2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

No

Document Name

Comment

ERCOT disagrees that the RC should be required to consider generator design specifications (such as a manufacturer's minimum ambient operating temperature) or historical cold-weather performance information in developing its OPA or RTA. Instead, it would be more effective if the GOP were required to provide an accurate indication of its actual or anticipated capability and availability based on expected or real-time weather conditions and known limitations. As the entity solely responsible for the operation of the generator, the GOP is in a much better position than the RC (or the BA or TOP, for that matter) to understand and predict the impacts of different cold weather scenarios on that generator. Therefore, if the SDT proceeds with revisions to IRO-010, ERCOT suggests revising Requirement R1.3 to read as follows:

1.3 Provisions for notification of generating unit capability and availability that reflects any operating limitations or unit-specific design specifications during actual and anticipated cold weather conditions.

However, ERCOT believes that it may be simpler and clearer to explicitly assign the GOP the responsibility to communicate cold weather impacts on generator capability and availability. This could be achieved by adding such a requirement in a new R8 to EOP-011 (see response to Question 8 below). However, if the SDT proceeds with a data specification requirement, that requirement would more appropriately be placed on the BA and TOP, rather than the RC (see same response).

Likes 0

Dislikes 0

Response

Thank you for your comments. Operating limitations related to capability and availability have been added to the proposed revised standards where appropriate.

Gladys DeLaO - CPS Energy - 1

Answer No

Document Name

Comment

The new IRO-010 redline requirement (1.3) is really just a subset of the data required in 1.1; it doesn't cover improvement cover the 2021 Texas event due to gas shortages or how a generator would establish cold weather limits for a gas unit (due to availability of gas supply).

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT believes that fuel supply and inventory concerns under 1.3.1.2; and fuel switching capabilities under 1.3.1.3 should address any issues encountered with shortages of any type of fossil fuel that would impact an operating limitation.

Glenn Pressler - CPS Energy - 3

Answer No

Document Name

Comment

The proposed new IRO-010 redline requirement (1.3) is really just a subset of the data required in 1.1; it doesn't cover improvement or cover the 2021 Texas event due to gas shortages or how a generator would establish cold weather limits for a gas unit, due to unavailability of gas supply, for example.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT believes that fuel supply and inventory concerns under 1.3.1.2; and fuel switching capabilities under 1.3.1.3 should address any issues encountered with shortages of any type of fossil fuel that would impact an operating limitation.

Erin Green - Western Area Power Administration - 1,6

Answer No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes 0

Dislikes 0

Response

Please see the SDT's responses to WAPA for Sean Erickson.

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer No

Document Name

Comment

The proposed Requirement R1.3 references "unit-specific design specification", which is a very broad term that seems better suited to facility ratings/design. Secondly, there needs to be added context on what constitutes "minimal historical performance". This can be captured in Facilities ratings/design standards including dependencies on temperature or other weather parameters for specific "emergency" conditions, and how these may affect a generating unit's operating limitations.

The term “cold weather” can have varied interpretations throughout the continent, so a more concise term and/or definition that would also include which weather elements may be subject to this (e.g. cold weather may imply this is just for ice/snow) would be helpful.

BC Hydro suggest that the IRO-010 language be kept to the specific information, such as the designed operating temperature range of a unit that would be necessary for performing Operations Planning Analyses.

Likes 0

Dislikes 0

Response

Thank you for your comments. Any reference to “specific design specification” has been removed from the proposed standard revision. The Implementation Guide will provide more clarification related to “minimal historical performance”.

The SDT determined during the development of the SAR, that since there are different interpretations of “cold weather” across the ERO due to geographic location and climate, it would not be feasible to define a term that would be acceptable to everyone. Each entity should use their own weather resource(s) and operating experience for their generating facilities to establish the appropriate cold weather conditions.

The proposed revised standard allows the Reliability Coordinator the flexibility to use minimum design temperature or minimum historical operating temperature when performing their OPA.

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer

No

Document Name

Comment

There is no provision in any NERC Standard for the Reliability Coordinator to incorporate into any of their analysis the unit specific design specifications or performance during cold weather, being required to be collected by the revision to IRO-010. The existing language already provides for the collection of "...data and information necessary needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments..." This would include any generator cold or extreme weather limitations. Why would you require an entity to request data that they are not required to use?

Likes 0

Dislikes	0
Response	
Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold or extreme weather limitations were not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions.	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	No
Document Name	
Comment	
MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.	
Likes	0
Dislikes	0
Response	
See responses to MRO NSRF.	
George Brown - Acciona Energy North America - 5	
Answer	No
Document Name	
Comment	
Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.	
Likes	0

Dislikes	0
Response	
See responses to MRO NSRF.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	No
Document Name	
Comment	
All data required by the RC should be the same data points as required for the BA and TOP. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in IRO-010.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. IRO-010 and TOP-003 have been revised to include the same data points. Part 7.3 and its sub-components remain in EOP-011 to ensure that the GO is addressing those areas under the data requests of the RC, BA and TOP.	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	No
Document Name	
Comment	
There is no provision in any NERC Standard for the RC to incorporate the unit specific design specifications or minimum historical performance as well as expected BES generating unit operation limitations during cold weather into any of their analysis, which is currently being proposed for an addition to IRO-010. The existing language in IRO-010 R1.1 already provides for the collection of	

necessary data (“A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Realtime Assessment.....”). We believe this data would include any generator cold or extreme weather limitations. In addition, IRO-008 should be revised as well so that the data collected by the RC is utilized in the RC’s Operational Planning Analysis (OPA) and Real-time Assessment (RTA) for anticipated cold weather conditions. By incorporating the GO cold weather parameters into their OPA and RTA, the RC will be able to understand limitations in specific areas of its region and to develop more effective Operating Plans to address those upcoming system conditions.

Likes 0

Dislikes 0

Response

Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold or extreme weather limitations were not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010 and TOP-003. IRO-008 ensures that the RC performs the appropriate analysis based on their data requests as specified in IRO-010.

Wayne Guttormson - SaskPower - 1

Answer No

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to MRO-NSRF.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer	No
Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO-NSRF.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
This requirement implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The proposed implementation period has been increased to 18 months.	

Dennis Sismaet - Northern California Power Agency - 6	
Answer	No
Document Name	
Comment	
<p>Existing standards are not broken, they either are not being used, or enforced.</p> <p>The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.</p> <p>Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.</p> <p>As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.</p> <p>Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.</p> <p>As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.</p>	
Likes	0

Dislikes	0
Response	
<p>Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold or extreme weather-related data was not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010 and TOP-003.</p>	
<p>Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1</p>	
Answer	No
Document Name	
Comment	
<p>All data required by the RC should be the same data points as required for the BA and TOP. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in IRO-010.</p> <p>AEPC is signing on to ACES comments as well.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. IRO-010 and TOP-003 have been revised to include the same data points. Part 7.3 and its sub-components remain in EOP-011 to ensure that the GO is addressing those areas under the data requests of the RC, BA and TOP. Please see the SDT's response to ACES.</p>	
<p>Dania Colon - Orlando Utilities Commission - 5</p>	
Answer	No
Document Name	
Comment	

<p>IRO-010 already permits the RC to ask for this data and EOP-011 requires the RC to plan for this event. I don't believe it's necessary to add a redundant requirement to the obligation the RC has in EOP-011 within the IRO-010 standard. R1.3 is only required for cold weather conditions. It doesn't include extreme weather conditions as specified in EOP-011 and should also be included for consistency.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold weather-related data was not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010. Besides cold weather, it is understood that extreme weather conditions of EOP-011 may include heat, wind, heavy rain, etc., which is outside the scope and intentions of the SAR.</p>	
<p>Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF</p>	
Answer	No
Document Name	
Comment	
<p>All data required by the RC should be the same data points as required for the BA and TOP. This will provide consistency across these three Functional Entities. Recommend that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in IRO-010 (with modifications, see below) these are data points the RC should want to ask for to ensure they know the capabilities of BES generators in their system during cold weather conditions.</p> <p>7.3.1 requires "operating limitations" and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator's cold weather data. At the end of 7.3.1 there is an "AND" this should be changed to an "OR". A GO may have data specified in 7.3.1 and if don't then they can use 7.3.2 to obtain the generator's cold weather data via different methods.</p>	
Likes	0
Dislikes	0

Response

Thank you for your comments. IRO-010 and TOP-003 have been revised to include the same data points. Part 7.3.1 has been revised to address your concerns.

Michael Brytowski - Great River Energy - 3

Answer	No
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Document Name	
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Comment

GRE supports the comments of the NSRF

Likes 0	
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Dislikes 0	
------------	--

Response

Please see the SDT's response to MRO NSRF.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	No
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Document Name	
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Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes	0
Dislikes	0

Response

Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold weather-related data was not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010 and TOP-003.

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer	No
Document Name	

Comment	
<p>Requirement R1.3 states “unit specific design specifications.” It is assumed that this refers to cold weather design, but it is not clear. Hydroelectric generators are secured inside buildings and do not have these specifications. Reclamation recommends excluding hydroelectric generators from this requirement as they rely on water operations, for which cold weather considerations are already accounted by local operations and maintenance procedures.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. “Specific design specifications” has been removed from Part 1.3. Each hydroelectric generating facility will need to determine the specific type and amount of cold weather preparation that is appropriate for the particular location, configuration and weather conditions.</p>	
<p>Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy</p>	
Answer	No
Document Name	
Comment	
<p>This change is made redundant by the proposed change in TOP-003 and existing coordination required between the RC, BA, and TOP in IRO-008-2 R2. Since the BAs and TOPs will be required to include cold weather considerations as part of their data specifications and into their Operational Planning Analyses, the RC will have to consider the potential cold weather impacts of the generators that have been accounted for in the Operating Plans of the respective BAs and TOPs.</p>	
Likes	0
Dislikes	0
Response	

Thank you for your comments. The proposed changes to IRO-010 and TOP-003 will require the RC, BA and TOP to consider the same data specifications related to cold weather. IRO-008-2 ensures that the RC performs the required analysis based on the data requested in IRO-010.

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

This requirements implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have provisions for evaluating future weather events and acting on them. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems, but it is not officially filed.

Likes 0

Dislikes 0

Response

Thank you for your comments. The proposed implementation period has been increased to 18 months.

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to Reclamation's comments.

Marty Hostler - Northern California Power Agency - 5

Answer No

Document Name

Comment

Existing standards are not broken, they either are not being used, or enforced.

The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing

each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0

Response

Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold weather-related data was not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010 and TOP-003.

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

No

Document Name

Comment

R1 of IRO-010 is about creating data specification. An RC creating a data specification and then subsequently receiving the data does not ensure that expected upcoming cold weather conditions will be taken into consideration in an Operational Planning Analysis (OPA). An optimal outcome of a standard requirement would be that expected severe cold weather conditions are known/anticipated in an OPA timeframe and then appropriate Operating Plans are developed to address those upcoming system conditions. A better placement of cold weather preparedness requirement would be in in IRO-008-2 so that expected upcoming cold weather conditions are adequately anticipated in the OPAs and Operating Plans are accordingly developed. Similarly, a requirement for BAs to evaluate their upcoming cold weather conditions could also be placed in TOP-002. Such requirements would in of themselves prompt RCs to request appropriate data (such as generation unit temperature limitations) that are needed for appropriately performing their OPAs. An alternate option could be to add a requirement in the OPA definition to include upcoming cold weather impacts in the OPA as inputs to the OPA.

The second comment is more specific about the data items being requested in 1.3. First of all the requirement says ‘Provisions for notification of BES generating unit-specific specification....’ which is a very broad requirement because a generating unit’s design specification is not a single page item. There are several binders and hundreds of design drawings that are part of a generating unit’s design specification. An RC requesting BES generating unit-specific design specification may be compliant with the requirement but may not receive the actual piece of relevant information needed for cold weather analysis. A more meaningful quantity to request as part of

data specification (which can then also be applied in an OPA) is the designed operating temperature range for a unit. For example, if the designed minimum operating temperature limit for a unit is 25o F and if upcoming weather conditions are going to be 20o F, then it could be considered in an OPA that a particular unit may not be able to operate (or even be started to operate) in the upcoming weather conditions and operating entities can plan accordingly.

Likes 0

Dislikes 0

Response

Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold or extreme weather limitations were not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010 and TOP-003. IRO-008 ensures that the RC performs the appropriate analysis based on their data requests as specified in IRO-010.

Part 1.3 has been revised to address your concerns.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

No

Document Name

Comment

NIPSCO TOP and its RC (MISO) already include GO data in their data specifications for TOP-003 and IRO-010 respectively. It is not clear what additional information is being requested in the proposed R1.3 in both of these proposed standards and this should be clarified.

Likes 0

Dislikes 0

Response

Thank you for your comments. Part 1.3 has been revised to address your concerns.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	No
Document Name	
Comment	
<p>For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. For those generators located in cold climates and regularly operating in freezing weather, it is assumed that some type of cold weather preparedness process exists. In these cases, the entity needs to ensure that their present process aligns with the conditions of the revised standard. It is understood that the extent and complexity of cold weather preparedness plans will be driven by geographic location and climate. Generators that may pose a high risk during cold weather conditions should normally be identified by the Balancing Authority where their Operating Plans will be adjusted to consider their capability and available during this type of weather condition.</p>	
Dylan Sontag - Silicon Ranch Corporation - 1 - SERC	
Answer	No
Document Name	
Comment	
<p>There are no annual cold weather preparations for our solar facilities that need to be performed and our facilities are not limited in any way during cold weather.</p>	

Likes	0
Dislikes	0
Response	
Thank you for your comments. Agree that solar facilities may have little to no preparation related to cold weather. That will need to be determined by each solar facility.	
Kristina Marriott - First Solar, Inc. - 5	
Answer	No
Document Name	
Comment	
The industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT considered industry comments related to addressing cold weather preparedness by revising existing standards instead of developing a new standard.	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	No
Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx
Comment New requirement R1.3 feels overly specific and redundant of R1.1. It singles out activities surrounding cold weather, but does not address other extreme weather conditions that could affect grid conditions, e.g., extreme heat, humidity, and rain/wind events. GSOC respectively suggests that the entire sub-requirement could be more effective as an example listed under R1.1.	

Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SAR was required to only address cold weather conditions based on the findings and recommendations of the 2018 South Central Cold Weather Event. Other extreme weather conditions was already approved to be a part of the existing IRO-010 and TOP-003 standards and was not intended to be addressed by the SDT.</p>	
<p>Aaron Staley - Orlando Utilities Commission - 1</p>	
Answer	Yes
Document Name	
Comment	
<p>I don't believe it is necessary to include the language in IRO-010. EOP-011 requires the TOP to plan for cold weather and for the RC to review those plans. IRO-010 is to ensure the RC can receive the data it needs and IRO-010 R1 allows the RC to ask for data in addition to the existing sub-parts of R1. IRO-010s purpose does not include prescribing to the RC what data they need, but ensuring they have access to the data they determine they need.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Due to the outcome of the 2018 South Central Cold Weather event, it appears that cold or extreme weather limitations were not requested or effectively utilized in OPAs, RT monitoring and/or RT Assessments; thus the need to specify these type of items in the proposed standard revisions of IRO-010.</p>	
<p>Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis</p>	
Answer	Yes
Document Name	
Comment	

In addition to supporting the IRC SRC comments, PJM requests consideration of the following:

For R1.3, requesting clarifying language to allow RC flexibility in data specifications for [Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather.]

Likes 0

Dislikes 0

Response

Thank you for your comments. Part 1.3 has been revised to address your concerns.

Jamie Johnson - California ISO - 2

Answer

Yes

Document Name

Comment

CAISO supports the inclusion of the data specification requirements in IRO-010; however, recommends the SDT modify the text of the requirement to remove “Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather”. This does not seem necessary for OPA/RTA/RT monitoring and seems more appropriate for inclusion in TOP-003.

Likes 0

Dislikes 0

Response

Thank you for your comments. Part 1.3 has been revised to address your concerns.

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)

Answer

Yes

Document Name

Comment

The IRC SRC supports the inclusion of the data specification requirements in IRO-010; however, recommends the SDT modify the text of the requirement to allow for entity flexibility in specifying the data provided to ensure that the data received is actionable for use in Reliability Coordinator models.

1.3. Provisions for notification of operating limitations, capability and availability for generating Facility(ies) during current and projected cold weather conditions.

Likes 0

Dislikes 0

Response

Thank you for your comments. Part 1.3 has been revised to address your concerns.

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer

Yes

Document Name

Comment

Yes, PG&E generally agrees with the modifications to IRO-010 as proposed.

Likes 0

Dislikes 0

Response

Thank you for your support.

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to IRC SRC.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports placing the Reliability Coordinator (RC) data specification requirements within IRO-010.	
On Behalf of Exelon, Segments: 1, 3, 5, 6	
Likes 0	
Dislikes 0	
Response	
The SDT appreciates your support of this effort.	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	

This would align with the current relationship between IRO-010 and TOP-003, and that the RC spec remains in IRO-010, and the TOP and BA specs in TOP-003 would align with the RC spec.	
Likes	0
Dislikes	0
Response	
The SDT appreciates your support of this effort.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports placing the Reliability Coordinator data specification requirements within IRO-010.	
Likes	0
Dislikes	0
Response	
The SDT appreciates your support of this effort.	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	

Likes	0
Dislikes	0
Response	
Please see the SDT's responses to NAGF.	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
<p>Allowing different planning entities the ability to make multiple requests of generators results in inefficiencies and can take focus away from more critical activities. A central, streamlined, and consistent process for submitting this type of data would benefit the grid. For greatest efficiency, NERC should proactively work with TOPs and RCs to identify pertinent information related to cold weather operating characteristics (and other areas of critical concern). NERC should consider if the Align tool, GADS portal, Misoperation Portal, or other similar centralized tools, could be used to streamline how / when these data requests are made. In addition, a centralized portal could include a data submission element such that a GO/GOP only must submit data once for it to be used, as required, by the appropriate planning entities (TOP, BA, RC).</p> <p>If a centralized tool is not developed, the SDT should add a minimum time requirement to R3/R4/R5 such that the planning entity is required to give ample notice to the entity from which it is requesting data. Currently, each planning entity has a different process and timeline for making data requests; as a GO/GOP registered in multiple regions we must understand and work within each planning entity's process. In addition, the onus should be on the planning entities to provide a fulsome, publicly available (on Align or NERC Website) list of entities required to submit data vs. requiring entities to rely on negative confirmation.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. IRO-010 and TOP-003 per those requesting data the flexibility to determine their exact data requirements without being too prescriptive. Also, these standards already have provisions to allow the data recipients to address	

issues with the respective data requestor that may include minimum time requirements. It is understood that the Align tool may provide a consistent means related to data requests in the future.

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer Yes

Document Name

Comment

Santee Cooper recommends R1.3 be a phased in implementation in case GOs have problems getting the unit-specific design specification and they have not been collecting historical performance. Phasing this requirement in allows GOs time to start collecting the minimum historical performance data during cold weather.

Also, what is “cold weather” for this requirement? This could be a very different interpretation of this term based on where generating resources are located in North America. Is the expectation that an entity define what constitutes cold weather? That may cause an issue during an audit.

Likes 0

Dislikes 0

Response

Thank you for your comments. The proposed implementation time has been increased to 18 months. Also, “specified design specifications has been removed from Part 1.3. The SDT determined during the development of the SAR, that since there are different interpretations of “cold weather” across the ERO due to geographic location and climate, it would not be feasible to define a term that would be acceptable to everyone. Each entity should use their own weather resource(s) and operating experience for their generating facilities to establish the appropriate cold weather conditions.

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb

Answer Yes

Document Name

Comment

Energy supports and incorporates by reference Edison Electric Institute’s response to Question 2.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to EEI.

Marcus Bortman - APS - Arizona Public Service Co. - 6

Answer

Yes

Document Name

Comment

AZPS would like to know what is the minimum periodicity for data to be provided? For example, seasonal vs annual. What is the requirement timeline for new generation added after the implementation date of this requirement? What is the scope of the data requirement or design criteria? Is the “minimum historical performance during cold weather” defined as 5 years as specified in EOP-011 R7.3.2.2? What is the implementation plan for new generating units?

Likes 0

Dislikes 0

Response

Thank you for your comments. The RC, BA and TOP establish the periodicity per IRO-010 and TOP-003. The data recipients of these standards can address any conflicts with their respective data requestors which may include minimum periodicity. The implementation period has been increased to 18 months for the proposed revised standards. The scope of the data requirement is determined by the RC, BA and TOP. Design criteria is determined by the Generator Owner. Part 7.3.2.2 has been revised to address your concerns related to historical performance.

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer	Yes
Document Name	
Comment	
DTEE agrees with the NAGF that the placement of Reliability Coordinator data specification requirements in the IRO standard is appropriate.	
Likes 0	
Dislikes 0	
Response	
The SDT appreciates your support of this effort.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
For Black Hills Corporation, it depends on what the RC requires when they rewrite their data specification which will then apply to the entities under their footprint.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	

Comment

R1.3 Provisions for notification of BES generating unit-specific design temperature or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather. We recommend focusing on minimum historical performance and defining the time period (e.g. 50 yr) to provide a more consistent approach across regions.

Likes 0

Dislikes 0

Response

Thank you for your comments. Part 1.3 has been revised to address your concerns.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Yes

Document Name

Comment

The NAGF agrees with placement of Reliability Coordinator data specification requirements in the IRO-010 standard.

Likes 0

Dislikes 0

Response

The SDT appreciates your support of this effort.

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer

Yes

Document Name

Comment

The proposed requirement 7.3.2.2 in EOP-011 has a 5-year limitation on historical data. However, the new requirements in IRO-010 do not have this limitation. As such, will the historical information be required back to the commissioning of the unit? If not, please add the 5-year limitation.	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
Thank you for your comments. Part 7.3.2.2 has been revised to address your concerns.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company agrees that IRO-010 is the best fit for this new RC data specification requirement. Southern Company offers the following suggestions for the SDT.	
1. Revise the wording of proposed requirement 1.3	
a. Suggest re-wording to “Provisions for notification of BES generating unit-specific minimum design temperature or if design temperature is not available, the minimum historical temperature during cold weather in the previous 5 years in which the unit has demonstrated full output operation, and BES generating unit operating limitations during local forecasted cold weather.”	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. Part 1.3 has been revised to address your concerns.	
Leonard Kula - Independent Electricity System Operator - 2	

Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
<p>Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to a Standard, it should be replaced with the term “abnormally cold weather.”</p>	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT will consider your recommendation when revising the proposed standards.	

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	Yes
Document Name	
Comment	
<p>The ISO-NE supports the inclusion of the data specification requirements in IRO-010; however, recommends the SDT modify the text of the requirement to allow for entity flexibility in specifying the data provided to ensure that the data received is actionable for use in Reliability Coordinator models.</p> <p>1.3. Provisions for notification of operating limitations, capability and availability for generating Facility(ies) during current and projected cold weather conditions.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. Part 1.3 has been revised to address your concerns.	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
<p>Talen agrees with placement of Reliability Coordinator data specification requirements in the IRO-010 standard.</p>	
Likes	0
Dislikes	0
Response	
The SDT appreciates your support of this effort.	

Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	

Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer Yes

Document Name

Comment	
Likes	0
Dislikes	0
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes	1
Dislikes	0
Platte River Power Authority, 3, Kiess Wade	
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute".	
Likes 0	
Dislikes 0	
Response	

Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDTs' response to EEI.	
Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	
Document Name	
Comment	
Utility Services supports the comments posted by the TAPS group.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to TAPS group.	
Don Stahl - Black Hills Corporation - 3	
Answer	

Document Name	
Comment	
comments submitted	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE agrees with the addition of requirements for Reliability Coordinators (RCs) to develop a documented data specification including the provision for notification of BES generating unit-specific design performance during cold weather, as well as expected BES generating unit operational limitations during local forecasted cold weather. Texas RE suggests the SDT consider matching the language of the proposed IRO-010-4 Requirement R1, Part 1.3 with the proposed generating unit cold weather data requirements set forth EOP-011-2 Requirement R7, Part 7.3 as modified by Texas RE’s comments concerning that Part. In a similar vein to GOs, RCs should obtain data beyond minimal design temperatures or minimal historical performance over a five-year period so they can account for other factors such as ice build-up and snow load, which could have significant, detrimental reliability impacts that are independent from freezing temperature, especially for renewables in performing Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p> <p>The language, “provisions for notification”, could possibly be read to imply that the data provision is event-driven instead of data that is requested and collected by the RC prior to any forecasted cold weather event. While it may be helpful for the RC to receive event-driven notification from entities regarding any expected limitations during a specific forecasted cold weather event, the RC should be requesting and collecting data regarding design specifications and operating limitations for cold weather as part of the normal data request and collection processes, with the periodicity specified per IRO-010-4 Requirement R1, Part 1.4.</p>	

Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT has revised Part 1.3 and Part 7.3 to address your concerns. Regarding “provisions for notification”, the SDT agrees that a data request could at times, be event-driven such as that described in Part 1.2.	
Bruce Reimer - Manitoba Hydro - 1	
Answer	
Document Name	
Comment	
Not applicable.	
Likes 0	
Dislikes 0	
Response	

3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Kristina Marriott - First Solar, Inc. - 5

Answer No

Document Name

Comment

The industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT understands your concerns and has included both the training requirements and the cold weather preparation plans in the single EOP standard. With regards to data specifications, the SDT determined that the Transmission Operator data spec requirements would be appropriate for the TOP standard.

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer No

Document Name

Comment

There are no annual cold weather preparations for our solar facilities that need to be performed and our facilities are not limited in any way during cold weather.

Likes	0
Dislikes	0
Response	
<p>Thanks you for your comments. A cold weather preparedness plan needs to be developed based on your geographical region and facility design, which would be determined by the generating unit.</p>	
<p>Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1</p>	
Answer	No
Document Name	
Comment	
<p>For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your input. The FERC report recommended national standards be put in place to require Generator Owners to implement cold weather preparedness plans. The SDT has previously discussed regional variances and determined to pursue industry-wide standards given the FERC recommendation. The SDT appreciates your comments regarding Planning Coordinators but to add that functional entity would require a re-draft of the SAR scope, which is not feasible given the timeline required by the NERC board of Directors.</p>	
<p>Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6</p>	
Answer	No

Document Name	
Comment	
<i>See response to Question 2 above.</i>	
Likes 0	
Dislikes 0	
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	No
Document Name	
Comment	
Same comments as question 2.	
Likes 0	
Dislikes 0	
Response	
Marty Hostler - Northern California Power Agency - 5	
Answer	No
Document Name	
Comment	

NO. See response to Question 3.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's team response to Reclamation.

Glen Farmer - Avista - Avista Corporation - 5

Answer

No

Document Name

Comment

<p>This requirements implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have provisions for evaluating future weather events and acting on them. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems, but it is not officially filed.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SDT is proposing an implementation period of 18 months.</p>	
<p>Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy</p>	
Answer	No
Document Name	
Comment	
<p>This change is made redundant by the proposed change in due to the existing coordination required between the RC, BA, and TOP in IRO-008-2 R2. Since the BAs and TOPs will be required to include cold weather considerations as part of their data specifications and into their Operational Planning Analyses, the GOP will have to consider the potential cold weather impacts of its generators to provide information to the respective BAs and TOPs for inclusion in their Operating Plans. Suggest removal of R1.3 phrase "generating unit-specific design specification or minimum historical performance during cold weather" because this information is only valuable if the facility is maintained to design specifications.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SDT has determined that the data specifications and the requirements contained in the cold weather preparedness plans should be identical to reduce ambiguity.</p>	
<p>Richard Jackson - U.S. Bureau of Reclamation - 1</p>	

Answer	No
Document Name	
Comment	
<p>Requirement R1.3 states “unit specific design specifications.” It is assumed that this refers to cold weather design, but it is not clear. Hydroelectric generators are secured inside buildings and do not have these specifications. Reclamation recommends excluding hydroelectric generators from this requirement as they rely on water operations, for which cold weather considerations are already accounted by local operations and maintenance procedures.</p>	
Likes 0	
Dislikes 0	
Response	
<p>The SDT determined that all BES generators should be subject to the standards and has provided flexibility to allow the generator to determine its minimum operating temperature.</p>	
<p>Michael Whitney - Northern California Power Agency - 3, Group Name NCPA</p>	
Answer	No
Document Name	
Comment	
<p>Existing standards are not broken, they either are not being used, or enforced.</p> <p>The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.</p> <p>Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.</p>	

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes 0

Dislikes 0

Response

The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur.

Michael Brytowski - Great River Energy - 3

Answer

No

Document Name

Comment

GRE supports the comments of the NSRF

Likes	0
Dislikes	0
Response	
Please see the SDT's response to NSRF.	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	No
Document Name	
Comment	
<p>All data required by the TOP should be the same data points as required for the BA and RC. This will provide consistency across these three Functional Entities. Recommend that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003 (with modifications, see below) these are data points the TOP should want to ask for to ensure they know the capabilities of BES generators in their system during cold weather conditions.</p> <p>7.3.1 requires "operating limitations" and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator's cold weather data. At the end of 7.3.1 there is an "AND" this should be changed to an "OR". A GO may have data specified in 7.3.1 and if don't then they can use 7.3.2 to obtain the generator's cold weather data via different methods.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. Please see the revised standards.	
Dania Colon - Orlando Utilities Commission - 5	
Answer	No
Document Name	
Comment	

<p>TOP-003 R1 already permits the TOP to ask for this data and EOP-011 requires the TOP to plan for this event. I don't believe it's necessary to add a redundant requirement to the obligation the TOP has in EOP-011 within the TOP-003 standard. R1.3 is only required for cold weather conditions. It doesn't include extreme weather conditions as specified in EOP-011 and should also be included for consistency.</p>	
Likes	0
Dislikes	0
Response	
<p>Thanks you for your comments. The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur.</p>	
<p>Keyleigh Wilkerson - Lincoln Electric System - 5, Group Name Lincoln Electric System</p>	
Answer	No
Document Name	
Comment	
<p>LES contends that it should not be the TOP's responsibility to determine, or verify, cold weather capabilities of any units connected to their TOP Area. Requirements set forth related to the Generator Owners will be adhered to by them and units should be rated accordingly, just as in the FAC standards. The TOP should then require that capability information be submitted as part of the TOP-003 data specification and leave it at that. Even if multiple de-rates occur at different temperatures, all that should be needed is a rating schedule. Having the TOP require design specifications and performance data is not something they should, or are even equipped, to handle. Additionally, the phrase "operational limitations" is also ambiguous by nature; for a more clear and concise approach, we recommend referring to unit capabilities. To ensure TOPs are not inundated with unnecessary information, and to maintain clear expectations, LES suggests the following change to TOP-003 R1.3:</p> <p>"R1.3. Provisions for notification of expected BES generating unit capabilities during local forecasted cold weather."</p>	
Likes	0
Dislikes	0

Response	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	No
Document Name	
Comment	
<p>All data required by the TOP should be the same data points as required for the BA and RC. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003.</p> <p>AEPCO is signing on to ACES comments as well.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. Please see the revised standards.	
Dennis Sismaet - Northern California Power Agency - 6	
Answer	No
Document Name	
Comment	
<p>Existing standards are not broken, they either are not being used, or enforced.</p> <p>The existing IRO-010/TOP-003 Standards already allows RCs and TOPs the opportunity to obtain said data via their data specification requests to GO/GOPS, if they intend on using said data.</p>	

Forcing a RC or TOP to ask for data they don't need, nor have any accountability to use, is not efficient use of customer's dollars, and does not increase reliability. As proposed standard modifications are a mere administrative burden, that costs everyone with no measurable reliability benefit.

As TAPS mentioned in prior SAR Comments. The standards are written broadly by design, and thus include data specific to cold weather issues, as well as everything else that each RC, BA, or TOP needs to perform its operational functions.

Nor is there any indication in NERC's enforcement data that failure to respond to data specifications is a widespread problem. If RCs, BAs, and TOPs are, in fact, having trouble getting the information they need, that is a CMEP problem, not a standards problem, since, as noted above, IRO-010-2 and TOP-003-3 already require each RC, BA, and TOP to request, without limitation, "the data necessary for it to perform" its operational functions, and require the entities receiving the data specifications to provide all such data.

As NERC said in its petition for approval of (among others) IRO-010-1a, which used the same top-down approach as IRO-010-2 and TOP-003-3, "[t]he requirements in the standard specify a formal request as the method for the Reliability Coordinator to explicitly identify the data and information it needs for reliability; and require the entities with the data to provide it as requested. This method is sound because the Reliability Coordinator is the only entity that knows what data it needs to properly perform its reliability tasks, and the most efficient format for accepting this data." Docket No. RM10-15, at 35 (Dec. 31, 2009) (emphasis added). The alternative approach-listing each type of data that must be provided-will unavoidably be both under- and over-inclusive, since in addition to varying from one entity to another, data needs change over time as new technologies and risks emerge.

Likes	0
Dislikes	0

Response

Thanks for your comments. The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur.

Mike Magruder - Avista - Avista Corporation - 1

Answer	No
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Document Name	
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Comment

This requirement implementation period is one year. We would need more time to implement this. Two years would be requested. GO & GOP doesn't have a cold weather preparedness plan. In the Northwest we already specify our Units to perform based on local temperatures. We do inspections of equipment and systems but it is not officially filed. We currently do not track training on the roles and responsibilities of site personnel.

Likes 0

Dislikes 0

Response

The SDT is proposing an 18 month implementation period.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

No

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Please see the SDT's response to MRO NSRF.

Wayne Guttormson - SaskPower - 1

Answer

No

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	No
Document Name	
Comment	
<p>The existing language in TOP-003 already provides for the collection of "...data and information necessary needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments...". This would include any generator cold or extreme weather limitations; therefore, is unnecessary to specifically address. Additionally, the NERC Functional Model identifies the Balancing Authority as the entity responsible for "Formulating an operational plan (generation commitment, outage, etc.) for reliability evaluation." The TOP is responsible for the Real-time operating reliability of the transmission assets under its control. The TOP should not be required to ensure the Balancing Authority is performing their function. This is evidenced in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018", in which the TOP function was not identified.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur. The SAR includes the TOP and therefore the SDT has included the TOP in the requirements.</p>	

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	No
Document Name	
Comment	
All data required by the TOP should be the same data points as required for the BA and RC. This will provide consistency across these three Functional Entities. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT has included provisions to ensure the data specification requirements are identical.	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	No
Document Name	
Comment	
NV Energy cannot agree to the revisions, as it requests additional clarity within the Standard, or in a Technical Guidance document, on the definition of "operation limitations".	
Likes	0
Dislikes	0
Response	
Thanks you for your comments. A Technical Rationale and Implementation Guidance will be proposed in the next comment period.	

George Brown - Acciona Energy North America - 5	
Answer	No
Document Name	
Comment	
Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	No
Document Name	
Comment	
MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	No

Document Name	
Comment	
<p>{C} The existing language in TOP-003 already provides for the collection of "...data and information necessary needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments..." This would include any generator cold or extreme weather limitations. There is no need to spell it out individually. Additionally, the NERC Functional Model identifies the Balancing Authority as the entity responsible for "Formulating an operational plan (generation commitment, outage, etc.) for reliability evaluation." The TOP is responsible for the Real-time operating reliability of the transmission assets under its purview. The TOP should not be required to ensure the Balancing Authority is performing their function, which is probably why the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." {C}{C}{C}[A1]{C} {C}[A2]{C}</p> <p>The existing language in TOP-003 already provides for the collection of "...data and information necessary needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments...". This would include any generator cold or extreme weather limitations; therefore, is unnecessary to specifically address. Additionally, the NERC Functional Model identifies the Balancing Authority as the entity responsible for "Formulating an operational plan (generation commitment, outage, etc.) for reliability evaluation." The TOP is responsible for the Real-time operating reliability of the transmission assets under its control. [A3] The TOP should not be required to ensure the Balancing Authority is performing their function. This is evidenced in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018", in which the TOP function was not identified.</p>	
Likes	0
Dislikes	0
Response	
<p>Thanks you for your comments. The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur.</p>	
<p>Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro</p>	
Answer	No

Document Name	
Comment	
<p>The proposed Requirement R1.3 references “unit-specific design specification”, which is a very broad term that seems better suited to facility ratings/design. Secondly, there needs to be added context on what constitutes “minimal historical performance”. This can be captured in Facilities ratings/design standards including dependencies on temperature or other weather parameters for specific “emergency” conditions, and how these may affect a generating unit’s operating limitations.</p> <p>The term “cold weather” can have varied interpretations throughout the continent, so a more concise term and/or definition that would also include which weather elements may be subject to this (e.g. cold weather may imply this is just for ice/snow) would be helpful.</p> <p>BC Hydro suggest that the IRO-010 language be kept to the specific information, such as the designed operating temperature range of a unit that would be necessary for performing Operations Planning Analyses</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SDT has revised the proposed standards and are offering a Technical Rationale and Implementation Guidance for review.</p> <p>Erin Green - Western Area Power Administration - 1,6</p>	
Answer	No
Document Name	
Comment	
<p>Support comments by Western Area Power Administration, Sean Erickson, Segment 1.</p>	
Likes	0
Dislikes	0

Response	
Please see the SDT's response to WAPA, Sean Erickson, Segment 1.	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
Do not agree with adding generation limitations to TOP data specification is beneficial, especially in the ERCOT region, as generation data is communicated directly to ERCOT, not the TOP.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur.	
Gladys DeLaO - CPS Energy - 1	
Answer	No
Document Name	
Comment	
Do not agree with adding generation limitations to TOP data specification is beneficial, especially in the ERCOT region, as generation data is communicated directly to ERCOT, not the TOP.	
Likes	0
Dislikes	0

Response	
<p>Thank you for your comments. The FERC report recommended that the specificity of cold weather related data be specifically included in the communications between the GO/GOP and the RC/BA. The SDT team determined that the data specification requirements was the appropriate standard to ensure the communications occur. The SAR includes the TOP and therefore the SDT has included the TOP in the requirements.</p>	
<p>Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2</p>	
Answer	No
Document Name	
Comment	
<p>As ERCOT has noted below in response to Question 8, it would be more straightforward to place the communication obligation on the GOP through a new R8 in EOP-011. However, if the SDT proceeds with a data specification requirement, ERCOT agrees it would be appropriate to place such a requirement on the TOP and BA by inserting new R1.3 and new R2.3 in TOP-003, to read as follows:</p> <p>1.3/2.3 Provisions for notification of generating unit capability and availability that reflects any operating limitations or unit-specific design specifications during actual and anticipated cold weather conditions.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. TOP-003 has been revised to include the BA.</p>	
<p>Scott McGough - Georgia System Operations Corporation - 3</p>	
Answer	No
Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx

Comment: New requirement R1.3 feels overly specific and redundant of R1.1. It singles out activities surrounding cold weather, but does not address other extreme weather conditions that could affect grid conditions, e.g., extreme heat, humidity, and rain/wind events. GSOC respectfully suggests that the entire sub-requirement could be more effective as an example listed under R1.1

Likes 0

Dislikes 0

Response

Thank you for your comment. The FERC report recommended that reliability standards be developed that specifically provided for the substantive information included in the draft standards. Whereas R1.1 refers to data generally determined by the TOP to perform its studies, the specifics in 1.3 are recommended by FERC. Extreme heat, humidity, and rain/wind events are outside the scope of the approved SAR, and the SDT is unable to address those given the timeframe mandated by the NERC Board.

Donald Lock - Talen Generation, LLC - 5

Answer Yes

Document Name

Comment

Talen agrees with placement of Transmission Operator data specification requirements in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Thank you for your support.

Thomas Foltz - AEP - 5

Answer Yes

Document Name	
Comment	
<p>While AEP sees the value and benefit of the inclusion of the Transmission Operator data specification requirements as currently proposed, AEP is concerned by exactly how this data would conceivably be used, specifically in regards to the potential impact that the sharing of this information could unintentionally have on the market. For example, an entity could perhaps be running close to a design specification or minimum historical performance and could perhaps be penalized as a result. We are also concerned by the potential subjectivity or inconsistency that might occur in determining compliance.</p> <p>In addition, we also believe there needs to be some clarity within the proposed revisions on what actions the receiving entity should take, or perhaps should-not take, as a result of receiving this provided information.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SDT has focused on the FERC report recommendations and understands organized markets have their own recommendations to consider but which are outside the scope of the SAR.</p>	
<p>Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC</p>	
Answer	Yes
Document Name	
Comment	
<p>Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle</p>	

recommends that wherever the term “cold weather” has been added to Standard, it should be replaced with the term “abnormally cold weather.”

Likes 0

Dislikes 0

Response

The FERC report is focused on preparations for all cold weather. The SDT believes abnormally cold weather is a sub-set that would be covered by the broader terms.

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Southern Company agrees that TOP-003 is the best fit for this new TOP data specification requirement. Southern Company offers the following suggestions for the SDT.

1. Revise the wording of proposed requirement 1.3

a. Suggest re-wording to “Provisions for notification of BES generating unit-specific minimum design temperature or if design temperature is not available, the minimum historical temperature during cold weather in the previous 5 years in which the unit has demonstrated full output operation, and BES generating unit operating limitations during local forecasted cold weather.”

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the revised standards.

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer

Yes

Document Name

Comment

The proposed requirement 7.3.2.2 in EOP-011 has a 5-year limitation on historical data. However, the new requirements in TOP-003 do not have this limitation. As such, will the historical information be required back to the commissioning of the unit? If not, please add the 5-year limitation.

Likes 1

Tennessee Valley Authority, 5, Thomas M Lee

Dislikes 0

Response

Thank you. The SDT has revised the requirements to maintain consistency across the standards.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer	Yes
Document Name	
Comment	
The NAGF agrees with placement of Transmission Operator data specification requirements in the TOP-003 standard.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments.	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	
Comment	
Similar to IRO-010 modifications, we recommend focusing on minimum historical performance and defining the time period (e.g. 50 year) to provide a more consistent approach across regions.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. Please see the revised standards for the current requirements.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	

Comment

For Black Hills Corporation, it depends on what other TOPs require when they rewrite their data specification. Black Hills Corporation believes the addition of unit-specific information and limitations during local forecasted cold weather will be helpful for our studies.

Likes 0

Dislikes 0

Response

Thanks for your input.

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Yes

Document Name

Comment

Consistent with the NAGF, DTEE agrees with placement of Transmission Operator data specification requirements in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Thank you for your support.

Marcus Bortman - APS - Arizona Public Service Co. - 6

Answer

Yes

Document Name

Comment

AZPS agrees that the requirement is in the correct standard, TOP-003. However, AZPS does not see value added for the addition of this requirement and feels it is somewhat redundant to TOP-002 engineering study, resource commitment, etc? Consider BA applicability.	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The studies performed under TOP-002 are to ensure that Transmission Operators and Balancing Authorities have plans for operating inside its footprint within specified limits. The information to be provided by the Generator Owners are unit specific capabilities and operating limitations in cold weather which will be provided to the Transmission Operators and Balancing Authorities per the data specification requirements. TOP-003 has been updated to include the Balancing Authorities.</p> <p>Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb</p>	
Answer	Yes
Document Name	
Comment	
<p>Evergy supports and incorporates by reference Edison Electric Institute’s response to Question 3.</p>	
Likes	0
Dislikes	0
Response	
<p>Please see the SDT’s response to EEI Question 3.</p> <p>Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper</p>	
Answer	Yes
Document Name	

Comment

Santee Cooper has concerns with the term cold weather as this could be interpreted differently depending on where generating resources are located. Should there be some standard definition of cold weather as below a certain temperature?

Likes 0

Dislikes 0

Response

The SDT considered defining cold weather but decided to allow the GO to identify the appropriate definition of cold weather for its units.

Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC

Answer

Yes

Document Name

Comment

Allowing different planning entities the ability to make multiple requests of generators results in inefficiencies and can take focus away from more critical activities. A central, streamlined, and consistent process for submitting this type of data would benefit the grid. For greatest efficiency, NERC should proactively work with TOPs and RCs to identify pertinent information related to cold weather operating characteristics (and other areas of critical concern). NERC should consider if the Align tool, GADS portal, Misoperation Portal, or other similar centralized tools, could be used to streamline how / when these data requests are made. In addition, a centralized portal could include a data submission element such that a GO/GOP only must submit data once for it to be used, as required, by the appropriate planning entities (TOP, BA, RC).

If a centralized tool is not developed, the SDT should add a minimum time requirement to R3/R4/R5 such that the planning entity is required to give ample notice to the entity from which it is requesting data. Currently, each planning entity has a different process and timeline for making data requests; as a GO/GOP registered in multiple regions we must understand and work within each planning entity's process. In addition, the onus should be on the planning entities to provide a fulsome, publicly available (on Align or NERC Website) list of entities required to submit data vs. requiring entities to rely on negative confirmation.

Likes	0
Dislikes	0
Response	
Thank you for your comments. Your suggestions have been passed onto NERC.	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to NAGF.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports placing the Transmission Operator data specification requirements within TOP-003.	
Likes	0
Dislikes	0
Response	

Thank you for your support.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports placing the Transmission Operator (TOP) data specification requirements within TOP-003.	
On Behalf of Exelon, Segments: 1, 3, 5, 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to IRC SRC.	

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer Yes

Document Name

Comment

Yes, PG&E generally agrees with the proposed modifications proposed in TOP-003-5 as proposed.

Likes 0

Dislikes 0

Response

Thank you for your support.

Jamie Johnson - California ISO - 2

Answer Yes

Document Name

Comment

CAISO supports the inclusion of the data specification requirements within TOP-003 however, recommends the SDT move R1.3 to R2 making this a requirement of the BA rather than the TOP.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT determined that the edits to the TOP are accurate and added these modifications to the BA Requirement R2.

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer	Yes
Document Name	
Comment	
PJM supports the IRC SRC comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to IRC SRC.	
Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
I don't believe it is necessary to include the language in TOP-003. EOP-011 requires the TOP to plan for cold weather. TOP-003 is to ensure the TOP can receive the data it needs and TOP-003 R1 allows the TOP to ask for data in addition to the existing sub-parts of R1. TOP-003 purpose does not include prescribing to the TOP what data they need, but ensuring they have access to the data they determine they need.	
Likes 0	
Dislikes 0	
Response	
Thank you for your input.	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	

Comment	
Likes 1	Platte River Power Authority, 3, Kiess Wade
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Bruce Reimer - Manitoba Hydro - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE agrees with the addition of requirements for Transmission Operators (TOPs) to develop a documented data specification including the provision for notification of BES generating unit-specific design performance during cold weather, as well as expected BES generating unit operational limitations during local forecasted cold weather. Texas RE suggests the SDT consider matching the language of the proposed TOP-003-5 Requirement R1, Part 1.3 with the proposed generating unit cold weather data requirements set forth EOP-011-2 Requirement R7, Part 7.3 as modified by Texas RE's comments concerning that Part. Much like GOs, TOPs should obtain data beyond minimal design temperatures or minimal historical performance over a five-year period so they can account for other factors such as ice build-up and snow load, which could have significant, detrimental reliability impacts that are independent from freezing temperature, especially for renewables in performing Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p> <p>The language, "provisions for notification", could possibly be read to imply that the data provision is event-driven instead of data that is requested and collected by the TOP prior to any forecasted cold weather event. While it may be helpful for the TOP to receive event-driven notification from entities regarding any expected limitations during a specific forecasted cold weather event, the TOP should be requesting and collecting data regarding design specifications and operating limitations for cold weather as part of the normal data request and collection processes, with the periodicity specified per TOP-003-5 Requirement R1, Part 1.4.</p>	
Likes 0	

Dislikes 0	
Response	
Thank you for your comments. The SDT aligned the language of the proposed TOP-003-5 R1 Part 1.3 with the EOP-011 R7 Part 7.3. Please see the updated modifications.	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	
Comment	
comments submitted	
Likes 0	
Dislikes 0	
Response	
Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	
Document Name	
Comment	
Utility Services supports the comments posted by the TAPS group.	
Likes 0	
Dislikes 0	
Response	

Please see the SDT's response to the TAPS group.	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute".	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	

4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer No

Document Name

Comment

ERCOT does not see a proposed data specification requirement in EOP-011. If the SDT intends to proceed with a data specification requirement for BAs, ERCOT suggests that this would most appropriately be placed in TOP-003 R2 (see response to Question 3, above).

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Gladys DeLaO - CPS Energy - 1

Answer No

Document Name

Comment

Not clear on the "data specification requirement" added for the BA; appears to be adding BA requirement to add "Processes to prepare for and mitigate Emergencies including" for cold weather conditions; this is too vague to offer reliable solution to the 2021 cold weather event.

Likes 0

Dislikes	0
Response	
Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification and these were not meant to be within EOP-011.	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
Not clear on the "data specification requirement" added for the BA; appears to be adding BA requirement to add "Processes to prepare for and mitigate Emergencies including" for cold weather conditions; this is too vague to offer reliable solution to the 2021 cold weather event.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification and these were not meant to be within EOP-011.	
Jamie Johnson - California ISO - 2	
Answer	No
Document Name	
Comment	
CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0

Response

Thank you for your comment. See response for the comments submitted by the IRC SRC.

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)

Answer	No
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Document Name	
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Comment

IRC SRC recommends the Balancing Authority data specification requirements be defined under TOP-003 along with the TOP data specification requirements.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Erin Green - Western Area Power Administration - 1,6

Answer	No
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Document Name	
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Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. See response for the comments submitted by WAPA.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	No
Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes	0
Dislikes	0
Response	
Thank you for your comment. See response for the comments submitted by the IRC SRC.	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	No
Document Name	
Comment	
CEPM agrees with the inclusion of cold weather conditions in R2, but feel it should be a sub-requirement under extreme weather conditions to allow for other extreme weather sub-requirements at a later date (i.e. hurricane, Tornado, Thunder/Lightning, GMD, etc...)	
Likes	0
Dislikes	0
Response	
The SDT determined that a definition of cold weather was not needed within EOP-011's Requirements, but will expand upon the intent of this term within the associated Technical Reference document being developed.	

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
The posted EOP-011 draft for comment (EOP-011-2 Redline 01272021) does not appear to include a new or modified EOP-011 Requirement identifying “Balancing Authority data specification requirements” referenced in Question #4 above. Please clarify.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	
The SDT provided no data specification requirement in EOP-011. Instead, the language in EOP-011 requires the BA to develop, maintain and implement one or more Operating Plan to address cold weather conditions – which is appropriate. However, we also believe that modifications to TOP-003 to address data specifications for the BA are unnecessary given Requirement R2 already includes language to specify “the data necessary for it to perform its analysis functions and Real-time monitoring” and Requirement R5 requires all applicable entities to provide the specified data.	
Likes	0
Dislikes	0
Response	

Thank you for your comment. The SDT has determined that a BA data specification should be located in TOP-003 to add more specificity and has updated the Standard accordingly.

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer No

Document Name

Comment

The SDT revisions applicable to the BA placed in EOP-011 address the inclusion of the reliability impacts of cold weather conditions in the BA's emergency operations plan(s) and do not address the data specification. Any revisions to the BA data specification requirement would better fit in TOP-003 R2.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer No

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

Likes 0

Dislikes 0

Response

Thank you for your comment. See response for the comments submitted by the MRO NSRF.

George Brown - Acciona Energy North America - 5

Answer	No
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Document Name	
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Comment

Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. See response for the comments submitted by the MRO NSRF.

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer	No
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Document Name	
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Comment

For consistency, the BA data spec should be handled similarly to the TOP data spec and be included in TOP-003.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	No
Document Name	
Comment	
All data required by the BA should be the same data points as required for the RC and TOP. This will provide consistency across these three Functional Entities. BA data request should not be in EOP-011-2 but rather in TOP-003 R2. ACES recommends that Part 7.3 and its subcomponents be deleted from the proposed EOP-011-2 and be placed in TOP-003.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly. Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	No
Document Name	
Comment	
See Tom Breene's comments.	
Likes	0
Dislikes	0
Response	

Thank you for your comment. See response for the comments submitted by Tom Breene.	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	
Santee Cooper recommends adding a requirement to TOP-003 for the BA to request data specifications from a GO.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	No
Document Name	
Comment	
The SDT provided no data specification requirement in EOP-011. Instead, the language in EOP-011 requires the BA to develop, maintain and implement one or more Operating Plan to address cold weather conditions – which is appropriate. However, we also believe that modifications to TOP-003 to address data specifications for the BA are unnecessary given Requirement R2 already includes language to specify “the data necessary for it to perform its analysis functions and Real-time monitoring” and Requirement R5 requires all applicable entities to provide the specified data.	
Likes	0
Dislikes	0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly. Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.

Wayne Guttormson - SaskPower - 1

Answer No

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Thank you for your comment. See response for the comments submitted by the MRO-NSF

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather

Answer No

Document Name

Comment

The SDT revisions applicable to the BA placed in EOP-011 address the inclusion of the reliability impacts of cold weather conditions in the BA's emergency operations plan(s) and do not address the data specification. Any revisions to the BA data specification requirement would better fit in TOP-003 R2.

Likes 0

Dislikes 0

Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	No
Document Name	
Comment	
The SDT revisions applicable to the BA placed in EOP-011 address the inclusion of the reliability impacts of cold weather conditions in the BA's emergency operations plan(s) and do not address the data specification. Any revisions to the BA data specification requirement would better fit in TOP-003 R2.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	No
Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes	0
Dislikes	0

Response	
Thank you for your comment. See response for the comments submitted by the MRO NSRF.	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	No
Document Name	
Comment	
<ul style="list-style-type: none"> • For EOP-011-2 R7. 7.1, consider rewording the sub-requirement to emphasize that geographic location and plant configuration are only some examples of unique factors (other unique factors can and should be considered). See example below. <ul style="list-style-type: none"> ○ 7.1 Generating unit(s) freeze protection measures based on unique factors that include, but are not limited to, geographical location, plant configuration, and varying operational scenarios. • For EOP-011-2 R7. 7.3.2.2, there are two recommendations and suggested rewording below: <ul style="list-style-type: none"> • <ul style="list-style-type: none"> i. The wording, “demonstrated historical performance”, in 7.3.2.2 could be interpreted that historical cold weather information is only applicable when the generator is typically running/operational. Suggest to reword so that 7.3.2.2 is focused on cold weather experienced over a period of time at a plant location. ii. Extend the timeframe from 5 years to 10 years. This aligns with the language in BAL-502-RF-03 to review resource adequacy based on “one day in ten year” loss of Load expectation. Other Reliability Coordinators/Planning Coordinators also has various assessment test methods that are designed to review risks associated with a “one day in ten year” type of event. This change may better cover geographic areas that do not frequently experience cold weather events. 	
7.3.2.2. Minimum demonstrated historical cold weather experienced in the previous 10 years	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has modified EOP-011-2 R7.1 to remove ‘unique’. The Technical Reference document associated with this Project will expand upon the intent of this sub-requirement.	
Devon Tremont - Taunton Municipal Lighting Plant - 1	

Answer	No
Document Name	
Comment	
<p>The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.</p> <p>Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.</p> <p>In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.</p> <p>The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:</p> <p>7.3. Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:</p> <p>7.3.1. Generating unit(s):</p> <p>7.3.1.1 operating limitations in cold weather; or</p> <p>7.3.1.2. minimum design temperature; or</p> <p>7.3.1.3. minimum demonstrated historical performance during previous cold weather events; or</p>	

7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

The SDT agrees that “the previous 5 years” term is not needed and removed this term from sub-requirement R7.3.2.2. and added sub-requirement R7.3.2.3. to include the option of “engineering analysis to determine current minimum cold weather performance temperature”

All sub-requirements of EOP-011 Requirement R7.3.2. have been modified as “or” statements.

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer

No

Document Name

Comment

TOP-003 contains the BA Data Specification, these requirements should be included in that Standard.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer	No
Document Name	
Comment	
<p>The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.</p> <p>Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.</p> <p>In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.</p> <p>The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:</p> <p>7.3. Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:</p> <p>7.3.1. Generating unit(s):</p> <p>7.3.1.1 operating limitations in cold weather; or</p> <p>7.3.1.2. minimum design temperature; or</p> <p>7.3.1.3. minimum demonstrated historical performance during previous cold weather events; or</p>	

7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.

The SDT agrees that “the previous 5 years” term is not needed and removed this term from sub-requirement R7.3.2.2. and added sub-requirement R7.3.2.3. to include the option of “engineering analysis to determine current minimum cold weather performance temperature”

Mike Magruder - Avista - Avista Corporation - 1

Answer

No

Document Name

Comment

The addition for R1 (1.2.6.) for TOP would be satisfied by R7 so it would be on the GO to provide information.

Likes 0

Dislikes 0

Response

Thank you for your comment. EOP-011 Requirement R1.2.6 has been further modified to clarify the expectations of the TOP Operating Plan

Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable

Answer No

Document Name

Comment

The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.

Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.

In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.

The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:

7.3. Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; or

7.3.1.2. minimum design temperature; or

7.3.1.3. minimum demonstrated historical performance during previous cold weather events; or
 7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.

The SDT agrees that “the previous 5 years” term is not needed and removed this term from sub-requirement R7.3.2.2. and added sub-requirement R7.3.2.3. to include the option of “engineering analysis to determine current minimum cold weather performance temperature.

All sub-requirements of EOP-011 Requirement R7.3.2. have been modified as “or” statements.

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer No

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Thank you for your comment. See response for the comments submitted by the TAPS group.

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

There is no data specification requirement for the BA. So I am not clear why this question was asked. Did the SDT post the work files on the NERC website? Or make an error by asking this question?

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer No

Document Name

Comment

All data required by the BA should be the same data points as required for the RC and TOP. This will provide consistency across these three Functional Entities. BA data request should not be in EOP-011-2 but rather in TOP-003 R2. ACES recommends that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.
 Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.
 Thank you for your comment. See response for the comments submitted by ACES.

Thomas Breene - WEC Energy Group, Inc. - 3

Answer	No
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Document Name	
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Comment

TOP-003 contains the BA Data Specification, these requirements should be included in that Standard

Likes 1	WEC Energy Group, Inc., 5, OBrien Janet
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Dislikes 0	
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Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Ballard Mutters - Orlando Utilities Commission - 3

Answer	No
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Document Name	
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Comment

The BA data specification requirements should be added to TOP-003, as the SDT is proposing to do for the TOP data specification requirements. The BA language should mirror the TOP and RC language, as described below; using different language, and putting it in a

different location from other BA data specification requirements, will lead to unnecessary confusion. BAs, RCs, and TOPs need the same data with respect to cold weather limitations, and it will be more efficient for GOs to be able to provide the same data to each entity.

Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.

In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.

The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:

7.3. Generating unit(s) cold weather data, Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; and or

7.3.2. Generating unit(s):

7.3.2.11.2. minimum design temperature; or

7.3.2.21.3. minimum demonstrated historical performance during previous cold weather events; or in the previous 5 years;

Likes	0
Dislikes	0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.

The SDT agrees that “the previous 5 years” term is not needed and removed this term from sub-requirement R7.3.2.2. and added sub-requirement R7.3.2.3. to include the option of “engineering analysis to determine current minimum cold weather performance temperature”

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority

Answer No

Document Name

Comment

The posted EOP-011-2 redline does not require the BA to make a change to its data specification. Balancing Authority data specification requirements should be addressed in TOP-003 Requirement R2. We do support the addition of language in EOP-011 Requirement R2 to include reliability impacts of cold weather or any other extreme weather conditions in a Balancing Authority’s Operating Plan(s).

Likes 1 Tennessee Valley Authority, 5, Thomas M Lee

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Dania Colon - Orlando Utilities Commission - 5

Answer No

Document Name

Comment

Proposed EOP-011, R7.3 is essentially a data specification requirement; it should thus be moved to IRO-010 and TOP-003 and combined with the new proposed language in those standards. The wording should also be revised to more accurately reflect the requirement’s goal: that entities that need the information be made aware of the conditions under which the generator will be inoperable. That goal can be accomplished via the communication of known cold weather operating limitations, the minimum design temperature, the minimum demonstrated historical performance during cold weather, or an engineering analysis. It would be inappropriate to require entities to provide multiple forms of evidence of the same fact.

In addition, “in the previous 5 years” should be deleted from R7.3.2.2, because it results in an unnecessary administrative requirement to update the information every year regardless of whether there has been a change. Referring simply to the “minimum demonstrated historical performance during cold weather” requires an update only if there is a change.

The data specification requirement for BAs, TOPs, and RCs (renumbered as appropriate) should read:

7.3. Generating unit(s) cold weather data, Provisions for notification of BES generating unit-specific data related to expected performance in cold weather, to include:

7.3.1. Generating unit(s):

7.3.1.1 operating limitations in cold weather; and or

7.3.2. Generating unit(s):

7.3.2.11.2. minimum design temperature; or

7.3.2.21.3. minimum demonstrated historical performance during previous cold weather events; or in the previous 5 years;

7.3.1.4 engineering analysis of expected operation limitations in cold weather.

Likes	0
Dislikes	0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Additionally, the SDT has further modified EOP-011 Requirement R7.3 and updated TOP-003 similarly with the same data specification.

The SDT agrees that “the previous 5 years” term is not needed and removed this term from sub-requirement R7.3.2.2. and added sub-requirement R7.3.2.3. to include the option of “engineering analysis to determine current minimum cold weather performance temperature”

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer	No
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Document Name	
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Comment

All data required by the BA should be the same data points as required for the RC and TOP. This will provide consistency across these three Functional Entities. BA data request should not be in EOP-011-2 but rather in TOP-003 R2. Recommend that Part 7.3 and its sub-components be deleted from the proposed EOP-011-2 and be placed in TOP-003 (with modifications, see below) these are data points the RC should want to ask for to ensure they know the capabilities of BES generators in their system during cold weather conditions.

7.3.1 requires “operating limitations” and if those limitations are unknown, then 7.3.2 gives the GO other avenues to gather generator’s cold weather data. At the end of 7.3.1 there is an “AND” this should be changed to an “OR”. A GO may have data specified in 7.3.1 and if don’t then they can use 7.3.2 to obtain the generator’s cold weather data via different methods.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

All sub-requirements of EOP-011 Requirement R7.3.2. have been modified as “or” statements.

The SDT has added sub-requirement R7.3.2.3. to include the option of “engineering analysis to determine current minimum cold weather performance temperature”

Michael Brytowski - Great River Energy - 3

Answer	No
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Document Name	
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Comment

GRE supports the comments of the NSRF

Likes	0
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Dislikes	0
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Response

Thank you for your comment. See response for the comments submitted by the NSRF.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	No
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Document Name	
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Comment

There is no data specification requirement for the BA. So I am not clear why this question was asked. Did the SDT post the work files on the NERC website? Or make an error by asking this question?

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer No

Document Name

Comment

The posted clean and redline versions of EOP-011 do not appear to identify any Balancing Authority data specification requirements. As identified for the data specifications for Reliability Coordinators and Transmission Operators, Reclamation recommends excluding hydroelectric generators from this requirement as they rely on water operations, for which cold weather considerations are already accounted by local operations and maintenance procedures.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly

EOP-011 Requirement R7 allows for each generation facility to prepare a cold weather preparedness plan based on the needs of their operation. No generation type has been eliminated from the Standard at this time.

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

The addition for R1 (1.2.6.) for TOP would be satisfied by R7 so it would be on the GO to provide information.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. EOP-011 Requirement R1.2.6 has been further modified to clarify the expectations of the TOP Operating Plan	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
BPA supports Reclamation's comments.	
Likes	0
Dislikes	0
Response	
BPA supports Reclamation's comments.	
Marty Hostler - Northern California Power Agency - 5	
Answer	No
Document Name	
Comment	

There is no data specification requirement for the BA. So I am not clear why this question was asked. Did the SDT post the work files on the NERC website? Or make an error by asking this question?	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power	
Answer	No
Document Name	
Comment	
Instead of adding a new BA requirement in EOP-011, Tacoma Power recommends adding a sub-requirement to TOP-003 R2 for the BA to request data specifications from GO.	
Likes	2
	Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Thomas Foltz - AEP - 5	
Answer	No

Document Name	
Comment	
AEP is unsure of the meaning or intent of this question, as we are unable to locate the proposed changes inferred by the question itself.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification.	
Dylan Sontag - Silicon Ranch Corporation - 1 - SERC	
Answer	No
Document Name	
Comment	
There are no annual cold weather preparations for our solar facilities that need to be performed and our facilities are not limited in any way during cold weather.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. EOP-011 Requirement R7 allows for each generation facility to prepare a cold weather preparedness plan based on the needs of their operation. NERC's 2019 Winter Weather Preparation webinar includes some parameters for solar facilities to consider (https://www.nerc.com/pa/rrm/Webinars%20DL/Winter Weather Prep Webinar 20190905.pdf). Additionally, NERC's Reliability Guideline includes some winter weather readiness parameters for solar facilities to consider (https://www.nerc.com/comm/OC Reliability Guidelines DL/Reliability Guideline Generating Unit Winter Weather Readiness v3 Final.pdf)	

Kristina Marriott - First Solar, Inc. - 5	
Answer	No
Document Name	
Comment	
The industry may benefit from having all cold weather requirements located in a singled EOP Standard. For entities with multiple types of registered functions, searching for cold weather requirements in multiple different standards may be tedious and confusing.	
Likes	0
Dislikes	0
Response	
Thank you for your comment.	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	No
Document Name	2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx
Comment Requirements R1.2.6 and R2.2.9 narrowly focus on cold weather amid existing references to extreme weather. While these would be demonstrative as examples, the current structure seems redundant.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The modifications to 1.2.6. and 2.2.9. are to address the cold weather recommendation from the FERC and NERC report. The “extreme weather conditions” language is legacy language and therefore the team did not feel it was necessary to remove, but to add a qualifier subpart addressing the cold weather recommendation.	

Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
I don't think that the phrase "Data Specification" optimally reflects the changes in EOP-011-2 for the BA. There is a requirement to plan for cold weather which may require them to request data, and they can request that data under the existing TOP-003 R2 which does not require modification.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
PJM supports the IRC SRC comments.	
Likes	0
Dislikes	0
Response	
Please see SDT's response to the IRC SRC.	

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer Yes

Document Name

Comment

Yes, PG&E generally agrees with the proposed modifications of EOP-011 with respect to the Balancing Authority.

Likes 0

Dislikes 0

Response

Thank you for your support.

Daniel Gacek - Exelon - 1

Answer Yes

Document Name

Comment

Exelon agrees with the placement of the Balancing Authority (BA) data specifications in the EOP-011 Reliability Standard.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification.

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer	Yes
Document Name	
Comment	
EEI agrees with the placement of Balancing Authority (BA) data specifications in EOP-011 Reliability Standard.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification.	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to the NAGF.	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	

Allowing different planning entities the ability to make multiple requests of generators results in inefficiencies and can take focus away from more critical activities. A central, streamlined, and consistent process for submitting this type of data would benefit the grid. For greatest efficiency, NERC should proactively work with TOPs and RCs to identify pertinent information related to cold weather operating characteristics (and other areas of critical concern). NERC should consider if the Align tool, GADS portal, Misoperation Portal, or other similar centralized tools, could be used to streamline how / when these data requests are made. In addition, a centralized portal could include a data submission element such that a GO/GOP only must submit data once for it to be used, as required, by the appropriate planning entities (TOP, BA, RC).

If a centralized tool is not developed, the SDT should add a minimum time requirement to R3/R4/R5 such that the planning entity is required to give ample notice to the entity from which it is requesting data. Currently, each planning entity has a different process and timeline for making data requests; as a GO/GOP registered in multiple regions we must understand and work within each planning entity's process. In addition, the onus should be on the planning entities to provide a fulsome, publicly available (on Align or NERC Website) list of entities required to submit data vs. requiring entities to rely on negative confirmation.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT project scope did not include the option of developing additional NERC platform reporting obligations, however this may be developed by NERC in the future.

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb

Answer Yes

Document Name

Comment

Evergy supports and incorporates by reference Edison Electric Institute's response to Question 4.

Likes 0

Dislikes	0
Response	
Thank you for your comment. See response for the comments submitted by the EEI.	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
<p>AZPS agrees but would like to add the additional comments. “Cold weather” is not defined. “Extreme weather conditions” not defined. Is it based on temperature or geography? What is the scope of “cold” and “extreme”?</p> <p>Move 1.2.6 to be a sub-bullet under 1.2.5 and move 2.2.9 to be a sub-bullet under 2.2.8 (example below)</p> <p>1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and Reliability impacts of:</p> <ul style="list-style-type: none"> 1.2.5.1. cold weather conditions; and 1.2.5.2. any other extreme weather conditions <p>2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and Reliability impacts of:</p> <ul style="list-style-type: none"> 2.2.8.1. cold weather conditions; and 2.2.8.2. any other extreme weather conditions. 	
Likes	0
Dislikes	0
Response	

The SDT determined that a definition of cold weather was not needed within EOP-011’s Requirements, but will expand upon the intent of this term within the associated Technical Reference document being developed.

EOP-011 Requirement R1.2.6 and R2.2.9 have been further modified to clarify the expectations of the TOP and BA Operating Plans respectively.

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer	Yes
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Document Name	
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Comment

Consistent with the NAGF, DTEE agrees with placement of Balancing Authority data specification requirements in the EOP-011 standard.

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer	Yes
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Document Name	
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Comment

While Black Hills Corporation is not a BA, we do not see any reason to further break down EOP-011 R1.2.6 and 2.2.9

Likes	0
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Dislikes	0
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Response

Thank you for your comment. EOP-011 Requirement R1.2.6 and R2.2.9 have been further modified to clarify the expectations of the TOP and BA Operating Plans respectively.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer Yes

Document Name

Comment

The NAGF agrees with placement of Balancing Authority data specification requirements in the EOP-011 standard.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer	Yes
Document Name	
Comment	
Southern Company believes that this should be included in TOP-003-5 R2, as noted below in our response to Question 7.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	

Comment

Seattle City Light appreciates the efforts of the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. As part of this balance, Seattle understands that the SDT intends the term “cold weather” and associated activities to apply to conditions that are extremely or abnormally cold for a particular location or region, rather than applying a single measure of “cold weather” (such as “below freezing”) across the continent. What is “cold weather” for a plant in Texas is routine weather for a plant in Minnesota or Canada, for instance. To make this distinction clear, Seattle recommends that wherever the term “cold weather” has been added to Standard, it should be replaced with the term “abnormally cold weather.”

Likes 0

Dislikes 0

Response

The SDT determined that a definition of cold weather was not needed within EOP-011’s Requirements, but will expand upon the intent of this term within the associated Technical Reference document being developed.

Bruce Reimer - Manitoba Hydro - 1

Answer Yes

Document Name

Comment

If the standard is geared towards ensuring generators run during extreme weather events, should not the same performance factors be considered during ALL weather events? What critical generator auxiliaries are affected by weather events? Should the standard require an evaluation of all systems that are required to run/operate the generator, and have each of those systems evaluated for their limitations during various weather events? i.e. If a thermal unit requires river water as part of its cooling system, does the unit have any limitations during a drought? If so, does your plan address those/have a plan for that?

Likes 0

Dislikes 0

Response

Thank you for your comment. EOP-011 Requirement R7 allows for each generation facility to prepare a cold weather preparedness plan based on the needs of their operation. NERC’s 2019 Winter Weather Preparation webinar includes some parameters for various generation facilities to consider ([https://www.nerc.com/pa/rm/Webinars%20DL/Winter Weather Prep Webinar 20190905.pdf](https://www.nerc.com/pa/rm/Webinars%20DL/Winter_Weather_Prep_Webinar_20190905.pdf)). Additionally, NERC’s Reliability Guideline includes some winter weather readiness parameters for various generation facilities to consider ([https://www.nerc.com/comm/OC Reliability Guidelines DL/Reliability Guideline Generating Unit Winter Weather Readiness v3 Final.pdf](https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Reliability_Guideline_Generating_Unit_Winter_Weather_Readiness_v3_Final.pdf))

Todd Bennett - Associated Electric Cooperative, Inc. - 3

Answer	Yes
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Document Name	
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Comment

In addition to the current EOP-011 draft language, the following language should be added to draft TOP-003-5 R2 to address the BA: “Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations during local forecasted cold weather”

Likes	0
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Dislikes	0
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Response

Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer	Yes
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Document Name	
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Comment

This is a "No" vote. ISO-NE recommends the Balancing Authority data specification requirements be defined under TOP-003 along with the TOP data specification requirements.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Talen agrees with placement of Balancing Authority data specification requirements in the EOP-011 standard.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has updated TOP-003 to include the BA data specification.	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes	0

Dislikes	0
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response

Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Erick Barrios - New York Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Dan Roethemeyer - Vistra Energy - 5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 1	Platte River Power Authority, 3, Kiess Wade
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Janet OBrien - WEC Energy Group, Inc. - 5	
Answer	
Document Name	
Comment	
Support comments submitted by Tom Breene of WEC Energy Group.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. See response for the comments submitted by the Tom Breene	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute”.	

Likes	0
Dislikes	0
Response	
Thank you for your comment. See response for the comments submitted by the EEI.	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
SCE supports EEI's comments.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. See response for the comments submitted by the EEI.	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	
Comment	
comments submitted	
Likes	0
Dislikes	0

Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE agrees there should be data specification requirements for the Balancing Authority (BA) as the BA should have this data for its Operating Plan as proposed in the revised EOP-011-2 Requirement R2.</p> <p>In addition, however, Texas RE recommends that the SDT consider adopting similar unit-specific design specifications, minimum historical performance, and expected BES generating unit operation limitations data specification requirements for BAs in TOP-003-5 Requirement R2 as is currently established for TOPs in the proposed TOP-003-5 Requirement R1 and RCs in the proposed IRO-010-4 R1. The changes proposed in EOP-011 R2 require the BA to include the reliability impacts of cold weather conditions in its EOP-011 Operating Plan, but there does not appear to be a requirement for the BA to collect data related to design specifications and operating limitations as part of its data specification or for the GO to provide these parameters to the BA.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT agrees the BA data specification should be located in TOP-003 and has updated the Standard accordingly.	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	
Document Name	
Comment	

: BA data specification requirements for NIPSCO would likely be covered by MISO via CFR00001.

Likes 0

Dislikes 0

Response

Thank you for your comment. Each BA is allowed to develop their own cold weather data specification from existing policies and procedures as long as they contain the specifications within IRO-010 and EOP-011

5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?	
Kristina Marriott - First Solar, Inc. - 5	
Answer	No
Document Name	
Comment	
<p>We would like to better understand the requirements for freeze protection on Peak Resources, such as Wind and Solar generating sources.</p> <p>Can maintenance and inspection be more defined by minimum requirements? If not, perhaps a FAQ / Supplementary Reference could provide additional details and examples.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SDT drafted the requirement so it would not be proscriptive by designed but all the GO to make the determination regarding appropriate freeze protection and maintenance and inspection requirements. Please see the SDT's support document Implementation Guidance.</p>	
Dylan Sontag - Silicon Ranch Corporation - 1 - SERC	
Answer	No
Document Name	
Comment	

If the equipment on-site does not require any specific cold weather maintenance, then this should not be a required.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. This could be stated in the cold weather preparedness plan. In addition, The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	No
Document Name	
Comment	
This requirement would be challenging to achieve at all plants on an annual basis. A more realistic alternative would be to tie this new "maintenance and inspections" requirement to regular generator maintenance intervals already in place at the entity.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	No
Document Name	
Comment	

For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country.

Tyson Archie - Platte River Power Authority - 5

Answer

No

Document Name

Comment

Platte River Power Authority suggests replacing annual with calendar year for the required maintenance and inspection schedule. Requiring actions to be performed each calendar year promotes consistency in audit approach across regions. Per the April 19, 2019 NERC CMEP Practice Guide, “annual” can be interpreted as once per calendar year, or a rolling 12-months. Calendar year is widely accepted across regions to be interpreted as January 1 to December 31 of each year. The use of calendar year is also consistent with other maintenance and testing standards such as PRC-005. This also allows registered entities the flexibility to complete maintenance and inspections that better align with generating plant maintenance cycles and rotating outages.

Likes 1

Platte River Power Authority, 3, Kiess Wade

Dislikes 0

Response

Thank you for your comments. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Bruce Reimer - Manitoba Hydro - 1	
Answer	No
Document Name	
Comment	
Annually is fine for entities with a limited number of generators, but this will become an extreme burden for companies like MH who has 100+ generators? Once every 3 calendar years (like blackstart testing) is recommended.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	
<i>R7 as a whole does not provide enough specificity. It is not clear what will be required for inspections, historical performance tracking, and awareness training in addition to the annual maintenance. Also, the term "calendar year" should be considered in lieu of "annual".</i>	
Likes	0
Dislikes	0
Response	

Thank you for your comments. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer No

Document Name

Comment

Seattle City Light appreciates the effort made by the SDT to balance the requirement for an industry-wide standard while not burdening entities located in routinely cold regions with administrative activities. However, in the case of inspection requirements, Seattle does not feel this balance has been met. The inspection and documentation requirements specifically call out freeze protection for documentation and annual inspection. This specificity goes against the general approach of focusing new requirements and activities on cold weather conditions that are abnormal for a particular location or region. Freezing conditions and freeze protection are normal for the northern half of the continent. As written, these requirements require administrative documentation and activities for entities with facilities in such locations. Seattle recommends that these requirements be revised to focus on the objective of documenting and annually inspecting those specific measures implemented to provide operating protection during abnormally cold conditions, whatever those may be for a particular location.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer	No
Document Name	
Comment	
Tacoma Power is supportive of specifying a periodicity of performing maintenance activities, if these activities are required. Instead of “annual,” Tacoma Power recommends specifying either “each calendar year”, “15-month” or “12-month” in accordance with the PER-005 Standards White Paper.	
Likes 2	Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly
Dislikes 0	
Response	
The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Marty Hostler - Northern California Power Agency - 5	
Answer	No
Document Name	
Comment	
NO. There are no reliability improvements or cost estimates posted. Please provide the SDT's proposed cost versus reliability improvement benefit analysis, for each region, and for annual versus bi-annual inspection/maintenance.	
Likes 0	
Dislikes 0	
Response	

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to Reclamation.

Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1

Answer No

Document Name

Comment

Part 7.2 should provide a list (or give examples) of minimum maintenance and inspection requirements for specific forms of freeze protection measures (e.g., what, at a minimum, would be required for maintenance and inspection of insulations, heat trace, etc).

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Erick Barrios - New York Power Authority - 6

Answer No

Document Name

Comment

See response to Question 1.

Likes 0

Dislikes 0

Response

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

Annual Maintenance and Inspections should not be made mandatory.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Duke Energy agrees with Part 7.2 Annual Inspection of generating unit(s) freeze protection measures but suggests Part 7.2. clarify that Annual Maintenance is to be performed on an as-needed basis.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer No

Document Name

Comment

Annual maintenance for generator types and geographic areas that have never had a problem with cold weather represents an added regulatory burden for a problem that these generators and geographic areas do not have. Given the history of Facilities in northern, colder climates, annual maintenance and inspection requirements may be excessive. Reclamation recommends Generator Owners follow guidance derived from manufacturer specifications and entity evaluations of policy, procedure, and maintenance.

The terms “maintenance and inspection” are too vague. What type of inspections are intended to be required? Does this involve extensive inspections of internal equipment or is it a general life of material inspection? For an example of a clear, yet non-prescriptive presentation of inspection requirements, Reclamation recommends the SDT review FAC-501-WECC-3 Attachment A.

Due to the variety of interpretations of the term “annual,” Reclamation recommends any instances of an annual requirement specify that the required activity take place “at least every 12 months, not to exceed 15 months.”

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

No

Document Name

Comment

There are no reliability improvements or cost estimates posted. Please provide the SDT's proposed cost versus reliability improvement benefit analysis, for each region, and for annual versus bi-annual inspection/maintenance.

Likes 0

Dislikes 0

Response

Thank you for your comment. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Dania Colon - Orlando Utilities Commission - 5	
Answer	No
Document Name	
Comment	
Annual maintenance and inspection needs to be defined: will it be required annually, Jan.-Dec. or annually from the last maintenance? Our units are not taken off line annually. Maintenance is staggered so we don't have all units out the same year.	
Likes 0	
Dislikes 0	
Response	
The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Ballard Mutters - Orlando Utilities Commission - 3	
Answer	No
Document Name	
Comment	
Some of these equipment's maintenance could have a significantly shorter maintenance intervals per manufacturer's recommendation.	
Likes 0	
Dislikes 0	
Response	

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer No

Document Name

Comment

What constitutes maintenance and inspection for this requirement is not explicitly clear. Additionally, requirement 7.1 requires measures based on “unique factors” which could potentially be interpreted and implemented as each and every unit possessing different “unique” measures, maintenance, and inspection parameters. This could create a major burden on both compliance and enforcement. ACES suggests more clearly defining what is being required by defining the terms used in the SAR so that the standard can be measured, implemented, and enforced uniformly across the industry.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

There are no reliability improvements or cost estimates posted. Please provide the SDT's proposed cost versus reliability improvement benefit analysis, for each region, and for annual versus bi-annual inspection/maintenance.	
Likes	0
Dislikes	0
Response	
The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
Annual Maintenance and Inspections should not be made mandatory.	
Likes	0
Dislikes	0
Response	
The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	No
Document Name	

Comment

While annual inspection is reasonable for preparedness purposes, a required annual maintenance may not be appropriate to all technologies. For example, combined cycle unit outages may be every 2 years or more based on operational hours. Recommend some clarification as to what the SDT may be expecting this “annual maintenance” to address.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer

No

Document Name

Comment

As noted in Question1: Annual is too broad of a term – define annual as each calendar year not to exceed fifteen months between occurrence.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer	No
Document Name	
Comment	
<p>TMLP believes that an annual requirement is sufficient, but the specific timing of the maintenance and inspections should be further specified and/or additional guidance should be offered (such as prior to entering the winter season).</p>	
Likes 0	
Dislikes 0	
Response	
<p>The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.</p>	
<p>Marcus Bortman - APS - Arizona Public Service Co. - 6</p>	
Answer	No
Document Name	
Comment	
<p>AZPS is in agreement with an annual seasonal preparedness requirement, however that is contingent upon what is the scope of that requirement. The “generating unit freeze protection” term is not defined. Does the freeze protection term mean the defined unit design criteria? AZPS recommends verbiage that clearly defines freeze protection or allows the utility to define the scope of the seasonal preparedness requirements in their own procedures.</p>	
Likes 0	
Dislikes 0	
Response	

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer No

Document Name

Comment

OGE suggests replacing “annual” with “calendar” year for the required maintenance and inspection schedule. Per the April 19, 2019 NERC CMEP Practice Guide, “annual” can be interpreted as once per calendar year, or a rolling 12-months. Calendar year is widely accepted across regions to be interpreted as January 1 to December 31 of each year. The use of calendar year is also consistent with other maintenance and testing standards such as PRC-005. This also allows registered entities the flexibility to complete maintenance and inspections that better align with generating plant maintenance cycles and rotating outages.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer No

Document Name

Comment

Santee Cooper is in agreement of specifying a periodicity of performing maintenance activities but recommends these be required each calendar year instead of on an annual basis.

Likes 0

Dislikes 0

Response

The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI

Answer No

Document Name

Comment

This does not capture the freeze protection measures that are put in place on an as-needed basis such as heaters, blankets, etc.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country.

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer No

Document Name

Comment

What constitutes maintenance and inspection for this requirement is not explicitly clear. Additionally, requirement 7.1 requires measures based on “unique factors” which could potentially be interpreted and implemented as each and every unit possessing different “unique”

measures, maintenance, and inspection parameters. This could create a major burden on both compliance and enforcement. ACES suggests more clearly defining what is being required by defining the terms used in the SAR so that the standard can be measured, implemented, and enforced uniformly across the industry.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT is attempting to propose Standard changes that are flexible for utilities across the country.

George Brown - Acciona Energy North America - 5

Answer

No

Document Name

Comment

‘Annual’ is not a defined term, consider using bright line criteria. This would ensure that this is a performance-based requirement.

As stated by the Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team’s white paper: “In some cases, the aggregated capability of the individual generating units may contribute to the reliability of the BPS; as such, there can be reliability benefit from ensuring that certain BES equipment utilized to aggregate the individual units to a common point of connection are operated and maintained as required in PRC-005. When evaluated individually, however, the generating units themselves do not have the same impact on BPS reliability as the system used to aggregate the units. The unavailability or failure of any one individual generating unit would have a negligible impact on the aggregated capability of the Facility; this would be irrespective to whether the dispersed generation resource became unavailable due to occurrence of a legitimate fault condition or due to a failure of a control system, protective element, dc supply, etc.”

https://www.nerc.com/pa/Stand/Prjct201401StrdrsAppDispGenRes/DGR_White_Paper_v17_clean_01_13_2016_Final_rev1.pdf

For dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, such as wind generation Facilities, each individual generating unit, a single wind turbine generator (WTG), can have many applicable freeze protections, that if not operational, could impede on the WTG’s ability to operate to its minimum design temperature. However, as stated by Project 2014-01 Standards Drafting Team, “The unavailability or failure of any one individual generating unit would have a negligible impact on the

aggregated capability of the Facility;”. Acciona would like to request the Project 2019-06 Cold Weather Standards Drafting Team consider whether Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, considering the precedent set by Project 2014-01 Standards Applicability for Dispersed Generation Resources Standards Drafting Team. If the Project 2019-06 Cold Weather Standards Drafting Team determines that Requirement R7. should be applicable to the individual generating units of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, then Acciona would like to suggest Project 2019-06 Cold Weather Standards Drafting Team consider a percentage/time-based approach for the applicable freeze protections installed in an individual generating units of dispersed power producing resources. For example, 20% of the applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on annual basis and 100% applicable freeze protections installed in an individual generating units of dispersed power producing resources must be maintained and inspected on a five year basis.

Likes 0

Dislikes 0

Response

Thank you for your comments. The requirements apply to all BES generation, therefore generators identified through Inclusion I4 would be subject to the standard. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer

No

Document Name

Comment

OKGE suggests replacing “annual” with “calendar” year for the required maintenance and inspection schedule. Per the April 19, 2019 NERC CMEP Practice Guide, “annual” can be interpreted as once per calendar year, or a rolling 12-months. Calendar year is widely accepted across regions to be interpreted as January 1 to December 31 of each year. The use of calendar year is also consistent with other maintenance and testing standards such as PRC-005. This also allows registered entities the flexibility to complete maintenance and inspections that better align with generating plant maintenance cycles and rotating outages

Likes	0
Dislikes	0
Response	
<p>The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.</p>	
<p>Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro</p>	
Answer	No
Document Name	
Comment	
<p>BC Hydro recommends that the language in R7.2 clarifies that "freeze protection measures" in R2 are those identified under R7.1.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. Please see the modifications made by the SDT.</p>	
<p>Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management</p>	
Answer	No
Document Name	
Comment	
<ul style="list-style-type: none"> • Needs to be prior to the cold weather season for inspections and any necessary system repairs. • Critical Paths should be identified: <ul style="list-style-type: none"> ○ Fuel resources ○ Instrument Air ○ Potable water 	

- Critical Paths need to be specified for:
 - Identified for heat trace
 - identified for heat blanket
 - Identified for barriers

Likes 0

Dislikes 0

Response

Thank you for your comments. The standards requirements are at a minimum, and extra actions by entities are welcome.

Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey

Answer

No

Document Name

Comment

No, PG&E believes Winter Preparations should be standard operating procedure, which would aid in avoiding Emergency Operations just as other utilities have commented. PG&E has a good handle on how cold weather impacts our facilities and how to respond without adding the additional requirement of a separate preparedness plan. PG&E Facilities have been designed to operate reliably in the conditional environment they exist in, most of which are located in cold mountainous terrain. Local Maintenance practices and procedures already exist as well as already established cold weather plans of which should be the only guidance necessary to continue reliable operation of PG&E’s facilities. In the point of recommending a locational fit PG&E would suggests considering the development of a new FAC Standard as the location.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Erin Green - Western Area Power Administration - 1,6

Answer No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes 0

Dislikes 0

Response

Please see the SDT's comment to WAPA, Sean Erickson, Segment 1.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer No

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to NPCC Regional Standards Committee.

Glenn Pressler - CPS Energy - 3

Answer	No
Document Name	
Comment	
<p>Not clear on the “data specification requirement” added for the BA; appears to be adding BA requirement to add “Processes to prepare for and mitigate Emergencies including” for cold weather conditions; this is too vague to offer reliable solution to the 2021 cold weather event.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comment.</p>	
<p>Gladys DeLaO - CPS Energy - 1</p>	
Answer	No
Document Name	
Comment	
<p>Adding an “Annual maintenance and inspection of generating unit(s) freeze protection measures” requirement could appear beneficial from the outside, but such a requirement would not have helped prevent the Texas 2021 winter event. Such requirement would only be an administrative check box. Terms such as “Annual” is also too vague for example, in “7.2. Annual maintenance and inspection of generating unit(s) freeze protection measures” should be tightened to be more specific, like quarter before winter season each calendar year.</p>	
Likes 0	
Dislikes 0	
Response	

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer No

Document Name

Comment

ERCOT refers the SDT to its response to No. 1 above. ERCOT also believes an additional inspection should be conducted immediately prior to any expected extreme cold weather event.

Likes 0

Dislikes 0

Response

Thank you for your comment. There are no requirements prohibiting entities from doing additional inspection, etc to prevent cold weather.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer Yes

Document Name

Comment

The drafting team should consider adding something like "not to exceed 15 months" similar to what's in other standards.

Likes 0

Dislikes 0

Response

The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.

Donald Lock - Talen Generation, LLC - 5

Answer Yes

Document Name

Comment

Talen supports the annual requirement for maintenance and inspection of generating unit freeze protection measures.

Likes 0

Dislikes 0

Response

Thank you for your comment and support.

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer	Yes
Document Name	
Comment	
Southern Company believes this requirement could be viewed as somewhat vague, and that further clarification may be required other than just an “annual requirement”.	
Likes 0	
Dislikes 0	
Response	
The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Michael Brytowski - Great River Energy - 3	
Answer	Yes
Document Name	
Comment	
GRE supports the comments of the NSRF	
Likes 0	
Dislikes 0	
Response	
Please see the SDT’s response to NSRF.	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes

Document Name	
Comment	
Suggest adding “not to exceed 15 calendar months” similar to what’s in other standards.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority	
Answer	Yes
Document Name	
Comment	
Maybe add verbiage to state inspection be, at a minimum, an annual requirement and not to exceed 15 calendar months.	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
Thank you for your comment. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes

Document Name	
Comment	
The NAGF supports the annual requirement for maintenance and inspection of generating unit freeze protection measures.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment and support.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Consistent with the NAGF, DTEE supports the annual requirement for maintenance and inspection of generating unit freeze protection measures.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment and support.	
Wayne Guttormson - SaskPower - 1	
Answer	Yes
Document Name	
Comment	

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.	
Likes	0
Dislikes	0
Response	
Thank you for your comment and support.	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Evergy supports and incorporates by reference Edison Electric Institute’s response to Question 5.	
Likes	0
Dislikes	0
Response	
Please see the SDT’s response to EEI.	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
This requirement should be applicable to generators based on risk (i.e. not applicable to generators where operating in freezing conditions is standard operating procedure and does not equate an ‘operating emergency’). Where this requirement is applicable, the	

SDT should consider allowing the entity to make a risk-based maintenance plan with timelines (frequencies and scope of work can be offered via tables as in PRC-005). This would reduce inefficiencies related to doing unnecessary maintenance work annually just to satisfy a compliance standard. If the SDT is opposed to offering different timelines for different equipment, a 15-month to 24-month timeline should be incorporated, rather than annual. This would allow sites to better align their maintenance- and inspection-related work with their regular maintenance outages.

Likes 0

Dislikes 0

Response

Thank you for your comments and support. The requirement for a cold weather preparedness plan applies to all BES generators as a general rule and the GO may take its own unit’s specific attributes into consideration when drafting the plan.

David Jendras - Ameren - Ameren Services - 3

Answer

Yes

Document Name

Comment

Ameren Agrees with and supports NAGF comments

Likes 0

Dislikes 0

Response

Please see the SDT’s response to NAGF.

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

The language within Requirement R7, subpart 7.2 is clear to ensure GOs conduct annual maintenance and inspection of their generating unit freeze protection.	
Likes	0
Dislikes	0
Response	
Thank you for your comments and support.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
An annual requirement is reasonable, but we recommend using terminology consistent with other standards i.e. every "calendar year" or "not to exceed 15 months."	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The Cold Weather NERC/FERC report shows the important of awareness training due to cold weather incidents. It is up to the entity on the type of awareness training it provides. The SDT removed annual from the training requirement to allow entities the flexibility in how often they train.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	

The language within Requirement R7, subpart 7.2 is clear to ensure GOs conduct annual maintenance and inspection of their generating unit freeze protection.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Thank you for your comment and support.

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports the IRC SRC comments

Likes 0

Dislikes 0

Response

Please see the SDT's response to IRC SRC.

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Yes

Document Name

Comment

PJM supports the IRC SRC comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to IRC SRC.

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Teresa Cantwell - Lower Colorado River Authority - 5	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

As noted in its response to Question 1, Texas RE recommends additional specificity around maintenance and inspection activities and periodicity in a manner similar to the minimum maintenance activities and maximum maintenance intervals established under PRC-005-6. As noted in its previous response, the 2019 Cold Weather Report specifically identified “[p]erforming periodic adequate maintenance and inspection of freeze protection elements (e.g., generating units’ heat tracing equipment and thermal insulation)” as a key element to ensure GOs adequately prepare for cold weather conditions. To that end, Texas RE believes that specifically defining both minimum maintenance and inspection activities, as well as maximum maintenance and inspection intervals is important. By way of example, the 2019 Cold Weather Report specifically recommends GOs adopt “*regular, periodic operational checks of heat tracing circuits.*” (2019 Cold Weather Report, at 101 (emphasis added)). Texas RE recommends that the SDT specify minimal activities associated with such operational checks and define a regular, periodic maintenance schedule to ensure consistency across generators. For these types of “inspection-oriented” activities, performing such steps on an annual basis may not be sufficient.

GOs may be able to perform maintenance activities designed to ensure equipment functionality on an annual basis. Texas RE notes, however, that the 2019 Cold Weather Report recommended that GOs complete “freeze protection-related maintenance *prior to winter weather.*” (2019 Cold Weather Report, at 101). Accordingly, an annual requirement may not be sufficient to ensure that such freeze protection-related maintenance occurs in a timely fashion prior to a cold weather event. To address this, Texas RE recommends providing certain temporal parameters so that those activities are performed prior to winter, such as requiring annual maintenance occur between the months of April and October.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT declines to add proscriptive practices to the requirements, but would defer to the Generator Owner to determine which practices to implement consistent with the official NERC Reliability Guideline on generator unit winter

readiness and the sound practices outlined in the FERC report. The SDT determined to allow the GO to craft its annual inspection consistently with the onset of cold weather.

Don Stahl - Black Hills Corporation - 3

Answer

Document Name

Comment

comments submitted

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Please see the SDT's response to TAPS Group.

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer	
Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute”.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT’s response to EEI.	

6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	No
Document Name	
Comment	
<p>If the RC, TOP, and/or BA are required to include generator design specifications (such as a manufacturer's minimum ambient operating temperature) and/or historical cold-weather performance information in its OPA or RTA or Real-time monitoring as currently proposed, ERCOT would need to develop system changes in order to use such data for all generators because ERCOT presently utilizes minimum design data for only wind and solar resources, some of which are designed to automatically shut down at certain temperatures. These system changes could take several years. If the alternative language ERCOT has proposed in response to Questions 2, 3, or 8 is approved, ERCOT would have no objection to a 12-month (or perhaps shorter) implementation timeline.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	No
Document Name	
Comment	

PJM urges immediate implementation with a twelve month period before audibly compliant. At least in the PJM region, generators have already been undertaking these analyses due to our Capacity Performance and Manual requirements.

Likes 0

Dislikes 0

Response

Thank you for your comment. There is no rule preventing an entity from implementing cold weather preparedness program(s) earlier than the eighteen (18) months Implementation Plan developed by the SDT.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

No

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to NPCC Standards Committee.

Erin Green - Western Area Power Administration - 1,6

Answer

No

Document Name

Comment

Support comments by Western Area Power Administration, Sean Erickson, Segment 1.

Likes	0
Dislikes	0
Response	
Please see the SDT's response to WAPA, Sean Ericson, Segment 1.	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	No
Document Name	
Comment	
No, PG&E recommends 18-24 months to implement EOP-011-2 following the effective date. This timeframe will allow the development and implementation of new requirements for the Applicable FEs.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	No
Document Name	
Comment	
12 months may not be enough time for plants to implement cold weather plans, recommend using the phased in approach (i.e. 25% at 12M, 75% at 24M, 100% at 36M)	

Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
BC Hydro's assessment at this time is that the EOP-011 standard implementation would take 24 months from adoption due to initial assessment of equipment specifications.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, CenterPoint Energy would request a minimum of 24 months to implement the changes.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

No

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

George Brown - Acciona Energy North America - 5

Answer

No

Document Name

Comment	
Acciona Energy USA Global, LLC (Acciona) supports the Midwest Reliability Organization NERC Standards Review Forum's (MRO NSRF) comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	No
Document Name	
Comment	
OPC agrees with the NAGF recommendation that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	No
Document Name	

Comment

NV Energy believes that initial planning and maintenance requirements can be initiated following twelve months from the effective date. However, NV Energy believes the implementation plan timeline should take into account required time for corrective actions found during the implementation period, and thus be extended to 18 months.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

No

Document Name

Comment

ACES recommends this be pushed to 24 months. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an annual maintenance and inspection process for those freeze protection measures. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

David Hathaway - WEC Energy Group, Inc. - 6

Answer

No

Document Name	
Comment	
See Tom Breene's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to Tom Brenne.	
David Jendras - Ameren - Ameren Services - 3	
Answer	No
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to NAGF.	
Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC	
Answer	No
Document Name	
Comment	

Twelve months to create a plan in compliance with EOP-011 R7 is sufficient, but the SDT should consider an additional 12-24 months for implementation and training.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	No
Document Name	
Comment	
Instead of 12 months 18 months – It takes time to install winterization equipment.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	

Santee Cooper recommends an eighteen (18) month implementation plan allow registered entities the appropriate amount of time to develop the associated cold-weather preparedness plans, develop training materials, and train affected personnel.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Wayne Guttormson - SaskPower - 1	
Answer	No
Document Name	
Comment	
Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	No
Document Name	
Comment	

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, CEHE would request a minimum of 24 months to implement the changes.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer No

Document Name

Comment

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, Southern Indiana Gas & Electric Company would request a minimum of 24 months to implement the changes.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer No

Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	No
Document Name	
Comment	
The implementation period for EOP-011 should be at least 18 months. Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	No

Document Name	
Comment	
<p>Consistent with the NAGF, DTEE recommends that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
<p>Matthew Beilfuss - WEC Energy Group, Inc. - 4</p>	
Answer	No
Document Name	
Comment	
<p>Recommend this be pushed to 24 months, this allows the GO time to adopt the preparedness plans, perform activities and train in a managed fashion. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an Annual maintenance and inspection process for those freeze protection measures (this is noted since there must be GOs who do not have freeze protection measures in place per the past failure to start during cold weather). Budget cycles for most Entities (including GOs) is forecasted one year and purchased the following year. If this remains at the 12 month implementation plan, there may be small GOs with BES generators who may be non-compliant by not having enough time to implement their freeze protection measures or they may “boil down” there freeze protection measures due to “unique factors”.</p>	
Likes	0
Dislikes	0

Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	No
Document Name	
Comment	
Black Hills Corporation Power Delivery department feels that more time would be needed than just 12 months for implementation. Suggest at least 24 months to account for unplanned outages, development of plans, and required training.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	No
Document Name	
Comment	
The implementation period for EOP-011 should be at least 18 months. Winterization will be a capital-intensive undertaking for our generators in Florida, and twelve months may not be enough time for our agency to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being non-compliant.	

Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	No
Document Name	
Comment	
A 12-month implementation seems reasonable. However, given the current concerns, it may be prudent to have a staggered implementation plan with high priority items be completed within the proposed 12-month implementation period. Considering “weather plans” should already exist having a staggered timeframe may be feasible.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	

This is not enough time to implement. Two or three years would be achievable.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	No
Document Name	
Comment	
The implementation period for EOP-011 should be at least 18 months. Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	

Comment

The NAGF recommends that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

No

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Please see the SDT's response to the TAPS Group.

Dennis Sismaet - Northern California Power Agency - 6

Answer

No

Document Name

Comment

<p>A more appropriate implementation plan timeline might be two-three years depending on cost and potential work load GO/GOPs project for this new FERC/NERC mandated project and other regulatory agency existing/proposed obligations. In addition, time is needed to budget and obtain approvals for new capital investment dollars (labor/material) and new positions to meet new requirements.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
<p>Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1</p>	
Answer	No
Document Name	
Comment	
<p>ACES recommends this be pushed to 24 months. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an annual maintenance and inspection process for those freeze protection measures. Company budget cycles are requested to be measured as a consideration in the time-extension decisions.</p> <p>AEPCO is signing on to ACES comments as well.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
<p>Thomas Breene - WEC Energy Group, Inc. - 3</p>	

Answer	No
Document Name	
Comment	
<p>Recommend this be 24 months, this allows the GO time to adopt the preparedness plans, perform activities and train in a managed fashion. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an Annual maintenance and inspection process for those freeze protection measures (this is noted since there must be GOs who do not have freeze protection measures in place per the past failure to start during cold weather). Budget cycles for most Entities (including GOs) is forecasted one year and purchased the following year. If this remains at the 12 month implementation plan, there may be small GOs with BES generators who may be non-compliant by not having enough time to implement their freeze protection measures or they may “boil down” there freeze protection measures due to “unique factors”.</p>	
Likes 1	WEC Energy Group, Inc., 5, OBrien Janet
Dislikes 0	
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
Ballard Mutters - Orlando Utilities Commission - 3	
Answer	No
Document Name	
Comment	
<p>Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.</p> <p>A 36-month implementation schedule would be more reasonable.</p>	

Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
<p>Dania Colon - Orlando Utilities Commission - 5</p>	
Answer	No
Document Name	
Comment	
<p>Please clarify the purpose of EOP-011 R7. If it is to require the generator owner to add new equipment to their plants to increase the cold weather preparedness then at least 36 Months would be a more appropriate time duration. If the requirement is just about formally determining the units existing capability and maintaining that capability thn 12 months is a sufficient time frame.</p> <p>Winterization may be a capital-intensive undertaking for some generators, and twelve months may not be enough time for some entities to finance and perform the necessary work. Reliability would be better served by allowing registered entities a bit more time to truly winterize, than by imposing an unrealistic deadline that may lead some entities to water down their plans to avoid being noncompliant.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
<p>Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF</p>	
Answer	No
Document Name	

Comment

Recommend this be pushed to 24 months. Each GO with a BES generator is going to need to review their freeze protection measures (or purchase and install them), develop an Annual maintenance and inspection process for those freeze protection measures (this is noted since there must be GOs who do not have freeze protection measures in place per the past failure to start during cold weather). Budget cycles for most Entities (including GOs) are forecasted one year and purchased the following year. If this remains at the 12-month implementation plan, there may be small GOs with BES generators who may be non-compliant by not having enough time to implement their freeze protection measures or they may “boil down” their freeze protection measures due to “unique factors”.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Michael Brytowski - Great River Energy - 3

Answer

No

Document Name

Comment

GRE supports the comments of the NSRF

Likes 0

Dislikes 0

Response

Please see the SDT’s response to NSRF.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	No
Document Name	
Comment	
<p>A more appropriate implementation plan timeline might be two-three years depending on cost and potential work load GO/GOPs project for this new FERC/NERC mandated project and other regulatory agency existing/proposed obligations. In addition, time is needed to budget and obtain approvals for new capital investment dollars (labor/material) and new positions to meet new requirements.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comment. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
Richard Jackson - U.S. Bureau of Reclamation - 1	
Answer	No
Document Name	
Comment	
<p>An implementation period of 12 months may be restrictive to Facilities that have large footprints with long procurement processes, such as federal entities. Reclamation recommends a 24-month implementation period for EOP-011, IRO-010, and TOP-003 to account for necessary research, development, and procurement needs. At a minimum, the implementation period should be 24 months for EOP-011 because Generator Owners have never had to comply with this standard before.</p>	
Likes 0	
Dislikes 0	
Response	

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Alternative - Duke Energy recommends a 24-month implementation period to allow for drafting of the plans, training, and development of the required maintenance work orders.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

This is not enough time to implement. Two or three years would be achievable.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Erick Barrios - New York Power Authority - 6

Answer No

Document Name

Comment

Instead of 12 months implement an 18 month or 24-month plan

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to Reclamation.

Marty Hostler - Northern California Power Agency - 5

Answer	No
Document Name	
Comment	
<p>NO. A more appropriate implementation plan timeline might be two-three years depending on cost and potential work load GO/GOPs project for this new FERC/NERC mandated project and other regulatory agency existing/proposed obligations. In addition, time is needed to budget and obtain approvals for new capital investment dollars (labor/material) and new positions to meet new requirements.</p>	
Likes 0	
Dislikes 0	
Response	
<p>In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p>	
<p>Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power</p>	
Answer	No
Document Name	
Comment	
<p>As noted in Tacoma Power’s comments to Question 1, instead of specifying a Standard Implementation Plan timeline, each GO should perform a vulnerability assessment and then develop CAPs with appropriate implementation timelines.</p>	
Likes 2	Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly
Dislikes 0	

Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	
<i>Considering the scope of this project which covers 3 standards the Implementation Plan should be extended to 24 months.</i>	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Tyson Archie - Platte River Power Authority - 5	
Answer	No
Document Name	
Comment	
Platte River Power Authority suggests an eighteen (18) month implementation plan to provide enough specificity for an industry wide standard. An 18-month implementation plan allows registered entities the appropriate amount of time to develop the associated cold-weather preparedness plans, develop training materials, and train affected personnel, as well as allows for cold-weather training to potentially be aligned with other required training at generation sites.	
Likes 1	Platte River Power Authority, 3, Kiess Wade

Dislikes	0
Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Thomas Foltz - AEP - 5	
Answer	No
Document Name	
Comment	
While 12 months may be sufficient for some of the proposed obligations regarding preparedness itself, we do not believe it would be sufficient to accommodate all the various impacts related to operations. We believe 24 months would be more appropriate, and would allow entities the time necessary to develop the required documentation, including those related to communications.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	No
Document Name	
Comment	
For those generators that are located in cold climates and operate regularly in freezing weather, this standard will be a unnecessary administrative series of tasks. The Cold Weather Preparedness should be limited to those locations where cold weather operations is not	

frequent. Despite the recent problems in Texas, Generations in Northern climates continues to be reliable. Perhaps the standard needs to put the burden on Planning Coordinators to identify generators that are of high risk, and require Cold Weather preparedness from them, excluding others.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

No

Document Name

Comment

A 12-month implementation does not allow enough time for adequate compliance. A minium of 36 months would be more adequate and would fall in line with other new requirements implemented in the past. It would take a minimum of 3 years to get this type of new program off the ground effectively.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer

No

Document Name

Comment	
The implementation plan could be replaced by a cold weather operations report due 12 months following the effective date which would detail any unique cold weather operations.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. A fact report(s) would not satisfy the Cold Weather preparedness directives assigned by NERC board.	
Aaron Staley - Orlando Utilities Commission - 1	
Answer	Yes
Document Name	
Comment	
Assuming the EOP-011 is not attempting to change a facilities cold weather design but is just requiring clarification and maintenance of that capability the 12 months should be sufficient.	
Likes	0
Dislikes	0
Response	
Your assumption is correct. In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	

CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to the ISO/RTO Counsel (IRC) Standards Review Committee.	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
The SDT should consider ways to expedite the implementation and effective date of the data specification requirements so that they can be in place prior to the next winter season following FERC approval. The Implementation Plan can be structured such that there are longer lead times for asset owners to meet the freeze protection measure requirements and preparedness plans; however, the ERO Enterprise should seek ways to inform the industry to begin preparations immediately after the Ballot Body approves the requirements.	
Likes	0
Dislikes	0
Response	
There is no rule preventing an entity from implementing cold weather preparedness program(s) earlier than the eighteen (18) months Implementation Plan developed by the SDT	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	

MISO supports the IRC SRC comments	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to IRC SRC.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the proposed 12-month Implementation Plan.	
On Behalf of Exelon, Segments: 1, 3, 5, 6	
Likes	0
Dislikes	0
Response	
There is no rule preventing an entity from implementing cold weather preparedness program(s) earlier than the eighteen (18) months Implementation Plan developed by the SDT.	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	

Issue is with EOP-011 (R 7.3) the items that is asked in this requirement needs clarification. Ambiguous for the Generations site to complete. Also, in this standard they are asking for five years of previous data which will be hard to retrieve.	
Likes	0
Dislikes	0
Response	
The entity may use original design data, five years of operational data, or engineering to establish cold weather operating limits.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports the proposed 12-month Implementation Plan.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	

Evergy supports and incorporates by reference Edison Electric Institute’s response to Question 6.	
Likes	0
Dislikes	0
Response	
Please see the SDT’s response to EEI Question 6.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Texas RE appreciates the SDT developing the language for initial performance not only for the reliability benefits but also for oversight clarification that often gets overlooked.	
Likes	0
Dislikes	0
Response	
Thank you for your compliant. The SDT really appreciates the acknowledgement.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Yes, Southern Company believes that 12 months is sufficient time to ensure compliance with the new requirements.	

Likes	0
Dislikes	0
Response	
<p>In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.</p> <p>There is no rule preventing an entity from implementing cold weather preparedness program(s) earlier than the eighteen (18) months Implementation Plan developed by the SDT.</p>	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes	0
Dislikes	0
Response	
<p>Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne</p>	
Answer	Yes
Document Name	
Comment	
<p>The SDT should consider ways to expedite the implementation and effective date of the data specification requirements so that they can be in place prior to the next winter season following FERC approval. The Implementation Plan can be structured such that there are</p>	

longer lead times for asset owners to meet the freeze protection measure requirements and preparedness plans; however, the ERO Enterprise should seek ways to inform the industry to begin preparations immediately after the Ballot Body approves the requirements

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

There is no rule preventing an entity from implementing cold weather preparedness program(s) earlier than the eighteen (18) months Implementation Plan developed by the SDT.

Donald Lock - Talen Generation, LLC - 5

Answer

Yes

Document Name

Comment

Talen recommends that the proposed Implementation Plan be modified to allow for 18-24 months following the effective date to become compliant with EOP-011. This timeframe will allow for development of cold weather plans, procurement/implementation of freeze protection measures, and training of site personnel.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010 and TOP-003.

Jun Hua - Austin Energy - 4

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gladys DeLaO - CPS Energy - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Glenn Pressler - CPS Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority	
Answer	Yes
Document Name	
Comment	
Likes	1
Dislikes	0
Response	
Julie Hall - Entergy - 6, Group Name Entergy	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	1
Xcel Energy, Inc., 1,3,5,6, Casuscelli Amy	
Response	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Kristina Marriott - First Solar, Inc. - 5	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Janet OBrien - WEC Energy Group, Inc. - 5	
Answer	
Document Name	
Comment	
Support comments submitted by Tom Breene of WEC Energy Group.	
Likes 0	
Dislikes 0	
Response	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute”.	
Likes 0	

Dislikes 0	
Response	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	
Comment	
comments submitted	
Likes 0	
Dislikes 0	
Response	

Bruce Reimer - Manitoba Hydro - 1	
Answer	
Document Name	
Comment	
Not applicable	
Likes 0	
Dislikes 0	
Response	

7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.

Dylan Sontag - Silicon Ranch Corporation - 1 - SERC

Answer No

Document Name

Comment

There are no specific cold weather parameters that would be provided for our solar facilities regarding how they will operate differently as they do not operate any differently.

Likes 0

Dislikes 0

Response

Thank you for your information.

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes	0
Response	
Please see the SDT's response to Reclamation.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	
<p>This will create a significant amount of work, both real and administrative. There is no history of the type of event causing a supply issue in the Northwest. The Southwest has experienced this (2011). This project is a result of the report on the 2018 South Central US weather event report, attached for your convenience. Not sure this has ever been an issue in areas that normally experience cold. It has obviously been an issue in areas that are typically mild, and experienced very unusual cold.</p>	
Likes	0
Dislikes	0
Response	
<p>The SDT understands and appreciates your concerns. As explained in previous responses to industry comments, the extensiveness of each entity's cold weather preparation plan would be based on their specific geographic area and past cold weather experiences. Also, for those generators that regularly operate in freezing weather, it is assumed that although a formal cold weather preparation plan may not have been established, these facilities already implement the necessary practices to ensure winter readiness.</p>	
Richard Jackson - U.S. Bureau of Reclamation - 1	
Answer	No
Document Name	
Comment	
<p>It is not clear what parameters are required or are being compared.</p>	

Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5, Requirements and Measures R1; and IRO-010-4 Requirements R1 to provide consistency and clarity.	
Michael Whitney - Northern California Power Agency - 3, Group Name NCPA	
Answer	No
Document Name	
Comment	
This question is not clear. Proposals do not require the TOP or RC to maintain a/any Cold Weather parameter(s), i.e. keep/preserve any parameter/data. Proposed modifications do require RCs/TOPs to maintain a data specification that has a provision for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, whether or not RC/TOPs are going to us the data.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5, Requirements and Measures R1; and IRO-010-4 Requirements R1 to provide consistency and clarity.	
Dania Colon - Orlando Utilities Commission - 5	
Answer	No
Document Name	
Comment	

TOP 003 R2 already allows the BA to request this data if needed, and EOP-011 requires the BA to plan for cold weather. It is not necessary to add a specific sub part under R2 to address cold weather data to the BA.

In Florida, a single weather parameter does not reflect the geographical reality of the State where a temperature gradient is the norm; the northern part could be 15 to 20 degrees cooler than the central part of it. The south Florida temperature could even be another 10 degrees warmer than Central Florida. In turn, each BA should be responsible for maintaining their own cold weather parameter like they do today for unit commitment and dispatching. The RC should be aware of any deviation considered to be an “Extreme Weather Event”.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed TOP-003-5, Requirements and Measures R2; and IRO-010-4 Requirements R1 to provide consistency and clarity.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer

No

Document Name

Comment

This language leads one to believe that every TOP and every RC will maintain its own “cold weather parameter,” which is a term that has not been defined, and according to this language could lead to many different “cold weather parameters” across the country. Many entities participate in multiple regions and could be forced to comply with multiple “cold weather parameters,” which could create a cost and compliance burden. “Cold weather,” “extreme weather conditions,” and “cold weather conditions” should be clearly defined using an objective measure nationwide. ACES suggests using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data.

AEPCO is signing on to ACES comments as well.

Likes 0

Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Dennis Sismaet - Northern California Power Agency - 6	
Answer	No
Document Name	
Comment	
This question is not clear. Proposals do not require the TOP or RC to maintain a/any Cold Weather parameter(s), i.e. keep/preserve any parameter/data. Proposed modifications do require RCs/TOPs to maintain a data specification that has a provision for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, whether or not RC/TOPs are going to us the data.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Mike Magruder - Avista - Avista Corporation - 1	
Answer	No
Document Name	
Comment	
This will create a significant amount of work, both real and administrative. There is no history of the type of event causing a supply issue in the Northwest. The Southwest has experienced this (2011). This project is a result of the report on the 2018 South Central US weather	

event. Not sure this has ever been an issue in areas that normally experience cold. It has obviously been an issue in areas that are typically mild and experienced very unusual cold.

Likes 0

Dislikes 0

Response

The SDT understands and appreciates your concerns. As explained in previous responses to industry comments, the extensiveness of each entity’s cold weather preparation plan would be based on their specific geographic area and past cold weather experiences. Also, for those generators that regularly operate in freezing weather, it is assumed that although a formal cold weather preparation plan may not have been established, these facilities already implement the necessary practices to ensure winter readiness.

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

No

Document Name

Comment

OGE believes that the proposed changes to TOP-003 R1 (for the TOP) are not necessary. The NERC Functional Model identifies the TOP as responsible for the Real-time operating reliability of the transmission assets under its control; not the keeper of Generator extreme weather parameters. As such, the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."

As for the question on whether modifications to TOP-003 R2 (for the BA) are required to obtain cold weather parameter, we believe that it is unnecessary given R2 already includes language to specify "the data necessary for it to perform its analysis functions and Real-time monitoring" and Requirement 5 requires all applicable entities to provide the specified data.

The TOP's Emergency Plans should be focused on maintaining the reliability of the Transmission System and responding to Operating Instructions from the BA and the RC, consistent with Recommendation 5 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Part of the language from Recommendation 5: *Balancing Authorities and Transmission Operators should conduct periodic capacity and energy emergency drills simultaneous with transmission emergency drills with their*

Reliability Coordinators, to ensure readiness, coordination of control room personnel to conduct multiple load-shed-related tasks while continuing to maintain situational awareness, and coordination between additional local control center and field personnel.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

No

Document Name

Comment

This language leads one to believe that every TOP and every RC will maintain its own “cold weather parameter,” which is a term that has not been defined, and according to this language could lead to many different “cold weather parameters” across the country. Many entities participate in multiple regions and could be forced to comply with multiple “cold weather parameters,” which could create a cost and compliance burden. “Cold weather,” “extreme weather conditions,” and “cold weather conditions” should be clearly defined using an objective measure nationwide. ACES suggests using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5	
Answer	No
Document Name	
Comment	
<p>OKGE believes that the proposed changes to TOP-003 R1 (for the TOP) are not necessary. The NERC Functional Model identifies the TOP as responsible for the Real-time operating reliability of the transmission assets under its purview; not the keeper of Generator extreme weather parameters. As such, the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."</p> <p>As for the question on whether modifications to TOP-003 R2 (for the BA) are required to obtain cold weather parameter, we believe that it is unnecessary given R2 already includes language to specify "the data necessary for it to perform its analysis functions and Real-time monitoring" and Requirement 5 requires all applicable entities to provide the specified data.</p> <p>The TOP's Emergency Plans should be focused on maintaining the reliability of the Transmission System and responding to Operating Instructions from the BA and the RC, consistent with Recommendation 5 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Part of the language from Recommendation 5: <i>Balancing Authorities and Transmission Operators should conduct periodic capacity and energy emergency drills simultaneous with transmission emergency drills with their Reliability Coordinators, to ensure readiness, coordination of control room personnel to conduct multiple load-shed-related tasks while continuing to maintain situational awareness, and coordination between additional local control center and field personnel.</i></p>	
Likes	0
Dislikes	0
Response	
<p>In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.</p>	
Erin Green - Western Area Power Administration - 1,6	
Answer	No

Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to WAPA, Sean Erickson, Segment 1.	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
The proposed changes to TOP-003 R1 (for the TOP) are not necessary. The TOP is responsible for reliability of the transmission assets under its control; not Generator extreme weather parameters. Also not clear how this will help prevent the Texas 2021 event and agree with other's that the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Gladys DeLaO - CPS Energy - 1	

Answer	No
Document Name	
Comment	
<p>The proposed changes to TOP-003 R1 (for the TOP) are not necessary. The TOP is responsible for reliability of the transmission assets under its control; not Generator extreme weather parameters. Also, not clear how this will help prevent the Texas 2021 event and agree with other's that the TOP function was not mentioned in Recommendation 1 of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018."</p>	
Likes 0	
Dislikes 0	
Response	
<p>In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.</p>	
<p>Aaron Staley - Orlando Utilities Commission - 1</p>	
Answer	No
Document Name	
Comment	
<p>I don't believe it is necessary to include the language in TOP-003. EOP-011 requires the BA to plan for cold weather. TOP-003 is to ensure the BA can receive the data it needs and TOP-003 R2 allows the BA to ask for data in addition to the existing sub-parts of R2. TOP-003 purpose does not include prescribing to the BA what data they need, but ensuring they have access to the data they determine they need.</p>	
Likes 0	
Dislikes 0	
Response	

In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
John Allen - City Utilities of Springfield, Missouri - 1,3,4	
Answer	Yes
Document Name	
Comment	
The BA is responsible for establishing the next-day dispatch plan and this information would be necessary for them to know which resources are capable to be online during a cold weather event.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	Yes
Document Name	
Comment	
A Balancing Authority is “The responsible entity that integrates resource plans ahead of time, maintains Demand and resource balance within a Balancing Authority Area, and supports Interconnection frequency in real time.” and, as such, have a need for this information.	
Likes	0
Dislikes	0
Response	

In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Yes, we believe an equivalent of TOP-003's R1.3 should be added to R2 within this standard, pertaining to the BA.	
Likes 1	Associated Electric Cooperative, Inc., 3, Bennett Todd
Dislikes 0	
Response	
Thank You	
Todd Bennett - Associated Electric Cooperative, Inc. - 3	
Answer	Yes
Document Name	
Comment	
Yes, an equivalent of TOP-003's R1.3 should be added to R2 within this standard, pertaining to the BA.	
Likes 0	
Dislikes 0	
Response	
Yes, an equivalent of TOP-003's R1.3 should be added to R2 within this standard, pertaining to the BA.	
Bruce Reimer - Manitoba Hydro - 1	

Answer	Yes
Document Name	
Comment	
The BA would also need to recognize the parameters, limits, constraints so that they can plan and posture for cold weather operation.	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather	
Answer	Yes
Document Name	
Comment	
The impact of cold weather event could impact BAs as much as the RCs and TOPs. Therefore BAs should also be aware of potential problems with generation not being able to perform due to cold weather and adding a similar requirement to standards for BAs as is proposed for RCs and TOPs would be prudent.	
Likes 0	
Dislikes 0	
Response	
Thank You	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes

Document Name	
Comment	
Similar to what Seattle has discussed above, we recommend that the parameters to be collected and maintained should focus on abnormally cold weather, rather than cold weather in general (to which more than half the continent is subject each year).	
Likes 0	
Dislikes 0	
Response	
Thank You	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	

Southern Company believes that TOP-003-5 R2 should be modified to match R1 to ensure consistency.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Reasoning - Applicable BA and TOP could be separate registered entities.	
Likes	0
Dislikes	0
Response	
Correct, Thank You	
Michael Brytowski - Great River Energy - 3	
Answer	Yes
Document Name	
Comment	
GRE supports the comments of the NSRF	

Likes	0
Dislikes	0
Response	
Please see the SDT's response to NSRF.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Texas RE recommends similar parameters be applied to the BA. The BA needs awareness to develop a more complete analysis of projected conditions. Without that awareness, a BA could be not as prepared for its responsibilities to balance generation and load during operations (as has been exhibited during the cold weather events driving these changes.) Texas RE supports changes to TOP-003-5 R2 to match that of R1 to allow all significant parties responsible for Reliable Operations to have the appropriate information to make informed decisions.	
Likes	0
Dislikes	0
Response	
Please see the modifications made to the standard.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority	
Answer	Yes
Document Name	
Comment	
Balancing Authority data specification requirements should be within TOP-003 Requirement R2.	

Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5, Requirements and Measures R2 to provide consistency and clarity.	
Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Utility Services supports the comments posted by the TAPS group.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to the TAPS Group.	
Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
As noted in response to Question 4, the BA data specification requirement should be consistent with the TOP and RC requirements.	
Likes 0	
Dislikes 0	

Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
The BA data specification requirement should be consistent with the TOP and RC requirements.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Yes, seems this is even more critical to the BA since this cold weather project is focused mostly on generation, directly related to balancing.	
However, Black Hills Corporation believes “cold weather parameters” requires further definition - this could be interpreted differently by industries based on location.	

Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	Yes
Document Name	
Comment	
As noted in response to Question 4, the BA data specification requirement should be consistent with the TOP and RC requirements.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Marcus Bortman - APS - Arizona Public Service Co. - 6	
Answer	Yes
Document Name	
Comment	
AZPS agrees that there is BA applicability.	
Likes	0
Dislikes	0

Response	
Thank you.	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
<p>The cold weather parameters of generating units are imperative for BAs to understand and incorporate into their analyses. Limitations on generating units imposed by severe cold weather would impact a BA's ability to execute its function of maintaining the load-generation balance within the BA Area. Establishing specifications for minimum historical performance during cold weather and expected operational limitations due to projected cold weather would assist the BA in its existing requirements under EOP-011 R2.2.3.</p> <p>Additionally, Recommendation 1 in the 2019 FERC and NERC Staff Report identifies the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively.</p> <p>Furthermore, Recommendations 2, 3, and 4 of Project 2019-06 Implementation Plan and the Project Purpose apply to BAs and require that they have similar data specification requirements.</p>	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather	
Answer	Yes
Document Name	

Comment

The cold weather parameters of generating units are imperative for BAs to understand and incorporate into their analyses. Limitations on generating units imposed by severe cold weather would impact a BA's ability to execute its function of maintaining the load-generation balance within the BA Area. Establishing specifications for minimum historical performance during cold weather and expected operational limitations due to projected cold weather would assist the BA in its existing requirements under EOP-011 R2.2.3. Additionally, Recommendation 1 in the 2019 FERC and NERC Staff Report identifies the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively. Furthermore, Recommendations 2, 3, and 4 of this Project 2019-06 Implementation Plan, and the very purpose of this Project apply to BAs and require that they have similar data specification requirements.

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.

Wayne Guttormson - SaskPower - 1

Answer

Yes

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Thank You. Please see the SDT's response to MRO NSRF.	
Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb	
Answer	Yes
Document Name	
Comment	
Evergy supports and incorporates by reference Edison Electric Institute's response to Question 7.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to EEI.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI	
Answer	Yes
Document Name	
Comment	
The Balancing Authority should have a similar requirement for consistency and to perform its analysis during cold weather.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	

Answer	Yes
Document Name	
Comment	
Similar requirements for parameters consistent with those contained in R1 of TOP-003 and IRO-010 should be contained within R2 of TOP-003 to ensure the BA has the necessary cold weather data to perform their operational and planning responsibilities.	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
The BA has a need for this information to perform their responsibilities.	
Likes 0	
Dislikes 0	
Response	
Thank You. In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
George Brown - Acciona Energy North America - 5	

Answer	Yes
Document Name	
Comment	
Based on the NERC Reliability Function Model and the tasks that a Balancing Authority (BA) completes, yes, BAs should also be required to maintain cold weather parameters consistent with the Transmission Operator and Reliability Coordinator.	
Likes 0	
Dislikes 0	
Response	
Thank You. In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Larry Rogers - Southern Indiana Gas and Electric Co. - 5	
Answer	Yes
Document Name	
Comment	
The cold weather parameters of generating units are imperative for BAs to understand and incorporate into their analyses. Limitations on generating units imposed by severe cold weather would impact a BA's ability to execute its function of maintaining the load-generation balance within the BA Area. Establishing specifications for minimum historical performance during cold weather and expected operational limitations due to projected cold weather would assist the BA in its existing requirements under EOP-011 R2.2.3. Additionally, Recommendation 1 in the 2019 FERC and NERC Staff Report identifies the need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively. Furthermore, Recommendations 2, 3, and 4 of this Project 2019-06 Implementation Plan, and the very purpose of this Project apply to BAs and require that they have similar data specification requirements.	

Likes	0
Dislikes	0
Response	
Thank You. In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	Yes
Document Name	
Comment	
BA functional entity would require similar weather information to what the TOP would, as the BA too performs a similar analysis and Real-time monitoring in Operations Planning Horizon.	
Likes	0
Dislikes	0
Response	
Thank You. In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon concurs with the EEI comments to Question 7.	
On Behalf of Exelon, Segments: 1, 3, 5, 6	

Likes	0
Dislikes	0
Response	
Please see the SDT's response to EEI.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to IRC SRC.	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	Yes
Document Name	
Comment	
Yes, PG&E generally supports maintaining cold weather parameters. Additionally, the reference to cold weather parameters may be better aligned with EOP-011-2 by adding extreme weather parameters as well.	
Likes	0
Dislikes	0

Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)	
Answer	Yes
Document Name	
Comment	
A Balancing Authority is “The responsible entity that integrates resource plans ahead of time, maintains Demand and resource balance within a Balancing Authority Area, and supports Interconnection frequency in real time.” and, as such, have a need for this information.	
Likes	0
Dislikes	0
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0
Response	

Please see the SDT's response to ISO/RTO Counsel.	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
OPG concurs with the NPCC Regional Standards Committee's comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to NPCC Regional Standards Committee.	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
PJM supports the IRC SRC comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to IRC SRC.	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	

Answer	Yes
Document Name	
Comment	
ERCOT believes that the BA needs information about generator capability and availability in cold weather; however, ERCOT believes it may be better to state this more directly as a new obligation on the GOP in EOP-011 than as an obligation on RCs and BAs in IRO-010 and TOP-003. As discussed in ERCOT's response to Question 8, the BA, and not the RC, is the appropriate recipient of that information.	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Kristina Marriott - First Solar, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Oncor Electric Delivery - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Tyson Archie - Platte River Power Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erick Barrios - New York Power Authority - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thomas Breene - WEC Energy Group, Inc. - 3	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Scott McGough - Georgia System Operations Corporation - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Justin Welty - NextEra Energy - Florida Power and Light Co. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Matthew Beilfuss - WEC Energy Group, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
David Hathaway - WEC Energy Group, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donna Johnson - Oglethorpe Power Corporation - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	
Document Name	
Comment	
Talen has no comments.	
Likes	0
Dislikes	0
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	

Answer	
Document Name	
Comment	
<i>The parameters for the BA should be similar to the TOP. However BA data specification requirements for NIPSCO would likely be covered by MISO via CFR00001</i>	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	
Marty Hostler - Northern California Power Agency - 5	
Answer	
Document Name	
Comment	
This question is not clear. Proposals do not require the TOP or RC to maintain a/any Cold Weather parameter(s), i.e. keep/preserve any parameter/data. Proposed modifications do require RCs/TOPs to maintain a data specification that has a provision for notification of BES generating unit-specific design specification or minimum historical performance during cold weather, whether or not RC/TOPs are going to us the data.	
Likes 0	
Dislikes 0	
Response	
In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.	

Don Stahl - Black Hills Corporation - 3	
Answer	
Document Name	
Comment	
comments submitted	
Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	
Document Name	
Comment	
The NAGF has no comments.	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	
Document Name	

Comment

DTEE would like to abstain with no comments

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

SCE supports EEI's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI.

Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

No Comment

Likes 0	
Dislikes 0	
Response	
David Jendras - Ameren - Ameren Services - 3	
Answer	
Document Name	
Comment	
Ameren Agrees with and supports NAGF comments	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to NAGF.	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute".	
Likes 0	
Dislikes 0	

Response

Please see the SDT's response to EEI.

8. Please provide any additional comments for the SDT to consider, if desired.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Document Name

Comment

ERCOT believes the GOP is the most appropriate provider of information about generator capability and availability during cold weather, and that the appropriate direct recipient of such information is the BA and TOP—not the RC. The BA is already required to have an operating plan and communicate the operating plan to its RC under TOP-002, Requirements R4 and R7. The BA could provide the relevant generator capability and availability information to the RC. Therefore, the Reliability Standards could be revised either to require GOPs to communicate cold-weather generator capability and availability to BAs or TOPs, or else require BAs and TOPs to include provisions for notification of such capability and availability in their data specifications, as described above in response to Question 3.

A GOP requirement to communicate generator capability and availability due to cold weather would be more straightforward than a data specification requirement, and could be included as a new R8 in EOP-011, if the proposed R7 for GOs is adopted. The language of R8 could read as follows:

R8. Each Generator Operator shall notify each impacted Balancing Authority and Transmission Operator of the capability and availability of each of its generating units based on any operating limitations or unit-specific design specifications during actual or anticipated cold weather conditions. [Violation Risk Factor: High] [Time Horizon: Operations Planning, Same Day Operations, and Real-Time Operations]

This change would require extending the applicability of EOP-011 to GOPs.

If the SDT makes any revisions to EOP-011, ERCOT suggests that the word “Operations” be retained in the title of EOP-011 because the standard still addresses implementation of operating plans in real-time operations. The title could be revised to be “Emergency Operations and Preparedness.”

ERCOT recommends that the time horizon for data specifications should be expanded to include the real-time and same-day time horizons.

Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. In consideration of feedback received from industry, the SDT made changes to EOP-011. Some of which address your suggestion(s) or concerns.</p>	
<p>Jun Hua - Austin Energy - 4</p>	
Answer	
Document Name	
Comment	
<p>Austin Energy recommends that in section EOP-011-2, 7.3.2.2: GOs should be required to maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Additionally, effort should be made to estimate cold weather performance in the absence of actual data when possible.</p> <p>Recommend</p> <p>7.3 Generating unit(s) cold weather data, to include:</p> <p>7.3.1. Generating unit(s) operating limitations in extreme cold weather; and</p> <p>7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and</p> <p>7.3.3. Generating unit(s):</p> <p>7.3.3.1. minimum and maximum design temperature; or</p> <p>7.3.3.2. minimum demonstrated historical performance during extreme weather;</p>	
Likes	0

Dislikes	0
Response	
Thank you for your comments. Please see the modifications made to EOP-011-2, which have addressed majority of your comments.	
Gladys DeLaO - CPS Energy - 1	
Answer	
Document Name	
Comment	
The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 is too general and would make requirement impossible for TOP to comply with.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The phrase “any other” has been removed from EOP-011 respective areas.	
Michael Dillard - Austin Energy - 5	
Answer	
Document Name	
Comment	
Austin Energy recommends that in section EOP-011-2, 7.3.2.2: GOs should be required to maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Additionally, effort should be made to estimate cold weather performance in the absence of actual data when possible.	

Recommend

7.3 Generating unit(s) cold weather data, to include:

- 7.3.1. Generating unit(s) operating limitations in extreme cold weather; and
- 7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and
- 7.3.3. Generating unit(s):
 - 7.3.3.1. minimum and maximum design temperature; or
 - 7.3.3.2. minimum demonstrated historical performance during extreme weather;

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the modifications made to EOP-011-2, which have addressed majority of your comments.

Glenn Pressler - CPS Energy - 3

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 is too general and would make requirement impossible for TOP to comply with.

Likes 0

Dislikes 0

Response

Thank you for your comments. The phrase “any other” has been removed from EOP-011 respective areas.

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Document Name

Comment

In addition to supporting the IRC SRC comments, PJM requests consideration of the following:

- Requesting the Standard Drafting Team to add definitions in the standard to define cold weather (recommend using NOAA data) and extreme weather conditions.
- (Given the long times between generation audit cycles) add an annual / seasonal requirement for Generation Owners to report plans for validation by the host RE/RC/TOP. Include annual spot checks outside audit cycles conducted by the host RC/TOP/RE.
- Future versions of this standard should consider more prescriptive plan standards by unit size, type, and fuel sources.
- Clear reporting, spot checks and auditing standards should accompany the final submittal of this standard to FERC.

Likes 0

Dislikes 0

Response

Thank you for your comment. (1) The SDT is not defining cold weather as a NERC glossary term. This will be defined with your cold weather preparedness plan based on geographical regions. (2) The SDT will note your comment regarding more prescriptive plans by unit size, type, and fuel source for future consideration. (3) The SDT did not include a requirement for RC/TOPs to validate or spot check Generator Owner cold weather preparedness operations plans at this time. Compliance will be reviewed by ERO Enterprise staff.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Document Name

Comment

OPG concurs with the NPCC Regional Standards Committee’s comments.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to NPCC Regional Standards Committee.

Jamie Johnson - California ISO - 2

Answer

Document Name

Comment

CAISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to the ISO/RTO Counsel (IRC) Standards Review Committee.

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC, Group Name Standards Review Committee (SRC)

Answer

Document Name

Comment

SRC further suggests:

- Removal of the word “any” in proposed EOP-011 sub-requirement 1.2.6.2 and 2.2.9.2; and use the wording “other extreme weather conditions”. The concern is the word “any” makes this requirement very broad and open to interpretation.
- Retain the current title: EOP-011-1 Emergency Operations. This request is due to the required inherent preparedness needed for operations; and R5 and R6 meeting the Time Horizon: Real-Time Operations.
- Suggest removing “Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather,” from IRO-010 R1.3 and including it in TOP-003. Leaving the IRO-010 R1.3 to state “Provisions for notification of expected BES generating unit operation limitations during local forecasted cold weather.”

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) The SDT removed the phrase “any other” from the respective areas within the EOP-011-2. (2) The SDT updated the title to state “Emergency Preparedness and Operations”, this allows the title to accurately reflect the content within the EOP-011-2 standard.

W. Dwayne Preston - Austin Energy - 3

Answer

Document Name

Comment

Austin Energy recommends that in section EOP-011-2, 7.3.2.2: *GOs should be required to maintain cold weather data that is relevant in the absence of actual data within the last 5 years. For example, if cold weather has not occurred in the last 5 years but data from 7 years ago is available, that 7-year-old data should remain in place. Additionally, effort should be made to estimate cold weather performance in the absence of actual data when possible.*

Recommend

7.3 Generating unit(s) cold weather data, to include:

- 7.3.1. Generating unit(s) operating limitations in extreme cold weather; and
- 7.3.2. Generating unit(s) operating limitations in extreme precipitation events; and
- 7.3.3. Generating unit(s):
 - 7.3.3.1. minimum and maximum design temperature; or
 - 7.3.3.2. minimum demonstrated historical performance during extreme weather;

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the modifications made to EOP-011-2, which have addressed majority of your comments.

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer

Document Name

Comment

If we assess that the extreme cold weather that could affect our generators is colder than has ever occurred in our region, how much colder would it have to be than the lowest ever temperature (in 20, 30, 50 years?) to excuse us from annual maintenance or checks that do not currently exist in our routines because they are not necessary or viable to do?
 Are they expecting us to have a different operational plan for cold weather than we have for other extreme weather events since it has been singled out (as opposed to high wind, extreme heat and fire, or excessive rain which are more plausible emergencies in our area). Will they accept a cold weather plan that shows that there has been no issues with the units for all temperatures in history since our water flows continuously on the river and doesn't freeze regardless of temperature... -
 Requiring training separately is mute if the plan does not identify any issues.....

Likes 0

Dislikes	0
Response	
<p>Thank you for your comments. The standard has been drafted to allow the entity flexibility on how the plan is drafted. However, at a minimum, the sub requirements need to be identified within your plan. The purpose of training is to ensure the awareness of what to do in the event of cold weather, and the SDT would recommend training be completed.</p>	
Erin Green - Western Area Power Administration - 1,6	
Answer	
Document Name	
Comment	
Support comments by Western Area Power Administration, Sean Erickson, Segment 1.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to WAPA, Sean Erickson.	
Pamalet Mackey - Pamalet Mackey On Behalf of: Ed Hanson, Pacific Gas and Electric Company, 1, 3, 5; Sandra Ellis, Pacific Gas and Electric Company, 1, 3, 5; - Pamalet Mackey	
Answer	
Document Name	
Comment	
n/a	

Likes	0
Dislikes	0
Response	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	
Document Name	
Comment	
MISO supports the IRC SRC comments	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to IRC SRC.	
Mike Hirst - Cogentrix Energy Power Management, LLC - 5 - NPCC,SERC,RF, Group Name Cogentrix Energy Power Management	
Answer	
Document Name	
Comment	
Miscellaneous comments for extreme cold weather events happen throughout the country in all regions.	
Other areas that should be included along with freeze protection:	
<ul style="list-style-type: none"> Fuel supplies Extra backup reserve in place Incentives for facilities that ride through extreme cold conditions 	

- o extreme cold weather needs to be a defined term

Likes 0

Dislikes 0

Response

In consideration of feedback received, the SDT changed TOP-003-5 and IRO-010-4 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.

Daniel Gacek - Exelon - 1

Answer

Document Name

Comment

Exelon concurs with the EEI comments to Question 8.

On Behalf of Exelon, Segments: 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI question 8.

Darnez Gresham - Berkshire Hathaway Energy - MidAmerican Energy Co. - 3

Answer

Document Name

Comment

MidAmerican Energy Company Supports comments submitted by the MRO NERC Standard Review Forum (NSRF)

Likes 0

Dislikes 0

Response

Please see the SDT's response to MRO NSRF.

Patrick Wells - OGE Energy - Oklahoma Gas and Electric Co. - 5

Answer

Document Name

Comment

TOP-003-5:

Under R2, Subpart 2.2, the proposed draft has incorrectly removed notifications of current Protection System status or degradation that impacts System reliability. This should be corrected.

Any modifications to the NERC Reliability Standards to address cold or other extreme weather conditions should align with the functions laid out in the NERC Functional Model and be consistent with the Recommendations of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Incorporating requirements for functions outside an entity's purview are counterproductive {C}[[A1](#)]

Likes 0

Dislikes 0

Response

In consideration of feedback received from industry, the SDT made changes to EOP-011, IRO-010 and TOP-003 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved.

Jeanne Kurzynowski - CMS Energy - Consumers Energy Company - 3,4,5 - RF

Answer

Document Name

Comment

Requesting a definition of cold weather.

Likes 1

CMS Energy - Consumers Energy Company, 4, Root Aric

Dislikes 0

Response

Please see the SDT's response to EEI.

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute".

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI.

Larry Rogers - Southern Indiana Gas and Electric Co. - 5

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 could make it impossible for entities to comply with. CenterPoint Energy recommends removing this language.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT removed “any other” from the respective areas in EOP-011.

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

Document Name

Comment

MEC supports the Cold Weather project, but also agrees with and supports the MRO NSRF comments on needed changes first. Poorly written standards written in haste result in vague requirements which can lead to misinterpretation and needless violations.

The drafting team should ensure the new requirements are technology agnostic and apply to all resources necessary to maintain reliability. There have been several SARs lately to address this issue in other standards.

There isn't 'linkage' for the GO facility to go the PC/TP. A PC/TP may add this data into the MOD-032 requirements to plan in the Planning Horizon.

For EOP-011-2

4.2 Facilities:

Recommend the following to give clear guidance to what generators are to be in the GO's cold weather plan (this is currently approved on MOD-025-2).

For the purpose of this standard, the term, "applicable Facility" shall mean any one of the following:

4.2.1, All BES generators. This is a simple and to the point Applicability statement.

Part 1.2.6 Recommend that Part 1.2.6 not be updated as proposed and kept as currently approved in EOP-011-1, since "Reliability impact of extreme weather conditions" covers all weather conditions. Plus, "reliability impacts" are outputs of data that the TOP should be giving in TOP-003.

Part 2.2.9 Recommend that Part 2.2.9 not be updated as proposed and kept as currently approved in EOP-011-1, since "Reliability impact of extreme weather conditions" covers all weather conditions. Plus, "reliability impacts" are outputs of data that the BA should be giving in TOP-003.

Implementation Plan

Please note that Compliance Application Notice [\(CAN\) – 0012](#) is still active and may impact the Implementation Plan. Recommend the Implementation Plan to read:

General Considerations This implementation plan provides that entities shall have twelve months to become compliant with the revised Reliability Standards after the new effective date. And continues to read:

This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities (per IRO-010-4 and TOP-003-5), revised data specifications and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Does FAC-008 need to be modified to call out cold weather ratings?

- - The documentation shall contain assumptions used to rate the generator and at least one of the following:

- Design or construction information such as design criteria, ratings provided by equipment manufacturers, equipment drawings and/or specifications, engineering analyses, method(s) consistent with industry standards (e.g. ANSI and IEEE), or an established engineering practice that has been verified by testing or engineering analysis.
- Operational information such as commissioning test results, performance testing or historical performance records, any of which may be supplemented by engineering analyses.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received from industry, the SDT made changes to EOP-011, IRO-010 and TOP-003 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved. The SDT determined that FAC-008 does not need to be modified at this time.

You are correct that CAN-012 is still active. The new requirements for this project would become effective on the effective date (absent any special guidance in the implementation plan).

Donna Johnson - Oglethorpe Power Corporation - 5

Answer

Document Name

Comment

OPC suggests that training requirements (R7.4) should be added to PER standards versus being scattered within other standard families.

OPC agrees with the NAGF recommendation that R1.2 of EOP-011-2 be supplemented with, "Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components." This

verbiage is drawn from NERC's Reliability Guideline Gas and therefore should not be incorporated in planning models. Examples of such cold weather operating limitations include:

- River ice formations that impact generator water inlets
- Inlet air filters blocked by accumulating/drifted snow
- NG pipeline pressure fluctuations

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received from industry, majority of industry wanted the cold weather preparedness requirements all together. Therefore, the SDT created a new Requirement R8 within the EOP-011 standard. In addition, The SDT does not believe maintenance or design changes related to items such as freeze protection measures are appropriate for the FAC standards- such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. The areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.

Kevin Salsbury - Berkshire Hathaway - NV Energy - 5

Answer

Document Name

Comment

NV Energy would again like to commend the Cold Weather SDT on the work done for this project, as NV Energy does believe this is a necessary industry requirement, especially given the recent Freeze Event that hit the midwest and Texas. NV Energy just believes some additional clarification is required within the revisions prior to approval.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s).

Carl Pineault - Hydro-Quebec Production - 5

Answer

Document Name

Comment

Hydro-Quebec Production has not comments on the proposed changes.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Document Name

Comment

General Comments

The Guidelines and Technical Basis have been removed from EOP-011-2, IRO-010-4, and TOP-003-5 but the Technical Rationale document that retains the rationale for each document has not been posted with the current drafts. Before these Reliability Standards are approved, the Technical Rationale documents should be posted for industry review.

Comments for EOP-011-2

The previous title of EOP-011, Emergency Operations, should be retained or modified to include Preparedness since emergency operations remains the primary focus of this Reliability Standard. (e.g., Emergency Operations and Preparedness)

The Redline now includes a “Facilities” section but only identifies Generating Plants. EOP-011 covers more than Generating Plants and this section should be updated to cover all the facilities that the Reliability Standard covers.

Proposed modifications to Requirement R1, Subpart 1.2.6.2 and R2, Subpart 2.2.9.2 expand the language within the current approved Reliability Standard to address “any other” extreme weather conditions. The inclusion of the phrase “any other” is ambiguous from a compliance perspective. Additionally, the revised language could be read to require Registered Entities to prepare for extreme weather that has no applicability to the region(s) they reside (e.g., hurricane in Montana). EEI recommends clarifying the intent of proposed phrase “any other” in the Requirements R1 and R2 or removing it.

Comments for TOP-003-5

Requirement R2, Subpart 2.2 incorrectly removed notifications of current Protection System status or degradation that impacts System reliability. This should be corrected.

Likes	0
Dislikes	0

Response

Thank you for your comments. 1) The SDT move the GTB to the TR and it is reflected with the draft 2 posting. 2) The SDT removed “any other” from the respective EOP-011 standard areas.

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

Document Name

Comment

Please consider using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data to define “cold weather,” “extreme weather conditions,” and “cold weather conditions”.

Thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

The SDT drafted the cold weather preparedness to allow for the entities to build their cold weather preparedness plan in a way that works for the entity and their geographical region. There are no requirements preventing any entity from using NOAA Extreme Weather Events. The team determined not to define cold weather or extreme weather conditions as that will be defined within your cold weather plan for your geographical area.

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI.

David Jendras - Ameren - Ameren Services - 3

Answer

Document Name

Comment

Ameren Agrees with and supports NAGF comments

Likes 0

Dislikes 0

Response

Please see the SDT's response to NAGF.

Shannon Ferdinand - Capital Power Corporation - 1,6 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

Capital Power appreciates the opportunity to participate in NERC's stakeholder consultation process. We recognize the risk that severe weather can have on the grid and appreciate the desire to implement a regulation to mitigate the risk. However, Capital Power believes that EOP-011 R7, as it is currently written, does not set out a clear or measurable path for entities to meet the reliability objective or the stated purpose of EOP-011. Specifically, Capital Power puts forward the following points for the ERO's consideration:

Clarity - R7 requires all applicable generators to develop a cold weather preparedness plan which includes certain defined elements. However, the defined elements are vague and subjective, which could lead to some entities having cold weather preparedness plans that meet the requirement from a compliance perspective, but which do not actually mitigate risk or meet the reliability objective. The Standard Drafting Team (SDT) should consider revising this requirement to align with the reliability objective more clearly. Specific opportunities for clarity include, but are not limited to:

- 'Cold weather' needs to be defined: the SDT should consider a definition of Cold Weather to offer entities in diverse geographical areas more definitive criteria.
- Burden of proof – Is the entity obligated to demonstrate through technical evidence (i.e. engineering design study, hardening of equipment) that the winter preparedness plan is effective and / or sufficient to mitigate and prepare for Cold Weather (i.e. mitigates the reliability risk) or is the existence of the principled based plan with the prescribed elements sufficient to meet the compliance requirement?

- If the entity is required to assess and/or harden every critical piece of equipment, the scope of work and associated costs would be significant. Capital Power recommends that GO/GOPs be in charge of determining appropriate cold weather preparedness measures; so long as these measures are documented, the performance of said measures is not currently considered in this principled based standard.
- Extreme weather and natural events are often unpredictable; a plan may not be comprehensive enough to cover every possible scenario, and operational decisions that differ from ‘the plan’ may be necessary in real time. If an entity is required to make decisions that differ from ‘the plan’ in real time, for safety or reliability reasons, they may find themselves out of compliance with the ‘implementation’ of EOP-011 R7. The Standard Drafting Team should consider the addition of an ‘exceptional circumstances’ clause, like the CIP standards.
- Additional clarification re. ‘freeze’ protection on peak / intermittent resources (wind / solar)
- Additional clarification re. maintenance and inspection requirements

Other Considerations:

- **Risk Based** – This requirement has been developed to meet an identified reliability risk; however, for many northern entities, operating in cold weather is standard operating procedure and does not generally equate to an ‘operating emergency’. These entities’ interests align with ensuring that their sites are ‘fit for duty’ in all weather conditions, and EOP-011 R7 would be an administrative exercise that offers little mitigation, given the minimal risk that cold weather poses in northern climates. The SDT should consider revising this requirement such that the applicability of R7 is based on risk at the discretion and /or on the specific request of the appropriate planning entity. For new generation, grid operators could mandate certain levels of cold weather technical requirements, including voltage and frequency requirements, via interconnection agreements.
- **Extreme Weather** - This standard does not currently consider extreme cold weather or extreme heat. Extremes in any direction can pose a risk to even the most prepared generator. The SDT should consider revising the standard to include extreme weather preparedness.
- **Fuel Supply Issues** - This standard does not account for fuel supply issues that can occur during extreme weather and which are, in general, outside of the GO’s control. In extreme natural events (including extreme weather), no matter how prepared the natural gas generator may be, if external NG pipelines freeze or fuel is redirected away from generators, the GO/GOP response options are limited.

- **Synergies** – There are other standards (i.e., MOD, FAC standards) that may require GO/GOPs to provide information about winter / summer operating specifications. The SDT should review standards with potential overlap / redundancies and work to consolidate all cold weather-related data requests into one standard.

Likes 0

Dislikes 0

Response

Thanks for your comments. (1) The SDT provided many clarifications to Requirement R7 in EOP-011. (2) As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). (3) Please see the updated modifications to draft 2. The SDT has stated in previous responses to industry, that although a definition of “cold weather” was suggested, it would be very difficult to develop a consistent and acceptable term since there are different interpretations across the ERO and varying weather conditions.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee no UI

Answer

Document Name

Comment

RE: EOP-011-2 R1.2.6.2 and R2.2.9.2 “any other extreme weather conditions”: We suggest the removal of the word “any.” The inclusion of the word “any” expresses a lack of restriction and could result in audit and compliance difficulties.

RE: TOP-003-5 R2.2: There appears to be an error in the revision of R2.2. We suggest that R2.2 should read as, “Provision for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.” Instead of “Provisions for notification of current Protection Remedial Action Scheme status or degradation that impacts System reliability.”

RE: Guidelines and Technical Basis (GTB) sections of EOP-011, IRO-010, and TOP-003. Technical Rationale documents should be posted for industry review and comment since the GTB sections of EOP-011, IRO-010, and TOP-003 are being removed.

EOP-011-2, R1: *addition for clarification*

1.2.6. *Provisions to determine potential Reliability impacts of:*

Requirement 1.2 states the TOP’s Operating Plans(s) should include processes to prepare for and mitigate Emergencies. Reliability impacts of cold weather conditions and any other extreme weather conditions are not a process, but rather a type of Emergency that the TOP must have a plan(s) to address. This addition will clarify that a process should be in place to address cold weather and other extreme conditions.

The drafting team should consider revising the use of the term cold weather conditions. Cold weather has different meanings to different locations. The drafting team should consider terms such as “below normal” or a “certain percentile below normal”. Also is time a factor, a couple of hours to a couple of days?

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). (2) The SDT removed “Any” from the respective areas in EOP-011. (3) The GTB has been removed from the standard and inserted into the TR. There was an effort that the SC approved removing all GTB from the standards and inserting them into the TR or pulling out the IG information for ERO endorsement. Based on the June 11, 2021 NERC Board directive, the cold weather team inserted the GTB into the TR and added additional TR for the new modifications. Please see the TR document, which is posted under supporting materials on the project page. (4) Please see the SDT’s updates in draft 2.

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer

Document Name

Comment

What is the reason for removing the Guidelines and Technical Basis from each of these standards?

Likes 0

Dislikes 0

Response

Thank you for your comment. The GTB has been removed from the standard and inserted into the TR. There was an effort that the SC approved removing all GTB from the standards and inserting them into the TR or pulling out the IG information for ERO endorsement. Based on the June 11, 2021 NERC Board directive, the cold weather SDT inserted the GTB into the TR and added additional TR for the new modifications. Please see the TR document, which is posted under supporting materials on the project page.

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

Document Name

Comment

TOP-003-5: Under R2, Subpart 2.2, the proposed draft has incorrectly removed notifications of current Protection System status or degradation that impacts System reliability. This should be corrected.

Any modifications to the NERC Reliability Standards to address cold or other extreme weather conditions should align with the functions laid out in the NERC Functional Model and be consistent with the Recommendations of the "Report on the South Central United States Cold Weather Bulk Electric System Event of January 17, 2018." Incorporating requirements for functions outside an entity's purview are counterproductive.

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the updated modifications. Your concern has been addressed.

Douglas Webb - Douglas Webb On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Douglas Webb

Answer

Document Name

Comment

Evergy supports and incorporates by reference Edison Electric Institute’s response to Question 8.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to EEI.

Wayne Guttormson - SaskPower - 1

Answer

Document Name

Comment

Support the intent of this project and the updating of the three applicable Standards. Support the submitted MRO-NSRF comments.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to MRO NSRF.

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name	
Comment	
SCE supports EEI's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name PUD No. 1 of Chelan County	
Answer	
Document Name	
Comment	
<p>CHPD supports the efforts of the SDT to address the recommendations identified in the 2019 FERC and NERC staff report. CHPD also remains supportive of the addition of Requirements addressing Cold Weather preparedness however, CHPD has concerns over the language in these proposed revisions maintaining the requirement that all BES generating units would be required to develop and implement cold weather preparedness plans. It is CHPD's opinion that including all BES generating units continues to put an unnecessary compliance burden on the bulk of generating units that already operate reliably in historically cold climates.</p> <p>CHPD requests the drafting team add language providing an exemption for those units located in historically cold climates that already operate reliably in routinely cold weather regions in order to not divert resources from valuable work in maintaining these generators.</p>	
Likes 0	
Dislikes 0	
Response	

The SDT understands and appreciates your concerns. As explained in previous responses to industry comments, the extensiveness of each entity’s cold weather preparation plan would be based on their specific geographic area and past cold weather experiences. Also, for those generators that regularly operate in freezing weather, it is assumed that although a formal cold weather preparation plan may not have been established, these facilities already implement the necessary practices to ensure winter readiness.

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE, Group Name CEHE Project 2019-06 Cold Weather

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 could make it impossible for entities to comply with. CEHE recommends removing this language.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT removed “any other” from the respective areas in EOP-011. Please see the updated draft.

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer

Document Name

Comment

The addition of the phrase “any other” in the proposed changes to EOP-011-2 R1.2.6.2 and R2.2.9.2 could make it impossible for entities to comply with. Southern Indiana Gas & Electric recommends removing this language.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT removed “any other” from the respective areas in EOP-011. Please see the updated draft.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Please see SDT’s response to MRO NSRF.

Marcus Bortman - APS - Arizona Public Service Co. - 6

Answer

Document Name

Comment

AZPS would also like further clarification on the following terms. “Cold weather” is not defined. “Extreme weather conditions” not defined. Is it based on temperature or geography? What is the scope of “cold” and “extreme”?

Likes 0

Dislikes 0

Response

Thanks for your comments. The SDT has stated in previous responses to industry, that although a definition of “cold weather” was suggested, it would be very difficult to develop a consistent and acceptable term since there are different interpretations across the ERO and varying weather conditions.

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer

Document Name

Comment

EOP-011 Applicability: To avoid confusion, the SDT should delete the “Facilities” subsection from the Applicability section, and instead replace instances of “generating unit(s)” throughout the standard with “BES generator(s).” For example, the first sentence of Requirement R7 would read “Each Generator Owner shall... implement one or more cold weather preparedness plan(s) for its BES generator(s).” If the SDT nevertheless retains the Facilities subsection, to avoid confusion about whether facilities that do not fit the definition can nevertheless be “generating unit(s),” the subsection should be revised to read “For the purpose of this standard, the term “generating unit” *means* BES generators.”

EOP-011 Purpose statement: The proposed purpose statement is unclear. We suggest that it instead read: “To ensure applicable entities have developed plan(s) to prepare and mitigate operating Emergencies.”

EOP-011 Requirement R7: Overall, proposed R7 does not state a clear, measurable objective, and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Moreover, because the objective is not clearly stated, there is a significant risk that members of the drafting team or stakeholders are in fact working at cross-purposes due to having differing understandings of the objective.

“Develop, maintain, and implement”: The standard should require entities to “implement” a plan, not “develop, maintain, and implement” it. It is impossible to implement a plan without developing and maintaining it; including independent requirements to “develop” and “maintain” the plan simply results in more opportunities for administrative noncompliance, with no benefit to reliability. We recognize that the SDT is using the same language as the existing requirements in the standard, but doing so unnecessarily perpetuates a preexisting mistake; the SDT should instead correct the mistake throughout the standard.

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on specific factors such as geographical location and plant configuration.”

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Finally, with respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. *GOP* personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) The use of the facility section is correctly used to help entities understand the term “generating unit” within the EOP-011-2 standard. This term is not used in other locations. (2) Please see the SDT’s updated modifications to draft 2 standard. (3) Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard.

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment

DTEE supports the comments of the NAGF and would like to add that awareness training is not as effective as formal training. PER-006 was developed for the purpose of having a standard available to include all applicable plant operator training. Also, DTEE requests more information on the definition of “historical performance” as laid forth in EOP-011 R7.3.2.2, IRO-010 R1.3 and TOP-003 R1.3.

Thank you.

Likes 0

Dislikes 0

Response

Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. Additionally, please see the updated standards with the SDT’s attempt to provide additional clarity.

Matthew Beilfuss - WEC Energy Group, Inc. - 4

Answer

Document Name

Comment

No comments

Likes 0

Dislikes 0

Response

Robin Hill - Robin Hill On Behalf of: Heather Morgan, EDP Renewables North America LLC, 5; - Robin Hill

Answer	
Document Name	
Comment	
<p>With respect to EOP-011 R7.3, we suggest removing the requirement to include the cold weather data within the cold weather preparedness plan. Though entities should be required to collect this information, it is administratively burdensome with little to no reliability benefit to include it within the cold weather preparedness plan. Additionally, for entities that use one fleetwide cold weather preparedness plan for multiple generation facilities, putting this information within the cold weather preparedness plan would be very burdensome without additional benefit. We recommend removing 7.3 and its subparts to a new requirement within EOP-011 so that the information is required to be collected, however, it does not have to be within the cold weather preparedness plan.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comments. Please see the updated revised standard, which should address your concerns.</p>	
<p>Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC</p>	
Answer	
Document Name	
Comment	
<ul style="list-style-type: none"> • Black Hills Corporation does not see any reason to further break down EOP-011 R1.2.6 and 2.2.9, Unless they specifically want to ensure that cold weather is addressed, which is fine. For R1.2.6, BHC would like to have some examples of what this might include for the TOP; i.e. tank heaters for SF6 breakers, low Nitrogen on BES transformers • What exactly are the concerns for the TOP and their equipment specifically related to cold weather that would be associated with extreme weather events? • If we talk about icing conductors, that’s sort of a different weather extreme than just cold weather. • Beyond cold weather, are we to address icing, snow, wind, blizzard? 	

- From a Generator Owner/Operator perspective Black Hills agrees with NAGF question 8 comments

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). (2) “Extreme weather conditions” is legacy language applicable to TOP and BA Operating Plans and was not added by this SDT. It should not be impacted by the current modifications. (3) The SDT drafted the requirements to allow entities flexibility in how you draft your cold weather preparedness plan.

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

Document Name

Comment

EOP-011 Applicability: To avoid confusion, the SDT should delete the “Facilities” subsection from the Applicability section, and instead replace instances of “generating unit(s)” throughout the standard with “BES generator(s).” For example, the first sentence of Requirement R7 would read “Each Generator Owner shall... implement one or more cold weather preparedness plan(s) for its BES generator(s).” If the SDT nevertheless retains the Facilities subsection, to avoid confusion about whether facilities that do not fit the definition can nevertheless be “generating unit(s),” the subsection should be revised to read “For the purpose of this standard, the term “generating unit” *means* BES generators.”

EOP-011 Purpose statement: The proposed purpose statement is unclear. We suggest that it instead read: “To ensure applicable entities have developed plan(s) to prepare and mitigate operating Emergencies.”

EOP-011 Requirement R7: Overall, proposed R7 does not state a clear, measurable objective, and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Moreover, because the objective is not clearly stated, there is a significant risk that members of the drafting team or stakeholders are in fact working at cross-purposes due to having differing understandings of the objective.

“Develop, maintain, and implement”: The standard should require entities to “implement” a plan, not “develop, maintain, and implement” it. It is impossible to implement a plan without developing and maintaining it; including independent requirements to “develop” and “maintain” the plan simply results in more opportunities for administrative noncompliance, with no benefit to reliability. We recognize that the SDT is using the same language as the existing requirements in the standard, but doing so unnecessarily perpetuates a preexisting mistake; the SDT should instead correct the mistake throughout the standard.

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on specific factors such as geographical location and plant configuration.”

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Finally, with respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. *GOP* personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes	0
Dislikes	0

Response

Thank you for your comments. (1) The use of the facility section is correctly used to help entities understand the term “generating unit” within the EOP-011-2 standard. This term is not used in other locations. (2) The SDT drafted the requirements to allow entities flexibility in how you draft your cold weather preparedness plan. It is up to the entity on how it provides training. The key is that the operating

personnel have awareness on how to handle situations in the event of cold weather. (3) Please see the updated modifications made by the SDT.

Justin Welty - NextEra Energy - Florida Power and Light Co. - 6

Answer

Document Name

Comment

We understand the SDT is focusing on requirements for generators to address the first of the FERC recommendations. Following the issues in Texas this winter, as well as the MISO/SPP issues in the winters of 2018/2019, it seems prudent to quickly focus on additional requirements for RC, BA and TOP preparedness, thus addressing the remaining FERC recommendations.

Additionally, coordination across critical infrastructure sectors needs to be considered. For example, natural gas firmness, that the natural gas pipelines have “winterization” plans similar to what is being asked for the generators, that capacity values for units is adjusted to winter capabilities (including solar) and if there is alternate fuel back up if gas not sufficient; especially for a multi-day event.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s).

Rebecca Baldwin - Transmission Access Policy Study Group - NA - Not Applicable - NA - Not Applicable

Answer

Document Name

Comment

EOP-011 Applicability: To avoid confusion, the SDT should delete the “Facilities” subsection from the Applicability section, and instead replace instances of “generating unit(s)” throughout the standard with “BES generator(s).” For example, the first sentence of Requirement R7 would read “Each Generator Owner shall... implement one or more cold weather preparedness plan(s) for its BES generator(s).” If the SDT nevertheless retains the Facilities subsection, to avoid confusion about whether facilities that do not fit the definition can nevertheless be “generating unit(s),” the subsection should be revised to read “For the purpose of this standard, the term “generating unit” *means* BES generators.”

EOP-011 Purpose statement: The proposed purpose statement is unclear. We suggest that it instead read: “To ensure applicable entities have developed plan(s) to prepare and mitigate operating Emergencies.”

EOP-011 Requirement R7: Overall, proposed R7 does not state a clear, measurable objective, and thus does not meet the attributes of a results-based standard as described in Section 2.4 of the Standards Process Manual. Absent a clearly stated objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. Moreover, because the objective is not clearly stated, there is a significant risk that members of the drafting team or stakeholders are in fact working at cross-purposes due to having differing understandings of the objective.

“Develop, maintain, and implement”: The standard should require entities to “implement” a plan, not “develop, maintain, and implement” it. It is impossible to implement a plan without developing and maintaining it; including independent requirements to “develop” and “maintain” the plan simply results in more opportunities for administrative noncompliance, with no benefit to reliability. We recognize that the SDT is using the same language as the existing requirements in the standard, but doing so unnecessarily perpetuates a preexisting mistake; the SDT should instead correct the mistake throughout the standard.

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on specific factors such as geographical location and plant configuration.”

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Finally, with respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. *GOP*

personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) The use of the facility section is correctly used to help entities understand the term “generating unit” within the EOP-011-2 standard. This term is not used in other locations. (2) Please see the SDT’s updated modifications to draft 2 standard. (3) Changes are proposed to the Rules of Procedure to address this evidence retention recommendation throughout the Reliability Standards. Until such time that those proposed changes are approved, the SDT has maintained consistency with the other data retention language in the standard.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF recommends that R1.2 of EOP-011-2 be supplemented with, “Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components.” This verbiage is drawn from NERC’s Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4, [https://www.nerc.com/comm/OC Reliability Guidelines DL/Gas and Electrical Operational Coordination Considerations 20171213.pdf](https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf))

The NAGF requests that the phrase “any other extreme weather conditions” used in Requirement 1.2.6.2 be clarified or removed.

The NAGF requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) operating limitations in cold weather”. We suggest that NERC specify that this requirement pertains only to known and predictable operating impacts for cold weather that affect plant

capacity, start-up, or operational reliability. There are numerous cold weather vulnerabilities that cannot be accurately predicted and therefore should not be incorporated in planning models. Examples of such cold weather operating limitations include:

- River ice formations that impact generator water inlets
- Inlet air filters blocked by accumulating/drifted snow
- NG pipeline pressure fluctuations

The NAGF supports the option of allowing the Generator Owners to provide generator unit minimum design temperature (R7.3.2.1) or minimum demonstrated historical cold weather performance data (R7.3.2.2) as defined in EOP-011. The Reliability Coordinator (RC) and Transmission Operator (TOP) data specification plans need to enable submittal of the generator unit data accordingly.

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the SDT's updated modifications to the EOP-011-2 standard. In addition, please see the supporting documents (Technical Rationale and Implementation Guidance).

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

Document Name

Comment

Utility Services supports the comments posted by the TAPS group.

Likes 0

Dislikes 0

Response

Please see the SDT's response to the TAPS Group.

Dennis Sismaet - Northern California Power Agency - 6

Answer

Document Name

Comment

We are not clear how this proposal is going to result in reliability improvements, only more costs and administrative burdens for everyone, especially our members.

The SDT has not provided any proposed reliability improvements or cost estimates. No mention of improving BA/RC weather/load forecasting during anticipated cold weather periods. No mention of increasing BA/RC controlled reserves for improved reliability, no mention in starting BA/RC controlled generation ahead of time to warm up equipment to improve reliability.

And the proposal does not require TOP or RC to use any data they will be required to obtain from GO/GOPs.

Additionally, the proposals do not require BAs, RCs, or TOPs to learn, or train anyone, on how to use the Cold Weather data that the SDT is proposing they be forced by NERC Standards to request from GO/GOPs.

Likes 0

Dislikes 0

Response

Thank you for your comments. Although the SDT understands that cold weather is normally expected, if the proper cold weather preparations are not implemented and maintained, the cold weather can result in an emergency such as those experienced in 2011, 2014, 2018 and the recent issues in Texas. Additionally, the training is up to the entity. The importance is that the personnel have an awareness of how to handle situations in the event of cold weather. See the examples within the measures for assistance.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer

Document Name	
Comment	
<p>Please consider using a basis of/from the NOAA Extreme Weather events, which are based on regional climate centers, statistical models, and scientific data to define “cold weather,” “extreme weather conditions,” and “cold weather conditions”.</p> <p>Thank you for the opportunity to comment.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comments. The SDT’s drafted the requirements in a way that provide entities with flexibility. There is not requirement that does not allow entities to use the NOAA Extreme Weather Events information within your cold weather preparedness plan.</p>	
<p>Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name Tennessee Valley Authority</p>	
Answer	
Document Name	
Comment	
<p>If the purpose of this project is for TOPs, BAs, and RCs to have awareness of generation operating limits during Cold Weather, there needs to be requirements for TOPs, BAs, and RCs to be trained on what to do with / how to use the information required from the GOs.</p>	
Likes 1	Tennessee Valley Authority, 5, Thomas M Lee
Dislikes 0	
Response	

Thank you for your comments. The training is up to the entity. The importance is that the personnel have an awareness of how to handle situations in the event of cold weather. See the examples within the measures for assistance. There are no requirements that restrict an entity from providing awareness training for TOPs, BAs, and RCs.

Don Stahl - Black Hills Corporation - 3

Answer

Document Name

Comment

comments submitted

Likes 0

Dislikes 0

Response

Dania Colon - Orlando Utilities Commission - 5

Answer

Document Name

Comment

For the sake of clarity, R7.1 should be revised to refer to “specific” rather than “unique” factors: “Generating unit(s) freeze protection measures based on unique specific factors such as geographical location and plant configuration.”

With respect to EOP-011, proposed R7.4, it is not at all clear from the balance of proposed R7 what, if any, “roles and responsibilities of site personnel” would be “contained in the cold weather preparedness plan.” If the objective is for plant operating personnel (i.e. GOP personnel) to understand the freeze protection measures implemented at the generator, then the subrequirement should read “Inform Generator Operator(s) with responsibility for Generator Owner’s BES generator(s) of freeze protection measures in place at the applicable BES

generator(s).” To the extent that the SDT believes that training of GO and/or GOP personnel is necessary, any such requirements belong in PER-006, not EOP-011.

Likes 0

Dislikes 0

Response

Thank you for you comments. Please see the SDTs updates to EOP-011. Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard. Additionally, please see the updated standards with the SDT’s attempt to provide additional clarity.

Julie Hall - Entergy - 6, Group Name Entergy

Answer

Document Name

Comment

Following are comments, suggestions and questions related to EOP-011

Comment 1: Entergy agrees with most of the changes to this standard, except the cold weather parameter (minimum design temp or 5 year average). The minimum design temp. is 32F for all units, but we deploy measures to keep unit on-line at temperatures well below that.

Comment 2:

R7.1 – add “designed” to describe freeze protection measures.. “Generating unit(s) **designed** freeze protection measures based on”. Temporary provisions added to further harden the cold weather capability are not part of the permanent plant configuration and change as conditions at the site vary.

R7.2 – add ““designed” to describe freeze protection measures.. “Annual maintenance and inspection of generating unit(s) **designed** freeze protection measures”. Temporary provisions are erected and installed, but do not have annual maintenance. Conversely, temporary provisions typically require frequent inspection, often daily or more.

The point is permanently designed plant equipment is maintained and controlled differently from the temporary provisions needed to operate at freezing conditions and must have different maintenance and inspections applied to ensure the effectiveness. Bear in mind freeze protection measures include more than just heat trace. Permanent equipment design includes doors, door seals, insulation, heaters, intake screens (frazil ice), instrument cabinet heaters, ventilation louvers connected to ambient and heaters near the louvers, design features to protect exposed air systems (ventilation, isophase duct, compressed air) from condensation or icing, dewpoint and moisture monitors, design features to prevent forced draft cooling fan/cooling tower icing, intake water (frazil ice) features, and temperature and wind monitoring. Freeze protection measures also includes temporary structures (tenting), heat lamps, de-icing equipment, and heaters. Finally, systems (e.g. cooling towers) will require specified operating configurations that will change as icing conditions require.

As an example, if the wind was from a specified direction and speed, temperature was within a range favorable for ice accretion, and observations showed ice was forming on the electrical insulators, the plant was required to shut down. To help preclude shutdowns, we installed temporary heat lamps at the base of the insulators. If the temperature dropped enough, ice accretion would not occur. That is why I think it is important to bound and clarify what is meant by “freeze protection measures”.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or

*Is this referring to the lowest **ambient** temperature at which the generating unit can continually operate at full power using permanently installed equipment while not crediting temporarily installed freeze protection measures ?*

It should be noted that the Nuclear BUs are required to adhere to NRC requirements that stipulate operating the plant safely and being able to safely shut down the unit. There could be instances when the NERC standard may conflict with the NRC requirements with regards to the minimum design temperature discussed in 7.3.2.1.

7.3.2.2. minimum demonstrated historical performance during cold weather in the previous 5 years.

Is this referring to minimum ambient temperature that the generating unit successfully operated at full power in each of the previous 5 years while crediting temporarily installed freeze protection measures ?

7.4. Awareness training on the roles and responsibilities of site personnel contained in the cold weather preparedness plan.

Is the population of the awareness training limited to those who operate the plant?

What is the required frequency or periodicity of conducting the awareness training?

Likes 0

Dislikes 0

Response

Thank you for your comments. (1) The SDT removed 5 years from EOP-011. Please see other modifications to the EOP-011 standard. (2) The awareness training is up to the entity on how it is conducted and the timeframe on how often training is required.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE has the following additional comments:

- The SDT should consider adding requirements to perform seasonal studies to assess expected conditions and the impacts of extreme weather or events for these expected conditions. There is currently no analysis required between the near-term transmission planning horizon (one year out) and the OPA/next day Operating Plans. The near-term transmission planning horizon analysis may be performed too far out to incorporate expected conditions, while OPA/next day Operating Plans may be performed too close to Real-time to address identified issues.

- The SDT should consider adding requirements for the PC and TP to collect data related to design specifications and operating limitations and incorporate this data into its planning studies. Due to the nature of issues related to cold weather operating limitations, awareness of these issues is needed as far out as possible to take action to remediate these issues.

Texas RE inquires as to whether the drafting team considered any winter weatherization or extreme weather requirements (for example, a backup generator) for GOPs at Control Centers. For example, do Control Centers over a certain threshold or that operates certain high-risk generators need to have some winter or extreme weather plan to account for thing like loss of power, personnel shortages, water outages, or building damage?

Likes 0

Dislikes 0

Response

In consideration of feedback received from industry, the SDT made changes to EOP-011, IRO-010 and TOP-003 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved. The SDT will pass the seasonal studies recommendation to NERC staff for future drafting considerations.

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Document Name

Comment

The drafting team should ensure the new requirements are technology agnostic and apply to all resources necessary to maintain reliability. There have been several SARs lately to address this issue in other standards.

There isn't 'linkage' for the GO facility to go the PC/TP. A PC/TP may add this data into the MOD-032 requirements to plan in the Planning Horizon.

For EOP-011-2

4.2 Facilities:

Recommend the following to give clear guidance to what generators are to be in the GO's cold weather plan (this is currently approved on MOD-025-2).

For the purpose of this standard, the term, "applicable Facility" shall mean any one of the following:

4.2.1, All BES generators. This is a simple and to-the-point Applicability statement.

Part 1.2.6 Recommend that Part 1.2.6 not be updated as proposed and kept as currently approved in EOP-011-1, since "Reliability impact of extreme weather conditions" covers all weather conditions. Plus, "reliability impacts" are outputs of data that the TOP should be giving in TOP-003.

Part 2.2.9 Recommend that Part 2.2.9 not be updated as proposed and kept as currently approved in EOP-011-1, since "Reliability impact of extreme weather conditions" covers all weather conditions. Plus, "reliability impacts" are outputs of data that the BA should be giving in TOP-003.

Implementation Plan

Please note that Compliance Application Notice [\(CAN\) – 0012](#) is still active and may impact the Implementation Plan. Recommend the Implementation Plan to read:

General Considerations This implementation plan provides that entities shall have twelve months to become compliant with the revised Reliability Standards after the new effective date. And continues to read:

This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities (per IRO-010-4 and TOP-003-5), revised data specifications and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Does FAC-008 need to be modified to call out cold weather ratings?

o The documentation shall contain assumptions used to rate the generator and at least one of the following:

- o Design or construction information such as design criteria, ratings provided by equipment manufacturers, equipment drawings and/or specifications, engineering analyses, method(s) consistent with industry standards (e.g. ANSI and IEEE), or an established engineering practice that has been verified by testing or engineering analysis.
- o Operational information such as commissioning test results, performance testing or historical performance records, any of which may be supplemented by engineering analyses.

Likes 0

Dislikes 0

Response

Thank you for your comment. In consideration of feedback received from industry, the SDT made changes to EOP-011, IRO-010 and TOP-003 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved. The SDT does not believe maintenance or design changes related to items such as freeze protection measures are appropriate for the FAC standards- such as FAC-008, which focuses on Facilities Ratings related to the generator and interconnection equipment. The areas for freeze protection measures focus on the boiler, support systems, and balance of plant which is also outside the scope and intentions of the FAC and MOD standards.

You are correct that CAN-012 is still active. The new requirements for this project would become effective on the effective date (absent any special guidance in the implementation plan).

Michael Brytowski - Great River Energy - 3

Answer

Document Name

Comment

GRE supports the comments of the NSRF

GRE is voting negative on the current first draft of the NERC Cold Weather project. This project and associated Reliability Standards will go through several drafts before it is finalized. The NERC standard development process is structured to ensure that industry has quality standards that meet the needs for the reliability planning and Reliable Operation of the North American Bulk Power Systems.

GRE fully supports NERC and the standards drafting team on the current Cold Weather project. The Cold Weather project does not consider the events that occurred in Texas resulting from the recent polar vortex, nor does GRE’s position on the first draft of the project reflect GRE’s commitment to the development of future cold weather Reliability Standards ensuring the reliability and resiliency of the North American Bulk Power System.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to MRO NSRF. Based on the recent directive by the NERC Board to complete the cold weather standard by June 2021, the SDT will provide you input regarding the recent events to NERC staff. The recent events are current in the “inquiry” stage and a report on the inquiry will be posted in the future. It is important that entities focus on their cold weather plans at this point in time.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

Document Name

Comment

We are not clear how this proposal is going to result in reliability improvements, only most costs and administrative burdens for everyone, especially our members.

The SDT has not provided any proposed reliability improvements or cost estimates. No mention of improving BA/RC weather/load forecasting during anticipated cold weather periods. No mention of increasing BA/RC controlled reserves for improved reliability, no mention is starting BA/RC controlled generation ahead of time to warm up equipment to improve reliability.

And the proposal does not require TOP or RC to use any data they will be required to obtain from GO/GOPs.

Additionally, the proposals do not require BAs, RCs, or TOPs to learn, or train anyone, on how to use the Cold Weather data that the SDT is proposing they be forced by NERC Standards to request from GO/GOPs.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021. Lastly, nothing in the standards prohibit entities from training anyone regarding the BA's, RC's or TOPS.

Richard Jackson - U.S. Bureau of Reclamation - 1

Answer

Document Name

Comment

Reclamation does not agree that cold weather should be added universally to reliability standards. Hydroelectric plants have been operating reliably in various extreme temperature bands for over 100 years.

EOP-011 Requirement R7 identifies that Generator Owners shall develop and implement cold weather plans. Reclamation objects to the vague term "cold weather." The term is subjective and unclear. What may be "cold" in one region may be "normal" in another; what may be "cold" to humans may have no effect on generating equipment. Does "cold weather" involve precipitation, wind, temperature fluctuations, etc.? Reclamation recommends the term "cold weather" be defined in terms of its expected effect on generating equipment to address the objective of the cold weather modifications; that is, preventing weather-related detriments to reliability.

Reclamation recommends the SDT clarify the "cold weather data" identified in Requirement R7.3. What are the requirements for reporting cold weather data? When does the 5-year clock begin? What data is actually required? The language in R7.3.2.2 is more appropriate to be

contained in a data specification from a Transmission Operator or Balancing Authority; therefore, Reclamation recommends R7.3.2.2 be deleted from EOP-011 and the language placed in TOP-003.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021. Please see the updated EOP-011 standard, which addresses some of your concerns around clarity.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Document Name

Comment

N/A	
Likes	0
Dislikes	0
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	
Document Name	
Comment	
<ul style="list-style-type: none"> The title should be revised from “Emergency Preparedness” to “Emergency Operations and Preparedness” to capture the full scope of EOP-011. “Any other extreme weather conditions” in EOP-011 Requirement 1.2.6.2 and 2.2.9.2 should be re-worded to “other extreme weather conditions”. Including the word “any” potentially expands the scope of this project. Additionally, the SDT should provide additional clarification of the meaning of “other extreme weather conditions” in the RSAW. 	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT updated the title to reflect your proposal. In addition, modifications have been made to the EOP requirement respective parts mentioned in your comments. Please see the updated standard. The SDT will provide your feedback regarding the RSAW to NERC Compliance for consideration.	
Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1	
Answer	
Document Name	
Comment	

More specificity is needed in Part 7.3 as to what will be required to show a generators operating limitations in cold weather.

Likes 0

Dislikes 0

Response

Thank you for your comments. Please see the updated standard for the additional clarity made by the SDT.

Leonard Kula - Independent Electricity System Operator - 2

Answer

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

BPA supports Reclamation's additional comments.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021. Lastly, nothing in the standards prohibit entities from training anyone regarding the BA's, RC's or TOPS.

Marty Hostler - Northern California Power Agency - 5

Answer

Document Name

Comment

We are not clear how this proposal is going to result in reliability improvements, only most costs and administrative burdens for everyone, especially our members.

The SDT has not provided any proposed reliability improvements or cost estimates. No mention of improving BA/RC weather/load forecasting during anticipated cold weather periods. No mention of increasing BA/RC controlled reserves for improved reliability, no mention is starting BA/RC controlled generation ahead of time to warm up equipment to improve reliability.

And the proposal does not require TOP or RC to use any data they will be required to obtain from GO/GOPs.

Additionally, the proposals do not require BAs, RCs, or TOPs to learn, or train anyone, on how to use the Cold Weather data that the SDT is proposing they be forced by NERC Standards to request from GO/GOPs.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT's scope is to focus on "The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018". Anything outside of cold weather is outside of our Standards Authorization Request (SAR). Anyone is welcome to draft

a SAR and submit to the standards committee for consideration. Link to the SAR Form on the NERC Website:

<https://www.nerc.com/pa/Stand/Resources/Documents/SAR.DOCX>

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name Tacoma Power

Answer

Document Name

Comment

Tacoma Power recognizes that the SAR for Project 2019-06 only authorizes the SDT to consider cold-weather related impacts. However, there are other extreme weather events, like the heat wave event experienced in August 2020 in California, which might warrant a new specific suite of Standard(s) that analyze extreme weather event vulnerabilities of generating units. If the SDT utilizes the model of Project 2013-03 (Geomagnetic Disturbance Mitigation), then it may be easier in the future to include additional extreme weather events in the vulnerability assessments, if needed. This approach (i.e., perform vulnerability assessment, identify risks, communicate results, and then implement corrective actions if needed) could potentially resolve other entity’s concerns about EOP-011 R7 requiring unnecessary or not applicable corrective actions. Tacoma Power seeks the SDT’s feedback on whether an approach similar to Project 2013-03 is feasible.

If the SDT decides to keep EOP-011 R7 as currently written, then Tacoma Power recommends deleting “Real-Time Operations” from the Time Horizon. None of the R7 sub-parts are related to the identified Time Horizon of Real-Time Operations. These activities are more closely related to the Operations Planning or Long-Term Planning Time Horizons.

Likes 2

Tallahassee Electric (City of Tallahassee, FL), 1, Langston Scott; Snohomish County PUD No. 1, 3, Chaney Holly

Dislikes 0

Response

Thank you for your comments. The SDT’s scope is to focus on “The South Central United States Cold Weather Bulk Electric System Event of January 18, 2018”. Anything outside of cold weather is outside of our Standards Authorization Request (SAR). Anyone is welcome to draft a SAR and submit to the standards committee for consideration. Link to the SAR Form on the NERC Website:

<https://www.nerc.com/pa/Stand/Resources/Documents/SAR.DOCX>

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Document Name

Comment

Seattle City Light is prepared to ballot in the affirmative for these Standard revisions once the term “cold weather” is clarified to apply to “abnormally cold weather” and the documentation and annual inspection requirements of EOP-011 likewise are clarified to focus on protections implemented for operation during “abnormally cold weather” and references to “freezing” (which imply a continent-wide definition of what is “cold weather”) are deleted.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021.

Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC Cold Weather

Answer

Document Name

Comment

As stated above, WECC recommends that requirements in IRO-008-2 and TOP-002 should be added for RCs, and TOPs to consider upcoming severe weather events in their Operational Planning Analyses. A requirement should also be added for the BAs to be aware of upcoming weather conditions and associated impacts to the generation fleet in their BA area so they appropriate Operating Plans could be developed.

In addition, WECC believes that the appropriate winterization requirements for generation units should be coordinated between the Generation Owners, Transmission Planners and Planning Coordinators.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT has modified for the inclusion of BAs. Please see the updated standards.

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer

Document Name

Comment

With regards to development and implementation of these new requirements, NRG respectfully requests NERC to address the winter preparedness recommendations and remain independent of adequacy issues, where jurisdiction resides with the states.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

Document Name

Comment

It is suggested that any NERC/FERC investigation regarding the February 2021 severe cold weather be tracked and recommendations should be incorporated into this project.

The SDT efforts with this project are appreciated

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021. Due to this recent mandated deadline, the SDT has worked to get the cold weather preparedness plans in place and other modifications will be made in the near future once the inquiry from the recent events is published, further considerations will be made.

Dan Roethemeyer - Vistra Energy - 5

Answer

Document Name

Comment

EOP-011-2, R7.3 - more specificity would be helpful. It's not clear what constitutes "operating limitations".

TOP-003-5 says the TOP can ask the GOP for 'expected limitations' during cold weather based on design specifications or historical performance. This sounds like the same requirement of EOP-011-2 to require a cold weather plan that includes cold weather design or historical limitations. The concern is that three different entities (TOP, RC, GOP) are collecting cold weather data. It would make sense to coordinate so the GOP does not have to create three "cold weather plans". These three Standards should make clear there is only one "cold weather plan" required.

Same comment for IRO-010 as for TOP-003.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT provided flexibility for entities to identify areas within their cold weather plans to work for their geographical region.

Tyson Archie - Platte River Power Authority - 5

Answer

Document Name

Comment

Platte River Power Authority requests clarification for EOP-011-2 Requirement R7 Part 7.4 - awareness training on the roles and responsibilities of personnel. The implementation plan states “conduct awareness training on the roles and responsibilities of personnel under Requirement R7 Part 7.4 by the effective date of the Reliability Standard”. Does this imply that no refresher or on-going training is required in the Generator Owner’s cold weather preparedness plan?

Likes 1

Platte River Power Authority, 3, Kiess Wade

Dislikes 0

Response

The SDT understands your concerns and has modified the training requirements and consolidated the training requirements to a single requirement within EOP-11. Industry feedback supports keeping all requirements associated with GO and GOP cold weather preparation, including awareness training, in EOP-011. Based on other industry feedback, the SDT determined that EOP-011 remains the right location for the awareness training requirement. This allows the new cold weather GO and GOP modifications to remain together in one standard.

Todd Bennett - Associated Electric Cooperative, Inc. - 3

Answer

Document Name	
Comment	
AECI supports the objectives of the project and the drafting team's efforts.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Michael Courchesne	
Answer	
Document Name	
Comment	
ISO-NE further suggests:	
<ul style="list-style-type: none"> Removal of the word “any” in proposed EOP-011 sub-requirement 1.2.6.2 and 2.2.9.2; and use the wording “other extreme weather conditions”. The concern is the word “any” makes this requirement very broad and open to interpretation. Retain the current title: EOP-011-1 Emergency Operations. This request is due to the required inherent preparedness needed for operations; and R5 and R6 meeting the Time Horizon: Real-Time Operations. Suggest removing “Provisions for notification of BES generating unit-specific design specification or minimum historical performance during cold weather,” from IRO-010 R1.3 and including it in TOP-003. Leaving the IRO-010 R1.3 to state “Provisions for notification of expected BES generating unit operation limitations during local forecasted cold weather.” 	
Likes 0	
Dislikes 0	
Response	

Thank you for your comments. In consideration of feedback received from industry, the SDT made changes to EOP-011, IRO-010 and TOP-003 to provide consistency, clarity and flexibility given the varied weather conditions of all the entities involved. Please see the updated modifications to EOP-011, which address most of your concerns. The SDT determined the Requirement R7 is needed to provide additional minimum requirements of what is expected in the entities cold weather preparedness plan.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer

Document Name

Comment

This continues to be an effort to force every GO to meet requirements that are a problem for a subset of the GO's. Generation plants are built to operate with consideration to certain risks. Those entities that are in areas that may have extreme cold weather problems have chosen to take on that risk by not installing equipment that would protect them during extreme weather events. Windmills and Gas Plants that lack cold weather protection should be encouraged to retrofit, or have plans. Conversely, it is not appropriate to require northern located hydro plants to put shelfware processes in place, and be subject to compliance obligations because some in the industry fail to take reasonable precautions.

Likes 0

Dislikes 0

Response

Thank you for your comments. As the SDT has stated in previous responses to industry, it is understood there will be different levels of cold weather preparations based on plant location and configuration. It is also understood that since some plants already practice cold weather readiness, there is no development needed other than ensure that the existing plan meets the conditions of the revised standard(s). In addition, the NERC Board has directed a completion of the cold weather project by June 2021.

Donald Lock - Talen Generation, LLC - 5

Answer

Document Name

Comment

Talen recommends that R1.2 of EOP-011-2 be supplemented with, “Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components.” This verbiage is drawn from NERC’s Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4, <https://www.nerc.com/comm/OC Reliability Guidelines DL/Gas and Electrical Operational Coordination Considerations 20171213.pdf>)

The NAGF requests that the phrase “any other extreme weather conditions” used in Requirement 1.2.6.2 be clarified or removed.

Talen requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) operating limitations in cold weather”. We suggest that NERC specify that this requirement pertains only to known and predictable operating impacts for cold weather that affect plant capacity, start-up, or operational reliability. There are numerous cold weather vulnerabilities that cannot be accurately predicted and therefore should not be incorporated in planning models. Examples of such cold weather operating limitations include:

- River ice formations that impact generator water inlets
- Inlet air filters blocked by accumulating/drifted snow

NG pipeline pressure fluctuations

Likes 1	Associated Electric Cooperative, Inc., 3, Bennett Todd
Dislikes 0	

Response

Please see the SDT’s response to NAGF.

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer

Document Name

Comment

The drafting team should ensure the new requirements are technology agnostic and apply to all resources necessary to maintain reliability. There have been several SARs lately to address this issue in other standards. Perhaps the BES definition could be referenced to establish the scope of resources applicable to the standard.

The drafting team should also revise the data/evidence retention requirements in the standards in accordance with the recommendations from the Standards Efficiency Review Project. See item 9 from the December 2019 Standards Committee meeting materials.

Likes 1	Associated Electric Cooperative, Inc., 3, Bennett Todd
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Dislikes 0	
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Response

Thank you for your comments. Changes are proposed to the Rules of Procedure to address this evidence retention recommendation throughout the Reliability Standards. Until such time that those proposed changes are approved, the SDT has maintained consistency with the other data retention language in the standard.

Kristina Marriott - First Solar, Inc. - 5

Answer	
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Document Name	
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Comment

Does wind and solar differ in these requirements?

We would like some direction on how wind and solar may differ in freeze protection, inspections and maintenance activities in comparison to traditional generation.

Likes 0	
---------	--

Dislikes 0	
------------	--

Response

Thank you for your comments. Solar facilities may have little to no preparation related to cold weather. The need to develop any form of cold weather preparedness plan will be based on the climate of your geographical location and operating experience of the facility.

Scott McGough - Georgia System Operations Corporation - 3

Answer

Document Name

[2019-06_Cold_Weather_Comments_FINAL_GSOC_SBFCB03-11-21.docx](#)

Comment

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT determined to not define cold weather as a glossary term. This will be defined with your cold weather preparedness plan based on your geographical regions.

Comments received from Scott McGough, Georgia System Operations Corporation

Questions:

1. The SDT placed the Generator Owner cold weather preparedness plan(s) requirements within EOP-011. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

- Although requirements R1 and R2 require TOPs and BAs to submit their plans for RC approval, the proposed requirement R7 does not have a corresponding requirement for GOs to submit their plans to the BA or TOP for approval. Such coordination at the BA and TOP area level is critical to ensuring that GO plans are properly evaluated for each of the areas within which its

plants operate and well-coordinated with all entities responsible for the overall reliability of the grid. While RCs have ultimate authority and oversight, BAs and TOPs also have obligations to maintain reliability within their areas. The coordination of GO plans with BAs and TOPs as well as RCs during extreme weather events will allow such GO plans to be considered during the operational planning of all responsible entities, ensuring more cohesive, coordinated operational planning between and amongst all responsible entities.

- To ensure cohesiveness, the training requirements (requirement R7.4) should be added to PER standards versus being scattered within other standard families.

2. The SDT placed the Reliability Coordinator data specification requirements within IRO-010. Do you agree with this modified requirement placement in the IRO-010 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

- New requirement R1.3 feels overly specific and redundant of R1.1. It singles out activities surrounding cold weather, but does not address other extreme weather conditions that could affect grid conditions, e.g., extreme heat, humidity, and rain/wind events. GSOC respectfully suggests that the entire sub-requirement could be more effective as an example listed under R1.1.

3. The SDT placed the Transmission Operator data specification requirements within TOP-003. Do you agree with this modified requirement placement in the TOP-003 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

- New requirement R1.3 feels overly specific and redundant of R1.1. It singles out activities surrounding cold weather, but does not address other extreme weather conditions that could affect grid conditions, e.g., extreme heat, humidity, and rain/wind events. GSOC respectfully suggests that the entire sub-requirement could be more effective as an example listed under R1.1.

4. The SDT placed the Balancing Authority data specification requirements within EOP-011. Do you agree with this modified requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

- Requirements R1.2.6 and R2.2.9 narrowly focus on cold weather amid existing references to extreme weather. While these would be demonstrative as examples, the current structure seems redundant.

5. EOP-011-2 (Requirement R7 Part 7.2): The SDT suggest maintenance and inspection be, at a minimum, an annual requirement. Does the requirement provide enough specificity for an industry wide standard?

Yes

No

Comments:

6. The SDT modified the Implementation Plan to allow twelve (12) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

7. Proposed TOP-003-5 Requirement R1 and IRO-010-4 Requirement R1 would require TOPs and Reliability Coordinator to maintain cold weather parameter. For consistency with the data specification requirements and to ensure the BA has the necessary information to perform its analysis during cold weather, do you believe that similar parameters should be required? Please provide your reasoning as to why it should be required or should not be required.

Yes

No

Comments:

8. Please provide any additional comments for the SDT to consider, if desired.

Comments:

Additional remarks on Proposed EOP-011-2

- Cold weather and minimum performance terms are not defined. It is suggested the SDT consider defining both terms to ensure consistent understanding as well as consistent approaches and focus regarding reliability benefits.

End of Report

REMINDER

Standards Announcement

Project 2019-06 Cold Weather

Initial Ballots and Non-binding Polls Open through March 12, 2021

[Now Available](#)

The initial ballots and non-binding polls are open through **8 p.m. Eastern, Friday, March 12, 2021** for:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Balloting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit votes.

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The ballot results will be announced and posted on the project page. The drafting team will review all responses received during the comment period and determine the next steps of the project.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
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Standards Announcement

Project 2019-06 Cold Weather

Formal Comment Period Open through March 12, 2021
Ballot Pools Forming through February 25, 2021

[Now Available](#)

A 45-day formal comment period is open through **8 p.m. Eastern, Friday, March 12, 2021** for the following:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. An unofficial Word version of the comment form is posted on the [project page](#).

Ballot Pools

Ballot pools are being formed through **8 p.m. Eastern, Thursday, February 25, 2021**. Registered Ballot Body members can join the ballot pools [here](#). **Note that there is a separate ballot and non-binding poll for each of the standards, so it is necessary to join each ballot pool in order to submit votes on all of the standards and their associated Violation Risk Factors and Violation Severity Levels (VRFs and VSLs).**

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The initial ballots for the standards and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels will be conducted **March 3-12, 2021**.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589.

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BALLOT RESULTS

Comment: View Comment Results (/CommentResults/Index/213)

Ballot Name: 2019-06 Cold Weather EOP-011-2 IN 1 ST**Voting Start Date:** 3/3/2021 12:01:00 AM**Voting End Date:** 3/12/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** IN**Ballot Series:** 1**Total # Votes:** 279**Total Ballot Pool:** 310**Quorum:** 90**Quorum Established Date:** 3/12/2021 2:02:11 PM**Weighted Segment Value:** 49.39

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	28	0.394	43	0.606	0	5	9
Segment: 2	7	0.5	4	0.4	1	0.1	0	1	1
Segment: 3	70	1	25	0.417	35	0.583	0	4	6
Segment: 4	18	1	4	0.25	12	0.75	0	0	2
Segment: 5	74	1	28	0.452	34	0.548	0	3	9
Segment: 6	47	1	20	0.5	20	0.5	0	4	3
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	1	0
Segment: 9	0	0	0	0	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.5	5	0.5	0	0	0	1	1
Totals:	310	6.1	115	3.013	145	3.087	0	19	31

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Negative	Comments Submitted
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Negative	Comments Submitted
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		Negative	Comments Submitted
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		Negative	Third-Party Comments
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Comments Submitted
1	Black Hills Corporation	Seth Nelson		Negative	Comments Submitted
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Negative	Comments Submitted
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Negative	Third-Party Comments
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Negative	Comments Submitted
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Renee Leidel		Negative	Third-Party Comments
1	Dominion - Dominion Virginia Power	Candace Marshall		None	N/A
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Negative	Third-Party Comments
1	Glencoe Light and Power Commission	Terry Volkmann		Negative	Third-Party Comments
1	Great River Energy	Gordon Pietsch		Negative	Comments Submitted
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Negative	Comments Submitted
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Abstain	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		None	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Negative	Third-Party Comments
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Negative	Third-Party Comments
1	Muscatine Power and Water	Andy Kurriger		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Negative	Third-Party Comments
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Third-Party Comments
1	New York Power Authority	Salvatore Spagnolo		Negative	Comments Submitted
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Negative	Third-Party Comments
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	Omaha Public Power District	Doug Peterchuck		Negative	Third-Party Comments
1	Oncor Electric Delivery	Lee Maurer	Gul Khan	Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		Negative	Comments Submitted
1	OTP - Otter Tail Power Company	Charles Wicklund		Negative	Third-Party Comments
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		Affirmative	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Negative	Comments Submitted
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		Negative	Comments Submitted
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	Comments Submitted
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	Comments Submitted
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Negative	Third-Party Comments
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Third-Party Comments
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Negative	Comments Submitted
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Taunton Municipal Lighting Plant	Devon Tremont		Negative	Comments Submitted
1	Tennessee Valley Authority	Gabe Kurtz		Negative	Third-Party Comments
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		None	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Keith Jonassen	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Abstain	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Negative	Comments Submitted
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Negative	Comments Submitted
3	Associated Electric Cooperative, Inc.	Todd Bennett		Negative	Comments Submitted
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Negative	Comments Submitted
3	Black Hills Corporation	Don Stahl		Negative	Comments Submitted
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Negative	Third-Party Comments
3	City Utilities of Springfield, Missouri	Duan Gavel		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Negative	Third-Party Comments
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor		Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Michael Brytowski		Negative	Comments Submitted
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Negative	Third-Party Comments
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fordik		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Negative	Third-Party Comments
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Negative	Third-Party Comments
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Third-Party Comments
3	New York Power Authority	David Rivera		Negative	Comments Submitted
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Negative	Third-Party Comments
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Negative	Third-Party Comments
3	Northern California Power Agency	Michael Whitney		None	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Negative	Third-Party Comments
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Comments Submitted
3	Omaha Public Power District	David Heins		Negative	Third-Party Comments
3	Orlando Utilities Commission	Ballard Mutters		Negative	Comments Submitted
3	OTP - Otter Tail Power Company	Wendi Olson		Negative	Third-Party Comments
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	Affirmative	N/A
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Affirmative	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Affirmative	N/A
3	Santee Cooper	James Poston		Negative	Comments Submitted
3	Seattle City Light	Laurie Hammack		Negative	Comments Submitted
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Negative	Third-Party Comments
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Third-Party Comments
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Negative	Comments Submitted
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Negative	Comments Submitted
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Tennessee Valley Authority	Ian Grant		Negative	Third-Party Comments
3	WEC Energy Group, Inc.	Thomas Breene		Negative	Comments Submitted
3	Xcel Energy, Inc.	Nicholas Friebel		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Negative	Comments Submitted
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Negative	Comments Submitted
4	CMS Energy - Consumers Energy Company	Aric Root		Negative	Third-Party Comments
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		None	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Third-Party Comments
4	LaGen	Wayne Messina		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Negative	Third-Party Comments
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Negative	Third-Party Comments
4	Oklahoma Municipal Power Authority	Ashley Stringer		Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Third-Party Comments
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Negative	Comments Submitted
4	Utility Services, Inc.	Brian Evans-Mongeon		Negative	Comments Submitted
4	WEC Energy Group, Inc.	Matthew Beilfuss		Negative	Comments Submitted
5	Acciona Energy North America	George Brown		Negative	Comments Submitted
5	AEP	Thomas Foltz		Negative	Comments Submitted
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Negative	Comments Submitted
5	Associated Electric Cooperative, Inc.	Brad Haralson		None	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	Comments Submitted
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Negative	Comments Submitted
5	Black Hills Corporation	Derek Silbaugh		Negative	Comments Submitted
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Third-Party Comments
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		Abstain	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Third-Party Comments
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	Affirmative	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		None	N/A
5	Lakeland Electric	Becky Rinier		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Negative	Third-Party Comments
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	Third-Party Comments
5	New York Power Authority	Shivaz Chopra		Negative	Comments Submitted
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Negative	Third-Party Comments
5	Northern California Power Agency	Marty Hostler		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Negative	Comments Submitted
5	Oglethorpe Power Corporation	Donna Johnson		Negative	Comments Submitted
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	OTP - Otter Tail Power Company	Brett Jacobs		None	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Negative	Comments Submitted
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Third-Party Comments
5	Salt River Project	Kevin Nielsen		Affirmative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Mickey Bellard		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Negative	Comments Submitted
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Negative	Comments Submitted
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Negative	Comments Submitted
5	WEC Energy Group, Inc.	Janet OBrien		Negative	Comments Submitted
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Negative	Comments Submitted
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Negative	Comments Submitted
6	Austin Energy	Lisa Martin		None	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Negative	Third-Party Comments
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Abstain	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Negative	Comments Submitted
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Negative	Third-Party Comments
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	New York Power Authority	Erick Barrios		Negative	Comments Submitted
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Negative	Comments Submitted
6	Omaha Public Power District	Shonda McCain		Negative	Third-Party Comments
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Negative	Comments Submitted
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	Comments Submitted
6	Seattle City Light	Brian Belger		Negative	Comments Submitted
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Negative	Comments Submitted
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Negative	Comments Submitted
6	TECO - Tampa Electric Co.	Benjamin Smith		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	Third-Party Comments
6	WEC Energy Group, Inc.	David Hathaway		Negative	Comments Submitted
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		Abstain	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Abstain	N/A
10	SERC Reliability Corporation	Dave Krueger		None	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 310 of 310 entries

Previous 1 Next

BALLOT RESULTS

Comment: [View Comment Results \(/CommentResults/Index/213\)](#)

Ballot Name: 2019-06 Cold Weather IRO-010-4 IN 1 ST

Voting Start Date: 3/3/2021 12:01:00 AM

Voting End Date: 3/12/2021 8:00:00 PM

Ballot Type: ST

Ballot Activity: IN

Ballot Series: 1

Total # Votes: 281

Total Ballot Pool: 313

Quorum: 89.78

Quorum Established Date: 3/12/2021 2:16:39 PM

Weighted Segment Value: 66.22

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	43	0.623	26	0.377	0	7	9
Segment: 2	7	0.5	4	0.4	1	0.1	0	1	1
Segment: 3	70	1	42	0.712	17	0.288	0	5	6
Segment: 4	19	1	9	0.529	8	0.471	0	0	2
Segment: 5	76	1	36	0.6	24	0.4	0	7	9
Segment: 6	47	1	25	0.641	14	0.359	0	4	4
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	1	0
Segment: 9	0	0	0	0	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	5	0.5	1	0.1	0	0	1
Totals:	313	6.2	165	4.105	91	2.095	0	25	32

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		Negative	Comments Submitted
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		Negative	Third-Party Comments
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Comments Submitted
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Renee Leidel		Negative	Third-Party Comments
1	Dominion - Dominion Virginia Power	Candace Marshall		None	N/A
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Eergy	Allen Klassen		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		None	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Georgia Transmission Corporation	Greg Davis		Negative	Third-Party Comments
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Negative	Comments Submitted
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Abstain	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Abstain	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		None	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Abstain	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Negative	Third-Party Comments
1	Muscatine Power and Water	Andy Kurriger		Negative	Third-Party Comments
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Third-Party Comments
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	Omaha Public Power District	Doug Peterchuck		Negative	Third-Party Comments
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Negative	Third-Party Comments
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		Affirmative	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Negative	Comments Submitted
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		Negative	Comments Submitted
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Third-Party Comments
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	Comments Submitted
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	Comments Submitted
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Third-Party Comments
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
2	California ISO	Jamie Johnson		None	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Michael Courchesne	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Abstain	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Negative	Comments Submitted
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Abstain	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor		Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Michael Brytowski		Negative	Comments Submitted
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Negative	Third-Party Comments
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Third-Party Comments
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Negative	Third-Party Comments
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	Northern California Power Agency	Michael Whitney		None	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Comments Submitted
3	Omaha Public Power District	David Heins		Negative	Third-Party Comments
3	Orlando Utilities Commission	Ballard Mutters		Negative	Comments Submitted
3	OTP - Otter Tail Power Company	Wendi Olson		Negative	Third-Party Comments
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Affirmative	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Affirmative	N/A
3	Santee Cooper	James Poston		Negative	Comments Submitted
3	Seattle City Light	Laurie Hammack		Negative	Comments Submitted
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Third-Party Comments
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebe		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Negative	Comments Submitted
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Negative	Third-Party Comments
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		None	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		Affirmative	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Third-Party Comments
4	LaGen	Wayne Messina		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Negative	Third-Party Comments
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Negative	Third-Party Comments
4	Oklahoma Municipal Power Authority	Ashley Stringer		Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Third-Party Comments
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Negative	Comments Submitted
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		None	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	Comments Submitted
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Abstain	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Third-Party Comments
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	California Department of Water Resources	ASM Mostafa		Abstain	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		Abstain	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Third-Party Comments
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	Affirmative	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Qu?bec Production	Carl Pineault		Abstain	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		None	N/A
5	Lakeland Electric	Becky Rinier		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		Abstain	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Negative	Third-Party Comments
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	Third-Party Comments
5	New York Power Authority	Shivaz Chopra		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Negative	Third-Party Comments
5	Northern California Power Agency	Marty Hostler		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Negative	Comments Submitted
5	Oglethorpe Power Corporation	Donna Johnson		Negative	Comments Submitted
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Orlando Utilities Commission	Dania Colon		Negative	Comments Submitted
5	OTP - Otter Tail Power Company	Brett Jacobs		None	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Negative	Comments Submitted
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Third-Party Comments
5	Salt River Project	Kevin Nielsen		Affirmative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Mickey Bellard		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tennessee Valley Authority	M Lee Thomas		Affirmative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Negative	Comments Submitted
5	WEC Energy Group, Inc.	Janet OBrien		Affirmative	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		None	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Negative	Third-Party Comments
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Abstain	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Negative	Comments Submitted
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Negative	Third-Party Comments
6	Lincoln Electric System	Eric Ruskamp		Negative	Comments Submitted
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		Abstain	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Negative	Comments Submitted
6	Omaha Public Power District	Shonda McCain		Negative	Third-Party Comments
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Negative	Comments Submitted
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	Comments Submitted
6	Seattle City Light	Brian Belger		Negative	Comments Submitted
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		Abstain	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power	Guy V. Zito		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		None	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Negative	Comments Submitted

Showing 1 to 313 of 313 entries

Previous

1

Next

BALLOT RESULTS

Comment: View Comment Results (/CommentResults/Index/213)

Ballot Name: 2019-06 Cold Weather TOP-003-5 IN 1 ST**Voting Start Date:** 3/3/2021 12:01:00 AM**Voting End Date:** 3/12/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** IN**Ballot Series:** 1**Total # Votes:** 282**Total Ballot Pool:** 313**Quorum:** 90.1**Quorum Established Date:** 3/12/2021 2:19:46 PM**Weighted Segment Value:** 64.35

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	39	0.549	32	0.451	0	5	9
Segment: 2	7	0.5	4	0.4	1	0.1	0	1	1
Segment: 3	70	1	35	0.574	26	0.426	0	3	6
Segment: 4	19	1	10	0.588	7	0.412	0	0	2
Segment: 5	76	1	38	0.603	25	0.397	0	4	9
Segment: 6	47	1	27	0.675	13	0.325	0	4	3
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	1	0
Segment: 9	0	0	0	0	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	5	0.5	1	0.1	0	0	1
Totals:	313	6.2	159	3.989	105	2.211	0	18	31

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		Negative	Comments Submitted
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		Negative	Third-Party Comments
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Comments Submitted
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Negative	Third-Party Comments
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Renee Leidel		Negative	Third-Party Comments
1	Dominion - Dominion Virginia Power	Candace Marshall		None	N/A
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		None	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Georgia Transmission Corporation	Greg Davis		Negative	Third-Party Comments
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Negative	Comments Submitted
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Abstain	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Abstain	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		None	N/A
1	Lincoln Electric System	Josh Johnson		Negative	Comments Submitted
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Negative	Third-Party Comments
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Negative	Third-Party Comments
1	Muscatine Power and Water	Andy Kurriger		Negative	Third-Party Comments
1	N.W. Electric Power Cooperative Inc.	Mark Ramsey		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Third-Party Comments
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Negative	Third-Party Comments
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	Omaha Public Power District	Doug Peterchuck		Negative	Third-Party Comments
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		Affirmative	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Negative	Third-Party Comments
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		Affirmative	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Negative	Comments Submitted
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		Negative	Comments Submitted
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Third-Party Comments
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	Comments Submitted
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	Comments Submitted
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Negative	Third-Party Comments
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Third-Party Comments
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
2	California ISO	Jamie Johnson		None	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Michael Courchesne	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Abstain	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Negative	Comments Submitted
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Negative	Comments Submitted
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Negative	Third-Party Comments
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor		Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Michael Brytowski		Negative	Comments Submitted
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Negative	Third-Party Comments
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Negative	Third-Party Comments
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Negative	Third-Party Comments
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Third-Party Comments
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Negative	Third-Party Comments
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Negative	Third-Party Comments
3	Northern California Power Agency	Michael Whitney		None	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Negative	Third-Party Comments
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Comments Submitted
3	Omaha Public Power District	David Heins		Negative	Third-Party Comments
3	Orlando Utilities Commission	Ballard Mutters		Negative	Comments Submitted
3	OTP - Otter Tail Power Company	Wendi Olson		Negative	Third-Party Comments
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	Affirmative	N/A
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Affirmative	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Affirmative	N/A
3	Santee Cooper	James Poston		Negative	Comments Submitted
3	Seattle City Light	Laurie Hammack		Negative	Comments Submitted
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Negative	Third-Party Comments
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Third-Party Comments
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric	Ronald Donahey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebel		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Negative	Comments Submitted
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		None	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		Affirmative	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Third-Party Comments
4	LaGen	Wayne Messina		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Negative	Third-Party Comments
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Negative	Third-Party Comments
4	Oklahoma Municipal Power Authority	Ashley Stringer		Negative	Third-Party Comments
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Third-Party Comments
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Negative	Comments Submitted
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		None	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	Comments Submitted
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Negative	Comments Submitted
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Third-Party Comments
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	California Department of Water Resources	ASM Mostafa		Abstain	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		Abstain	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Third-Party Comments
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	Affirmative	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Qu?bec Production	Carl Pineault		Abstain	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Lakeland Electric	Becky Rinier		Negative	Third-Party Comments
5	Lincoln Electric System	Kayleigh Wilkerson		Negative	Comments Submitted
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Negative	Third-Party Comments
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	Third-Party Comments
5	New York Power Authority	Shivaz Chopra		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Negative	Third-Party Comments
5	Northern California Power Agency	Marty Hostler		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Negative	Comments Submitted
5	Oglethorpe Power Corporation	Donna Johnson		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Omaha Public Power District	Mahmood Safi		Negative	Third-Party Comments
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Negative	Comments Submitted
5	OTP - Otter Tail Power Company	Brett Jacobs		None	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Negative	Comments Submitted
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Third-Party Comments
5	Salt River Project	Kevin Nielsen		Affirmative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Mickey Bellard		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Affirmative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Janet OBrien		Affirmative	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		None	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Negative	Third-Party Comments
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Abstain	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Entergy	Thomas ROBBEN		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Negative	Comments Submitted
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Negative	Third-Party Comments
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		Affirmative	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Negative	Comments Submitted
6	Omaha Public Power District	Shonda McCain		Negative	Third-Party Comments
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade	Joseph Neglia		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Negative	Comments Submitted
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	Comments Submitted
6	Seattle City Light	Brian Belger		Negative	Comments Submitted
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		Abstain	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power	Guy V. Zito		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		None	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Negative	Comments Submitted

Showing 1 to 313 of 313 entries

Previous

1

Next

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BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather EOP-011-2 | Non-binding Poll IN 1 NB**Voting Start Date:** 3/3/2021 12:01:00 AM**Voting End Date:** 3/12/2021 8:00:00 PM**Ballot Type:** NB**Ballot Activity:** IN**Ballot Series:** 1**Total # Votes:** 253**Total Ballot Pool:** 289**Quorum:** 87.54**Quorum Established Date:** 3/12/2021 2:40:44 PM**Weighted Segment Value:** 45.45

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes	Negative Fraction	Abstain	No Vote
Segment: 1	77	1	21	0.389	33	0.611	14	9
Segment: 2	7	0.6	6	0.6	0	0	1	0
Segment: 3	69	1	19	0.396	29	0.604	13	8
Segment: 4	15	1	3	0.3	7	0.7	3	2
Segment: 5	70	1	24	0.48	26	0.52	10	10
Segment: 6	42	1	12	0.48	13	0.52	11	6
Segment: 7	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	1	0
Segment: 9	0	0	0	0	0	0	0	0
Segment: 10	7	0.4	4	0.4	0	0	2	1
Total	289	3.0	91	0.315	108	2.955	55	36

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Abstain	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		Negative	Comments Submitted
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		Negative	Comments Submitted
1	BC Hydro and Power Authority	Adrian Andreoiu		Abstain	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Comments Submitted
1	Black Hills Corporation	Seth Nelson		Negative	Comments Submitted
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Negative	Comments Submitted
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Negative	Comments Submitted
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Renee Leidel		Negative	Comments Submitted
1	Dominion - Dominion Virginia Power	Candace Marshall		None	N/A
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		None	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Abstain	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Negative	Comments Submitted
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Negative	Comments Submitted
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Abstain	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		None	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Negative	Comments Submitted
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Negative	Comments Submitted
1	Muscatine Power and Water	Andy Kurriger		Negative	Comments Submitted
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Negative	Comments Submitted
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Negative	Comments Submitted
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Negative	Comments Submitted
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	Omaha Public Power District	Doug Peterchuck		Negative	Comments Submitted
1	Orlando Utilities Commission	Aaron Staley		Negative	Comments Submitted
1	Portland General Electric Co.	Brooke Jockin		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		Abstain	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Negative	Comments Submitted
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		Negative	Comments Submitted
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Comments Submitted
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Abstain	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Abstain	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Comments Submitted
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Negative	Comments Submitted
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Taunton Municipal Lighting Plant	Devon Tremont		Negative	Comments Submitted
1	Tennessee Valley Authority	Gabe Kurtz		Abstain	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Keith Jonassen	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Abstain	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Associated Electric Cooperative, Inc.	Todd Bennett		Negative	Comments Submitted
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Negative	Comments Submitted
3	Black Hills Corporation	Don Stahl		Negative	Comments Submitted
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Negative	Comments Submitted
3	City Utilities of Springfield, Missouri	Duan Gavel		Negative	Comments Submitted
3	Cleco Corporation	Maurice Paulk		None	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Negative	Comments Submitted
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Wesley Bior		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Michael Brytowski		Negative	Comments Submitted
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Negative	Comments Submitted
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Negative	Comments Submitted
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Negative	Comments Submitted
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Negative	Comments Submitted
3	Northern California Power Agency	Michael Whitney		None	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Negative	Comments Submitted
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Comments Submitted
3	Omaha Public Power District	David Heins		Negative	Comments Submitted
3	Orlando Utilities Commission	Ballard Mutters		Negative	Comments Submitted
3	OTP - Otter Tail Power Company	Wendi Olson		Negative	Comments Submitted
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	Affirmative	N/A
3	Platte River Power Authority	Wade Kiess		Abstain	N/A
3	Portland General Electric Co.	Dan Zollner		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		None	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Affirmative	N/A
3	Santee Cooper	James Poston		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Seattle City Light	Laurie Hammack		Negative	Comments Submitted
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Abstain	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Negative	Comments Submitted
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Comments Submitted
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Negative	Comments Submitted
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Negative	Comments Submitted
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Negative	Comments Submitted
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Abstain	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Negative	Comments Submitted
4	CMS Energy - Consumers Energy Company	Aric Root		Negative	Comments Submitted
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		None	N/A
4	La Crosse Machine Name: EROD	VS6W04		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Negative	Comments Submitted
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Comments Submitted
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Negative	Comments Submitted
4	Utility Services, Inc.	Brian Evans-Mongeon		Abstain	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Negative	Comments Submitted
5	Acciona Energy North America	George Brown		Abstain	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		None	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Comments Submitted
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Negative	Comments Submitted
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Comments Submitted
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	Abstain	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		None	N/A
5	Lakeland Electric	Becky Rinier		Negative	Comments Submitted
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Negative	Comments Submitted
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Abstain	N/A
5	New York Power Authority	Shivaz Chopra		Negative	Comments Submitted
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Negative	Comments Submitted
5	Northern California Power Agency	Marty Hostler		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Negative	Comments Submitted
5	Oglethorpe Power	Donna Johnson		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Omaha Public Power District	Mahmood Safi		Negative	Comments Submitted
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Negative	Comments Submitted
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	Portland General Electric Co.	Ryan Olson		Abstain	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Negative	Comments Submitted
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Comments Submitted
5	Puget Sound Energy, Inc.	Lynn Murphy		Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Affirmative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Mickey Bellard		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Negative	Comments Submitted
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		None	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Negative	Comments Submitted
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		None	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Negative	Comments Submitted
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Abstain	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Abstain	N/A
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Negative	Comments Submitted
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Negative	Comments Submitted
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	New York Power Authority	Erick Barrios		None	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Negative	Comments Submitted
6	Omaha Public Power District	Shonda McCain		Negative	Comments Submitted
6	Platte River Power Authority	Sabrina Martz		Abstain	N/A
6	Portland General Electric Co.	Daniel Mason		Abstain	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Abstain	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Negative	Comments Submitted
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	WEC Energy Group, Inc.	David Hathaway		Negative	Comments Submitted
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		Abstain	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Abstain	N/A
10	SERC Reliability Corporation	Dave Krueger		None	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity	Steven Rueckert		Abstain	N/A

Showing 1 to 289 of 289 entries

Previous

1

Next

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BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather IRO-010-4 | Non-binding Poll IN 1 NB**Voting Start Date:** 3/3/2021 12:01:00 AM**Voting End Date:** 3/12/2021 8:00:00 PM**Ballot Type:** NB**Ballot Activity:** IN**Ballot Series:** 1**Total # Votes:** 253**Total Ballot Pool:** 289**Quorum:** 87.54**Quorum Established Date:** 3/12/2021 3:04:33 PM**Weighted Segment Value:** 63.68

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes	Negative Fraction	Abstain	No Vote
Segment: 1	77	1	32	0.615	20	0.385	16	9
Segment: 2	7	0.6	5	0.5	1	0.1	1	0
Segment: 3	69	1	32	0.696	14	0.304	15	8
Segment: 4	15	1	7	0.7	3	0.3	3	2
Segment: 5	70	1	26	0.565	20	0.435	14	10
Segment: 6	42	1	13	0.542	11	0.458	12	6
Segment: 7	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	1	0
Segment: 9	0	0	0	0	0	0	0	0
Segment: 10	7	0.5	5	0.5	0	0	1	1
Total	289	3.0	121	0.418	69	1.982	63	36

BALLOT POOL MEMBERS

Show entries

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Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Abstain	N/A
1	Ameren - Ameren Services	Tamara Evey		Abstain	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		Negative	Comments Submitted
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		Negative	Comments Submitted
1	BC Hydro and Power Authority	Adrian Andreoiu		Abstain	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Comments Submitted
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Renee Leidel		Negative	Comments Submitted
1	Dominion - Dominion Virginia Power	Candace Marshall		None	N/A
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		None	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Abstain	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Negative	Comments Submitted
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Abstain	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Abstain	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		None	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Negative	Comments Submitted
1	Muscatine Power and Water	Andy Kurriger		Negative	Comments Submitted
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	Omaha Public Power District	Doug Peterchuck		Negative	Comments Submitted
1	Orlando Utilities Commission	Aaron Staley		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		Abstain	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Negative	Comments Submitted
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		Negative	Comments Submitted
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Comments Submitted
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Abstain	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Abstain	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Comments Submitted
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Abstain	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Michael Courchesne	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Abstain	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Abstain	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Negative	Comments Submitted
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		None	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Abstain	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Evergy	Marcus Moor		Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Michael Brytowski		Negative	Comments Submitted
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Affirmative	N/A
3	Northern California Power Agency	Michael Whitney		None	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Comments Submitted
3	Omaha Public Power District	David Heins		Negative	Comments Submitted
3	Orlando Utilities Commission	Ballard Mutters		Negative	Comments Submitted
3	OTP - Otter Tail Power Company	Wendi Olson		Negative	Comments Submitted
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	Affirmative	N/A
3	Platte River Power Authority	Wade Kiess		Abstain	N/A
3	Portland General Electric Co.	Dan Zollner		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		None	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Affirmative	N/A
3	Santee Cooper	James Poston		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Seattle City Light	Laurie Hammack		Negative	Comments Submitted
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Abstain	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Comments Submitted
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Abstain	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		None	N/A
4	LaGen	Wayne Messina		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Negative	Comments Submitted
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Comments Submitted
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Abstain	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Abstain	N/A
5	AEP	Thomas Foltz		Abstain	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Kelsi Rigby		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		None	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak	Mike Kukla		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Abstain	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Comments Submitted
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	Abstain	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Quebec Production	Carl Pineault		Abstain	N/A
5	Imperial Irrigation District	Eric Zingozza	Denise Sanchez	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	JEA	John Babik		None	N/A
5	Lakeland Electric	Becky Rinier		Negative	Comments Submitted
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Negative	Comments Submitted
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Abstain	N/A
5	New York Power Authority	Shivaz Chopra		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Negative	Comments Submitted
5	Northern California Power Agency	Marty Hostler		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Negative	Comments Submitted
5	Oglethorpe Power Corporation	Donna Johnson		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Omaha Public Power District	Mahmood Safi		Negative	Comments Submitted
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Negative	Comments Submitted
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	Portland General Electric Co.	Ryan Olson		Abstain	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Negative	Comments Submitted
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Comments Submitted
5	Puget Sound Energy, Inc.	Lynn Murphy		Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Affirmative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Abstain	N/A
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Mickey Bellard		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		None	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Negative	Comments Submitted
6	AEP	JT Kuehne		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		None	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Negative	Comments Submitted
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Abstain	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Abstain	N/A
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Great River Energy	Donna Stephenson		Negative	Comments Submitted
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Negative	Comments Submitted
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	New York Power Authority	Erick Barrios		None	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Negative	Comments Submitted
6	Omaha Public Power District	Shonda McCain		Negative	Comments Submitted
6	Platte River Power Authority	Sabrina Martz		Abstain	N/A
6	Portland General Electric Co.	Daniel Mason		Abstain	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Negative	Comments Submitted
6	Public Utility District No. 2 of Grant County,	LeRoy Patterson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Abstain	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		Abstain	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		None	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Abstain	N/A

Previous 1 Next

Showing 1 to 289 of 289 entries



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BALLOT RESULTS**Ballot Name:** 2019-06 Cold Weather TOP-003-5 | Non-binding Poll IN 1 NB**Voting Start Date:** 3/3/2021 12:01:00 AM**Voting End Date:** 3/12/2021 8:00:00 PM**Ballot Type:** NB**Ballot Activity:** IN**Ballot Series:** 1**Total # Votes:** 253**Total Ballot Pool:** 288**Quorum:** 87.85**Quorum Established Date:** 3/12/2021 2:55:25 PM**Weighted Segment Value:** 58.46

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes	Negative Fraction	Abstain	No Vote
Segment: 1	77	1	28	0.528	25	0.472	15	9
Segment: 2	7	0.6	5	0.5	1	0.1	1	0
Segment: 3	69	1	26	0.542	22	0.458	13	8
Segment: 4	15	1	7	0.7	3	0.3	3	2
Segment: 5	69	1	28	0.596	19	0.404	13	9
Segment: 6	42	1	14	0.56	11	0.44	11	6
Segment: 7	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	1	0
Segment: 9	0	0	0	0	0	0	0	0
Segment: 10	7	0.5	5	0.5	0	0	1	1
Total	288	3.0	144	0.5	81	2.174	58	35

BALLOT POOL MEMBERS

Show entries

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Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Abstain	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		Negative	Comments Submitted
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		Negative	Comments Submitted
1	BC Hydro and Power Authority	Adrian Andreoiu		Abstain	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Negative	Comments Submitted
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Negative	Comments Submitted
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Renee Leidel		Negative	Comments Submitted
1	Dominion - Dominion Virginia Power	Candace Marshall		None	N/A
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		None	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Abstain	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Negative	Comments Submitted
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Abstain	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Allie Gavin	Abstain	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		None	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Negative	Comments Submitted
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Negative	Comments Submitted
1	Muscatine Power and Water	Andy Kurriger		Negative	Comments Submitted
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Negative	Comments Submitted
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Negative	Comments Submitted
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Negative	Comments Submitted
1	Omaha Public Power District	Doug Peterchuck		Negative	Comments Submitted
1	Orlando Utilities Commission	Aaron Staley		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		Abstain	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Negative	Comments Submitted
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		Negative	Comments Submitted
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Comments Submitted
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Abstain	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Abstain	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Comments Submitted
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Negative	Comments Submitted
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Abstain	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	Comments Submitted
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Michael Courchesne	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Abstain	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Negative	Comments Submitted
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	None	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Negative	Comments Submitted
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Negative	Comments Submitted
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		None	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Abstain	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		None	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Evergy	Marcus Moor		Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Negative	Comments Submitted
3	Great River Energy	Michael Brytowski		Negative	Comments Submitted
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Negative	Comments Submitted
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Negative	Comments Submitted
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		Negative	Comments Submitted
3	Northern California Power Agency	Michael Whitney		None	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Negative	Comments Submitted
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Negative	Comments Submitted
3	Omaha Public Power District	David Heins		Negative	Comments Submitted
3	Orlando Utilities Commission	Ballard Mutters		Negative	Comments Submitted
3	OTP - Otter Tail Power Company	Wendi Olson		Negative	Comments Submitted
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	Affirmative	N/A
3	Platte River Power Authority	Wade Kiess		Abstain	N/A
3	Portland General Electric Co.	Dan Zollner		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		None	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Negative	Comments Submitted
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Affirmative	N/A
3	Santee Cooper	James Poston		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Seattle City Light	Laurie Hammack		Negative	Comments Submitted
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Abstain	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrold Murdaugh		Negative	Comments Submitted
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Comments Submitted
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Abstain	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		None	N/A
4	LaGen	Wayne Messina		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Negative	Comments Submitted
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Comments Submitted
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Abstain	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Abstain	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Kelsi Rigby		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		None	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Abstain	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Negative	Comments Submitted
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	Abstain	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Quebec Production	Carl Pineault		Abstain	N/A
5	Imperial Irrigation District	Eric Zingozza	Denise Sanchez	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	JEA	John Babik		None	N/A
5	Lakeland Electric	Becky Rinier		Negative	Comments Submitted
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Negative	Comments Submitted
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Abstain	N/A
5	New York Power Authority	Shivaz Chopra		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Negative	Comments Submitted
5	Northern California Power Agency	Marty Hostler		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Negative	Comments Submitted
5	Oglethorpe Power Corporation	Donna Johnson		Negative	Comments Submitted
5	Omaha Public Power District	Mahmood Safi		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Negative	Comments Submitted
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	Negative	Comments Submitted
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	Portland General Electric Co.	Ryan Olson		Abstain	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Negative	Comments Submitted
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Comments Submitted
5	Puget Sound Energy, Inc.	Lynn Murphy		Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Affirmative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Abstain	N/A
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Mickey Bellard		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tennessee Valley Authority	M Lee Thomas		None	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		None	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Negative	Comments Submitted
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Abstain	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Abstain	N/A
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Negative	Comments Submitted
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Lakeland Electric	Paul Shipps		Negative	Comments Submitted
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	New York Power Authority	Erick Barrios		None	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Negative	Comments Submitted
6	Omaha Public Power District	Shonda McCain		Negative	Comments Submitted
6	Platte River Power Authority	Sabrina Martz		Abstain	N/A
6	Portland General Electric Co.	Daniel Mason		Abstain	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Negative	Comments Submitted
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		Abstain	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		None	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Abstain	N/A

Showing 1 to 288 of 288 entries

Previous

1

Next

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021

Anticipated Actions	Date
10-day final ballot	May 2021
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title:** **Emergency Preparedness and Operations**
2. **Number:** **EOP-011-2**
3. **Purpose:** To address the effects of operating emergencies by ensuring each Transmission Operator, Balancing Authority, and Generator Owner has developed plan(s) to mitigate operating Emergencies and that those plans are implemented and coordinated within the Reliability Coordinator Area as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;
 - 1.2.3. Transmission system reconfiguration;
 - 1.2.4. Redispatch of generation request;
 - 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

1.2.6. Provisions to determine reliability impacts of:

1.2.6.1. cold weather conditions; and

1.2.6.2. extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

2.1. Roles and responsibilities for activating the Operating Plan(s);

2.2. Processes to prepare for and mitigate Emergencies including:

2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;

2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;

2.2.3. Managing generating resources in its Balancing Authority Area to address:

2.2.3.1. capability and availability;

2.2.3.2. fuel supply and inventory concerns;

2.2.3.3. fuel switching capabilities; and

2.2.3.4. environmental constraints.

2.2.4. Public appeals for voluntary Load reductions;

2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;

2.2.6. Reduction of internal utility energy use;

2.2.7. Use of Interruptible Load, curtailable Load and demand response;

2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

2.2.9. Provisions to determine reliability impacts of:

2.2.9.1. cold weather conditions; and

2.2.9.2. extreme weather conditions.

- M2.** Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3.** The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
- 3.1.** Within 30 calendar days of receipt, the Reliability Coordinator shall:
- 3.1.1.** Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2.** Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3.** Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3.** The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4.** Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*

- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High]*
[Time Horizon: Real-Time Operations]
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High]* *[Time Horizon: Operations Planning and Real-Time Operations]*
 - 7.1.** Generating unit(s) freeze protection measures based on geographical location and plant configuration;
 - 7.2.** Annual inspection and maintenance of generating unit(s) freeze protection measures;
 - 7.3.** Generating unit(s) cold weather data, to include:
 - 7.3.1.** Generating unit(s) operating limitations in cold weather to include:
 - 7.3.1.1.** capability and availability;
 - 7.3.1.2.** fuel supply and inventory concerns;
 - 7.3.1.3.** fuel switching capabilities; and
 - 7.3.1.4.** environmental constraints.
 - 7.3.2.** Generating unit(s):
 - 7.3.2.1.** minimum design temperature; or
 - 7.3.2.2.** minimum historical operating temperature; or
 - 7.3.2.3.** engineering analysis to determine current minimum cold weather performance temperature

- M7.** Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.
- R8.** Each Generator Operator or Generator Owner shall provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s). *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*
- M8.** Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.
- The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever timeframe is greater, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure; “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.
R2	Real-time Operations, Operations	High	N/A	The Balancing Authority developed a Reliability Coordinator-	The Balancing Authority developed an Operating Plan(s) to mitigate operating	The Balancing Authority failed to develop an

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	Planning, Long-term Planning			reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					Operator within 30 calendar days.	
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority did not notify neighboring Reliability Coordinators,	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators,

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.
R7	Operations Planning and Real-time Operations	High	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts	The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it. OR	The Generator Owner does not have a cold weather preparedness plan. OR The Generator Owner has a cold

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
				within Requirement R7.	The Generator Owner’s cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.	weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.
R8	Operations Planning and Real-time Operations	Medium	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
2	TBD	Adopted by the Board of Trustees	Revised under Project 2019-06

Attachment 1

EOP-011-2

Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

- 2.1 Notifying other Balancing Authorities and market participants.** The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.
- 2.2 Declaration period.** The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
- 2.3 Sharing information on resource availability.** Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.
- 2.4 Evaluating and mitigating Transmission limitations.** The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).
- 2.5 Requesting Balancing Authority actions.** Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:
 - 2.5.1 All available generation units are on line.** All generation capable of being on line in the time frame of the Emergency is on line.
 - 2.5.2 Demand-Side Management.** Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

- 3.1 Continue actions from EEA 2.** The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.
- 3.2 Declaration Period.** The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.
- 3.3 Reevaluating and revising SOLs and IROLs.** The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:
- 3.3.1 Energy deficient Balancing Authority obligations.** The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.
- 3.4 Returning to pre-Emergency conditions.** Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.
- 3.4.1 Notification of other parties.** Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.
- Alert 0 - Termination.** When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.
- 3.4.2 Notification.** The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January <u>27 – March 12,</u> 2021
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>

Anticipated Actions	Date
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, <u>May</u> 2021
NERC Board (Board) adoption	November <u>June</u> 2021

A. Introduction

1. **Title:** Emergency Preparedness and Operations
2. **Number:** EOP-011-2
Purpose: To address the effects of operating emergencies by ensuring each Transmission Operator, Balancing Authority, and Generator Owner has developed plan(s) to mitigate ~~and prepare for~~ operating Emergencies; and that ~~Operating those P~~plans are implemented and coordinated within ~~a the~~ Reliability Coordinator Area as specified within the requirements. Area-
3. **Applicability:**
 - 3.1. **Functional Entities:**
 - 3.1.1 Balancing Authority
 - 3.1.2 Reliability Coordinator
 - 3.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 3.2. **Facilities**
 - 3.2.1 For the purpose of this standard, the term “generating unit” includes means all Bulk Electric System generators~~ing units and BES generating plants.~~
4. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;
 - 1.2.3. Transmission system reconfiguration;
 - 1.2.4. Redispatch of generation request;

1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

1.2.6. Provisions to determine Reliability impacts of:

1.2.6.1. cold weather conditions; and

1.2.6.2. ~~any other~~ extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

2.1. Roles and responsibilities for activating the Operating Plan(s);

2.2. Processes to prepare for and mitigate Emergencies including:

2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;

2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;

2.2.3. Managing generating resources in its Balancing Authority Area to address:

2.2.3.1. capability and availability;

2.2.3.2. fuel supply and inventory concerns;

2.2.3.3. fuel switching capabilities; and

2.2.3.4. environmental constraints.

2.2.4. Public appeals for voluntary Load reductions;

2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;

2.2.6. Reduction of internal utility energy use;

2.2.7. Use of Interruptible Load, curtailable Load and demand response;

- 2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
 - 2.2.9. Provisions to determine Reliability impacts of:
 - 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. ~~any other~~ extreme weather conditions.
- M2. Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3. The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1. Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1. Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2. Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3. Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3. The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4. Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4. The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.

- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall ~~develop, implement and~~ maintain, ~~and implement~~ one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*
- 7.1.** Generating unit(s) freeze protection measures based on ~~unique factors~~ ~~such as~~ geographical location and plant configuration;
 - 7.2.** Annual ~~maintenance and~~ inspection and maintenance of generating unit(s) freeze protection measures;
 - 7.3.** Generating unit(s) cold weather data, to include:
 - 7.3.1.** Generating unit(s) operating limitations in cold weather ~~to include: 1 through 2.2. 3.4; and~~
 - 7.3.1.1. capability and availability;
 - 7.3.1.2. fuel supply and inventory concerns;
 - 7.3.1.3. fuel switching capabilities; and
 - 7.3.1.4. environmental constraints.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or

7.3.2.2. minimum historical operating temperature; demonstrated historical performance during cold weather in the previous 5 years; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

M7. Each Generator Owner ~~shall will~~ have evidence a documentinged that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7; ~~and have evidence such as (a review or revision history to indicate that the plan has been maintained;) and have evidence such as operator checklists, work orders, test records, other operating and maintenance documentation, or other communication documentation to show that its cold weather preparedness plan was implemented; and have evidence such as training materials and attendance list showing successful completion of training.~~

R8. Each Generator Operator or Generator Owner shall provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s). *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*

M8. Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.
- The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever timeframe is greater, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8.

1.3. Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure; “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be

used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Table of Compliance Elements

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	The Balancing Authority developed an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	The Balancing Authority failed to develop an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency	The Reliability Coordinator that received an Emergency

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					notification from a Transmission Operator or Balancing Authority did notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R7	Operations Planning and Real-time Operations	High	<p><u>The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.</u></p> <p>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</p>	<p><u>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</u></p> <p>The Generator Owner developed a cold weather preparedness plan(s) but failed to maintain it.</p> <p>OR</p> <p>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</p>	<p>The Generator Owner developed had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</p> <p>OR</p> <p>The Generator Owner's cold weather preparedness plan failed to include three two of the applicable requirement Parts within Requirement R7.</p>	<p>The Generator Owner does not have a cold weather preparedness plan.</p> <p>OR</p> <p>The Generator Owner has a cold weather preparedness plan, but failed to include all any of the applicable requirement Parts within Requirement R7.</p>
R8	<u>Operations Planning and</u>	<u>Medium</u>	<u>The Generator Owner or Generator Operator failed to</u>	<u>The Generator Owner or Generator Operator failed to</u>	<u>The Generator Owner or Generator Operator failed to</u>	<u>The Generator Owner or Generator Operator failed to</u>

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	<u>Real-time Operations</u>		<p><u>provide generating unit-specific training as described in Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> <u>one applicable personnel at a single generating unit; or</u> <u>5% or less of its total applicable personnel.</u> 	<p><u>provide generating unit-specific training as described in Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> <u>two applicable personnel at a single generating unit; or</u> <u>more than 5% or less than or equal to 10% of its total applicable personnel.</u> 	<p><u>provide generating unit-specific training as described in Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> <u>three applicable personnel at a single generating unit; or</u> <u>more than 10% or less than or equal to 15% of its total applicable personnel.</u> 	<p><u>provide generating unit-specific training as described in Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> <u>four applicable personnel at a single generating unit; or</u> <u>more than 15% of its total applicable personnel.</u>

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
2	TBD	Adopted by the Board of Trustees	Revised under Project 2019-06

**Attachment 1-EOP-011-2
Energy Emergency Alerts**

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>10-day final ballot</u>	<u>May 2021</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Emergency Preparedness and Operations—
2. **Number:** EOP-011-~~12~~
3. **Purpose:** To address the effects of operating ~~Emergencies~~emergencies by ensuring each Transmission Operator ~~and~~, Balancing Authority, and Generator Owner has developed ~~Operating Plan~~plan(s) to mitigate operating Emergencies, and that those plans are implemented and coordinated within at the Reliability Coordinator Area ~~as specified within the requirements.~~
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:**

See Implementation Plan for ~~EOP 011-1~~Project 2019-06.
- ~~6. **Background:**~~

~~EOP 011-1 consolidates requirements from three standards: EOP 001-2.1b, EOP 002-3.1, and EOP 003-2.~~

~~The standard streamlines the requirements for Emergency operations for the Bulk Electric System into a clear and concise standard that is organized by Functional Entity. In addition, the revisions clarify the critical requirements for Emergency Operations, while ensuring strong communication and coordination across the Functional Entities.~~

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:

- 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
- 1.2.2. Cancellation or recall of Transmission and generation outages;
- 1.2.3. Transmission system reconfiguration;
- 1.2.4. Redispatch of generation request;
- 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 1.2.6. Reliability Provisions to determine reliability impacts of:-
 - 1.2.6.1. cold weather conditions; and
 - ~~1.2.5.1.~~ 1.2.6.2. extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

- 2.1. Roles and responsibilities for activating the Operating Plan(s);
- 2.2. Processes to prepare for and mitigate Emergencies including:
 - 2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;
 - 2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;
 - 2.2.3. Managing generating resources in its Balancing Authority Area to address:
 - 2.2.3.1. capability and availability;
 - 2.2.3.2. fuel supply and inventory concerns;
 - 2.2.3.3. fuel switching capabilities; and
 - 2.2.3.4. environmental constraints.
 - 2.2.4. Public appeals for voluntary Load reductions;

- 2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;
- 2.2.6. Reduction of internal utility energy use;
- 2.2.7. Use of Interruptible Load, curtailable Load and demand response;
- 2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 2.2.9. Reliability Provisions to determine reliability impacts of:
 - 2.2.9.1. cold weather conditions; and
 - ~~2.2.8.1.~~2.2.9.2. extreme weather conditions.

- M2.** Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3.** The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1.** Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1.** Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2.** Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3.** Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3.** The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4.** Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its

Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*

- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*
 - 7.1. Generating unit(s) freeze protection measures based on geographical location and plant configuration;
 - 7.2. Annual inspection and maintenance of generating unit(s) freeze protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns;

7.3.1.3. fuel switching capabilities; and

7.3.1.4. environmental constraints.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or

7.3.2.2. minimum historical operating temperature; or

7.3.2.3. engineering analysis to determine current minimum cold weather performance temperature

M7. Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.

R8. Each Generator Operator or Generator Owner shall provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s). [Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]

M8. Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~As defined in the NERC Rules of Procedure,~~ “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and /or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

~~The Balancing Authority, Reliability Coordinator, and Transmission Operator shall keep data or following evidence to show compliance, as identified below, unless directed by its Compliance Enforcement Authority (CEA) retention period(s) identify the period of time an entity is required to retain specific evidence for a longer period of time as part of an investigation to demonstrate compliance.~~ For instances where the evidence retention period specified below is shorter than the time since the last audit, the ~~CEA~~Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-~~time~~ period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and ~~R4 and R4 and~~ Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.

~~If a Balancing Authority, Reliability Coordinator or Transmission Operator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.
- The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever

~~timeframe is greater, unless directed by its~~ Compliance Enforcement Authority ~~shall keep the last audit records and all requested and submitted subsequent audit records.~~ to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8.

1.3. ~~Compliance Monitoring Assessment Processes:~~ Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure; “~~Compliance Monitoring and Assessment Processes~~Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated ~~reliability standard~~Reliability Standard.

~~1.4. Additional Compliance Information~~

None

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	The Balancing Authority developed an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	The Balancing Authority failed to develop an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency	The Reliability Coordinator that received an Emergency

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					notification from a Transmission Operator or Balancing Authority did notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
<u>R7</u>	<u>Operations Planning and Real-time Operations</u>	<u>High</u>	<u>The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.</u>	<u>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</u> <u>OR</u> <u>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner does not have a cold weather preparedness plan.</u> <u>OR</u> <u>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</u>
<u>R8</u>	<u>Operations Planning and Real-time Operations</u>	<u>Medium</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>one applicable personnel at a single generating unit; or</u> • <u>5% or less of its total applicable personnel.</u> 	<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>two applicable personnel at a single generating unit; or</u> • <u>more than 5% or less than or equal to 10% of its total applicable personnel.</u> 	<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>three applicable personnel at a single generating unit; or</u> • <u>more than 10% or less than or equal to 15% of its total applicable personnel.</u> 	<p><u>Requirement R8 to the greater of:</u></p> <ul style="list-style-type: none"> • <u>four applicable personnel at a single generating unit; or</u> • <u>more than 15% of its total applicable personnel.</u>

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
<u>2</u>	<u>TBD</u>	<u>Adopted by the Board of Trustees</u>	<u>Revised under Project 2019-06</u>

Attachment 1-EOP-011-~~12~~ Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for R1:

~~The EOP SDT examined the recommendation of the EOP Five-Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.~~

~~To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.~~

Rationale for R2:

To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.

The Operating Plan(s) can be one plan, or it can be multiple plans.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

The EOP SDT retained the statement “Operator controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.

The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.

Rationale for R3:

The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.

Rationale for Requirement R4:

Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.

Rationale for R5

The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.

Rationale for Introduction

~~LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.~~

~~EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB-WEQ-E tag Specification v1811 R3.6.1.3, this has been modified and now the TSP has the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.~~

Rationale for (2) Notification

The EOP SDT deleted the language, “*The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended*” as duplicative to proposed IRO-014-3 Requirement R1:

- ~~R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following:~~
- ~~1.1 Communications and notifications, and the process to follow in making those notifications.~~
 - ~~1.2 Energy and capacity shortages.~~
 - ~~1.3 Control of voltage, including the coordination of reactive resources.
Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.~~
 - ~~1.5 Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.~~
 - ~~1.6 Provisions for weekly conference calls.~~

Rationale for EEA 2:

The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.

Rationale for EEA 3:

This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.

The previous language in EOP 002 3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.

Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very close to shedding Load (“imminent or in progress”). The drafting team felt that this warrants categorization at the highest level of EEA.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR) for posting	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day initial formal comment period with ballot	April 2 – April 27, 2021

Anticipated Actions	Date
10-day final ballot	May 2021
NERC Board (Board) adoption	June 11, 2021

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-4
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Operator
 - 4.6. Transmission Owner
 - 4.7. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s):

- 2.3.2.1.** minimum design temperature; or
 - 2.3.2.2.** minimum historical operating temperature; or
 - 2.3.2.3.** engineering analysis to determine current minimum cold weather performance temperature.
 - 1.4.** A periodicity for providing data.
 - 1.5.** The deadline by which the respondent is to provide the indicated data.
- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
 - 3.1.** A mutually agreeable format
 - 3.2.** A mutually agreeable process for resolving data conflicts
 - 3.3.** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
					Real-time Assessments.	
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06 Cold Weather
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	

4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06
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Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR) for posting	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day initial formal comment period with ballot</u>	<u>April 2 – April 27, 2021</u>

Anticipated Actions	Date
45-day initial formal comment period with ballot	January 2021
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 <u>May 11</u> , 2021
NERC Board (Board) adoption	November <u>June 11</u> , 2021

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-~~54~~
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator~~;~~
 - 4.2. Balancing Authority~~;~~
 - 4.3. Generator Owner~~;~~
 - 4.4. Generator Operator~~;~~
 - 4.5. Transmission Operator~~;~~
 - 4.6. Transmission Owner~~;~~
 - 4.7. Distribution Provider~~;~~
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) ~~specific design specification or minimum historical performance~~ during local forecasted cold weather ~~to include: , and expected BES generating unit operation limitations during local forecasted cold weather.~~
 - 1.3.1 Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and

1.3.1.4. environmental constraints

1.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
- 3.1.** A mutually agreeable format
- 3.2.** A mutually agreeable process for resolving data conflicts
- 3.3.** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

- 1.1. Compliance Enforcement Authority:** “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.
- 1.2. Evidence Retention:** The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

- 1.3. Compliance Monitoring and Enforcement Program:**
As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.
- 1.4. ~~Additional Compliance Information: None.~~**

Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Real-time Assessments.	Real-time Assessments.	Real-time Assessments.
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR) for posting</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day initial formal comment period with ballot</u>	<u>April 2 – April 27, 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>10-day final ballot</u>	<u>May 2021</u>
<u>NERC Board (Board) adoption</u>	<u>June 11, 2021</u>

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-~~34~~
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator~~-~~
 - 4.2. Balancing Authority~~-~~
 - 4.3. Generator Owner~~-~~
 - 4.4. Generator Operator~~-~~
 - 4.5. Transmission Operator~~-~~
 - 4.6. Transmission Owner~~-~~
 - 4.7. Distribution Provider~~-~~
5. **Effective Date:** See Implementation Plan~~-~~ for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1 Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints

1.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

~~1.3.~~ 1.4. A periodicity for providing data.

~~1.4.~~ 1.5. The deadline by which the respondent is to provide the indicated data.

- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
- 3.1.** A mutually agreeable format
- 3.2.** A mutually agreeable process for resolving data conflicts
- 3.3.** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. –Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority”
~~As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority”~~
 (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an
Applicable Governmental Authority, in their respective roles of monitoring and/or
 enforcing compliance with the NERC mandatory and enforceable Reliability Standards
in their respective jurisdictions.

~~1.2 Compliance Monitoring and Assessment Processes~~

~~As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.~~

~~1.3. Data Retention~~

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

1.3. Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

1.4. Additional Compliance Information

None.

-Table of Compliance Elements

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include one <u>two or fewer</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include two <u>three</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three <u>four</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Real-time Assessments.	Real-time Assessments.	Real-time Assessments.
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
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2	April 2014	Revisions pursuant to Project 2014-03	
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3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
<u>4</u>	<u>TBD</u>	<u>Adopted by NERC Board of Trustees</u>	<u>Revisions under Project 2019-06 Cold Weather</u>

Guidelines and Technical Basis

-

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes was moved to this section.

Rationale for Definitions:

Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

Rationale for Applicability Changes:

Changes were made to applicability based on IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.

The Interchange Authority was removed because activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.

The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard.

Rationale:

Proposed Requirement R1, Part 1.1:

Is in response to issues raised in NOPR paragraph 67 on the need for obtaining non BES and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.

Proposed Requirement R1, Part 1.2:

Is in response to NOPR paragraph 78 on relay data.

Proposed Requirement R3, Part 3.3:

Is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.

~~Corresponding changes have been made to proposed TOP-003-3.~~

<u>3</u>	<u>October 30, 2020</u>	<u>FERC approved IRO-010-2. Docket No. RD20-4-000</u>	
<u>4</u>	<u>TBD</u>	<u>Adopted by NERC Board of Trustees</u>	<u>Revisions under Project 2019-06</u>

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021

Anticipated Actions	Date
10-day final ballot	May 2021
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title: Operational Reliability Data**
2. **Number: TOP-003-5**
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s):
 - 1.3.2.1. minimum design temperature; or
 - 1.3.2.2. minimum historical operating temperature; or

1.3.2.3. engineering analysis to determine current minimum cold weather performance temperature

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.

R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

2.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s):

2.3.2.1 minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3 engineering analysis to determine current minimum cold weather performance temperature.

2.4. A periodicity for providing data.

2.5. The deadline by which the respondent is to provide the indicated data.

M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.

R3. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data

specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

- 1.3. Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						Real-time Assessments.
R2	Operations Planning	Lower	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities,	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	the entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed "Proposed" from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>

Anticipated Actions	Date
45-day formal comment period with ballot	May 2021
45-day formal comment period with additional ballot	July 2021
10-day final ballot	October 1 – 11, <u>May</u> 2021
NERC Board (Board) adoption	November-June <u>2021</u>

A. Introduction

1. **Title:** Operational Reliability Data
2. **Number:** TOP-003-5
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) ~~specific design specification or minimum historical performance during cold weather, and expected BES generating unit operation limitations~~ during local forecasted cold weather to include:-
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s):

1.3.2.1 minimum design temperature; or

1.3.2.2. minimum historical operating temperature; or

1.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

1.34. A periodicity for providing data.

1.45. The deadline by which the respondent is to provide the indicated data.

M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.

R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]

2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

2.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.

2.3. ~~A periodicity for providing data.~~ Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s):

2.3.2.1 minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3 engineering analysis to determine current minimum cold weather performance temperature.

~~2.2.2.4.~~ 2.2.2.4. A periodicity for providing data.

~~2.3.2.5.~~ 2.3.2.5. The deadline by which the respondent is to provide the indicated data.

M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.

- R3.** Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

1.3. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

~~**1.4. Additional Compliance Information**~~
~~None.~~

Table of Compliance Elements Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Lower	The Balancing Authority did not include one-two or <u>fewer</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include two-three of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three-four of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four-any of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>10-day final ballot</u>	<u>May 2021</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Operational Reliability Data
2. **Number:** TOP-003-45
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s):
 - 1.3.2.1 minimum design temperature; or

1.3.2.2. minimum historical operating temperature; or

1.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

- M1.** Each Transmission Operator shall make available its dated, current, in force documented specification for data.
- R2.** Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [*Violation Risk Factor: ~~Low~~Lower*] [*Time Horizon: Operations Planning*]
- 2.1.** A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.
- 2.2.** Provisions for notification of current Protection System and ~~Special Protection System~~Remedial Action Scheme status or degradation that impacts System reliability.
- 2.3.** Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:
- 2.3.1.** Operating limitations based on:
- 2.3.1.1.** capability and availability;
- 2.3.1.2.** fuel supply and inventory concerns;
- 2.3.1.3.** fuel switching capabilities; and
- 2.3.1.4.** environmental constraints.
- 2.3.2.** Generating unit(s):
- 2.3.2.1** minimum design temperature; or
- 2.3.2.2.** minimum historical operating temperature; or
- 2.3.2.3** engineering analysis to determine current minimum cold weather performance temperature.
- ~~2.2.2.4.~~ 2.2.2.4. A periodicity for providing data.
- ~~2.3.2.5.~~ 2.3.2.5. The deadline by which the respondent is to provide the indicated data.
- M2.** Each Balancing Authority shall make available its dated, current, in force documented specification for data.
- R3.** Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-

time monitoring, and Real-time ~~Assessment~~Assessments. *[Violation Risk Factor: ~~Low~~Lower]* *[Time Horizon: Operations Planning]*

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: ~~Low~~Lower]* *[Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium]* *[Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance ~~Monitoring Process~~ Enforcement Authority:

~~As defined in the NERC Rules of Procedure,~~ “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.

~~1.1. Compliance Monitoring and Assessment Processes~~

~~As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.~~

1.2. ~~Data~~Evidence Retention:

The following evidence retention ~~periods~~period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. ~~For~~ instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the

Balancing Authority's analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

~~If a responsible entity is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or the time period specified above, whichever is longer.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

~~**1.2. Additional Compliance Information**~~

~~None.~~

1.3. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, "Compliance Monitoring and Enforcement Program" refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

~~Table of Compliance Elements~~

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Low <u>Low</u> er	The Transmission Operator did not include one <u>two or fewer</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include two <u>three</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three <u>four</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four <u>any</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Low <u>Low</u> er	The Balancing Authority did not include one <u>two or fewer</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include two <u>three</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three <u>four</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four <u>any</u> of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Low <u>Low</u> er	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Low <u>Low</u> er	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed "Proposed" from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for Definitions:

~~Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.~~

Rationale for R1:

~~Changes to proposed Requirement R1, Part 1.1 are in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Transmission Operator to fulfill its responsibilities.~~

~~Proposed Requirement R1, Part 1.2 is in response to NOPR paragraph 78 on relay data. The language has been moved from approved PRC-001-1.~~

~~Corresponding changes have been made to Requirement R2 for the Balancing Authority and to proposed IRO-010-2, Requirement R1 for the Reliability Coordinator.~~

Rationale for R5:

~~Proposed Requirement R5, Part 5.3 is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.~~

Implementation Plan

Project 2019-06 Cold Weather

Applicable Standard(s)

- EOP-011-2 – Emergency Preparedness and Operations
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Requested Retirement(s)

- EOP-011-1 – Emergency Operations
- IRO-010-3 – Reliability Coordinator Data Specification and Collection
- TOP-003-4 – Operational Reliability Data

Applicable Entities

- See subject Reliability Standards.

Background

In July 2019, FERC and NERC staff released a joint report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018*.¹ Following the publication of the report, a Standard Authorization Request² was submitted to review and address the recommendations in the report, including:

1. Generator Owner or Generator Operator develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations, which may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather;
 - b. Implementing freeze protection measures; and
 - c. Performing periodic maintenance and inspection of freeze protection measures.
2. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner or Generator Operator will provide its BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather.

¹ Link to report: https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf

² Link to SAR: https://www.nerc.com/pa/Stand/Project%20201906%20Cold%20Weather%20DL/2019-06_Cold_Weather_SAR_Clean_02192020.pdf

3. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in their data specifications that the Generator Owner or Generator Operator will provide a notification when local forecasted cold weather conditions are expected to limit BES generating unit capability or availability.
4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop their Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.

The Reliability Standard revisions proposed by this project will help enhance the reliability of the Bulk Power System during cold weather events, and mitigate the potential for generating unit unavailability due to lack of preparation for cold weather periods by providing increased visibility of cold weather related data to the Reliability Coordinators, Balancing Authorities, and Transmission Operators, and by requiring a baseline level of cold weather planning and preparation by Generator Owners.

General Considerations

This implementation plan provides that entities shall have eighteen months to become compliant with the revised Reliability Standards. This implementation plan reflects consideration that entities will need time to develop, implement, and maintain cold weather preparedness plan(s) for its generating site(s). In addition, entities may need time identifying cold weather operating temperatures through engineering studies as permitted under Reliability Standard EOP-011-2. This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities, and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Effective Dates

Reliability Standard EOP-011-2

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard IRO-010-4

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard TOP-003-5

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Dates

Reliability Standard EOP-011-1

Reliability Standard EOP-011-1 shall be retired immediately prior to the effective date of Reliability Standard EOP-011-2 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard IRO-010-3

Reliability Standard IRO-010-3 shall be retired immediately prior to the effective date of Reliability Standard IRO-010-4 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard TOP-003-4

Reliability Standard TOP-003-4 shall be retired immediately prior to the effective date of Reliability Standard TOP-003-5 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Initial Performance of Periodic Requirements

Responsible Entities shall develop, maintain, and implement the Operating Plan(s) required by Reliability Standard EOP-011-2 by the effective date of the Reliability Standard. For the cold weather preparedness plan(s) for generating unit(s) required under Requirement R7, the Responsible Entity shall perform annual inspection and maintenance of generating unit freeze protection measures under Requirement R7 Part 7.2 and conduct generating unit specific training for its maintenance and operations personnel under Requirement R8 by the effective date of the Reliability Standard.

Unofficial Comment Form

Project 2019-06 Cold Weather

Do not use this form for submitting comments. Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments on the **2019-06 Cold Weather** project by **8 p.m. Eastern Monday, April 26, 2021**.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at 404-446-2589.

Background

In July 2019, the FERC and NERC staff report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018* (Report) was released. Following the report, Southwest Power Pool, Inc. (SPP) submitted a Standards Authorization Request (SAR) proposing a new standard development project to review and address the recommendations in the Report. The industry need for this project is to enhance the reliability of the BES during cold weather events. On March 22, 2021, the NERC Board of Trustees took action without a meeting to direct the completion of proposed Reliability Standards under Project 2019-06 Cold Weather by June 2021.

Summary of Changes

Many commenters expressed concern regarding the development of a new standard during the SAR phase of Project 2019-06 Cold Weather. A majority of commenters on draft 1 agreed that EOP-011-2 is the appropriate place for the cold weather preparedness modifications. Additionally, the standards drafting team (SDT) determined, from industry comments, that the Balancing Authority should be required to have the same data specifications identified for the Reliability Coordinator (RC) and Transmission Operator (TO). Finally, changes that clarify the data specification requirements have been drafted by the SDT in response to industry comments.

Of particular note, the SDT is posting proposed Implementation Guidance for industry review. The Implementation Guidance is being developed separately by the SDT in response to industry comments but is not subject to ballot body approval. The SDT requests that the ballot body consider the Implementation Guidance separately from the three Reliability Standards impacted by this project when casting votes on the proposed standards. Additionally, the SDT has prepared a technical rationale to accompany this posting.

EOP-011-2

The SDT reviewed the NERC Reliability Standards concluding that EOP-011 was still the best fit out of all the standards for cold weather preparedness, plans, procedures, and awareness training. Based on different scenarios of Generator Owners (GOs) or Generator Operators (GOPs) providing awareness training to operations and maintenance personnel, the SDT developed a new Requirement R8.

The below outlines the EOP-011 modifications at a high level:

- Updated title and purpose to allow for the new Requirements R7 and R8.
- GOP has been added to the Applicability Section. Based on comments received, the SDT determined that adding the GOP as an applicable entity was necessary for providing generating unit-specific training of its maintenance or operations personnel.
- “Provisions to determine potential” added to Requirement R1 Part 1.2.6, and Requirement R2 Part 2.2.9.
- “any other” removed from Requirement R1 Part 1.2.6.2, and Requirement R2 Part 2.2.9.2.
- Clarifying modifications made to Requirement R7 and its respective Parts.
- New Requirement R8 added to require “generating unit-specific training of the maintenance or operations personnel”, separate from the Requirement R7 for cold weather preparedness plan(s).

IRO-010-3

The SDT made modifications to IRO-010-3 to reflect edits to the data specifications consistent with the modifications made to TOP-003-4, as discussed below.

TOP-003-4

The SDT made modifications to TOP-003-4 to require the Balancing Authority (BA) to incorporate provisions for notification of BES generating unit(s) status during local forecasted cold weather in their data specifications for analysis functions and Real-time monitoring. The required provisions include operating limitations and generating unit(s) cold weather performance temperature. The team included similar changes to the Transmission Operator (TOP) data specification requirement in Requirement R1.

Questions:

1. The SDT removed the generator unit-specific training from Requirement R7 and created a new Requirement R8. The new Requirement R8 was created by the SDT to add the GOP to the functional entities responsible for training. Whereas Requirement R7 is narrowly constructed for the GO to be responsible for the cold weather preparedness plan(s), Requirement R8 requires both the GO and GOP to provide the generating unit-specific training to their respective maintenance and operations personnel. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT’s recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

2. In response to comments from the first posting, the SDT added cold weather data specification requirements for the BA within TOP-003, similar to what is required of the RC and TO. Do you agree with the inclusion of these requirements in the TOP-003 standard? If you do not agree, please provide an alternative to address the comments. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

3. In response to comments, the SDT modified the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. Do you agree with this modification? If you do not agree, please provide an alternative implementation timeframe. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Yes

No

Comments:

4. The SDT has provided draft Implementation Guidance to address some issues identified by industry during the previous comment period. Recognizing that Implementation Guidance is not subject to ballot body approval, do you agree with the SDT proceeding with the development of the Implementation Guidance? If you do not agree, or have additional topics you would like the SDT to consider in the Implementation Guidance, please provide your explanation and suggested language.

Yes

No

Comments:

5. Please provide any additional comments for the SDT to consider, if desired.

Comments:

Violation Risk Factor and Violation Severity Level Justification

Project 2019-06 Cold Weather

This document provides the standard drafting team's (SDT's) justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5. Each requirement is assigned a VRF and a VSL. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the Electric Reliability Organizations (ERO) Sanction Guidelines. The SDT applied the following NERC criteria and FERC Guidelines when developing the VRFs and VSLs for the requirements.

NERC Criteria for Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to Bulk Electric System (BES) instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to BES instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the BES, or the ability to effectively monitor and control the BES. However, violation of a medium risk requirement is unlikely to lead to BES instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to BES instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor and control the BES; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES.

FERC Guidelines for Violation Risk Factors

Guideline (1) – Consistency with the Conclusions of the Final Blackout Report

FERC seeks to ensure that VRFs assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System. In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief.

Guideline (2) – Consistency within a Reliability Standard

FERC expects a rational connection between the sub-Requirement VRF assignments and the main Requirement VRF assignment.

Guideline (3) – Consistency among Reliability Standards

FERC expects the assignment of VRFs corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline (4) – Consistency with NERC’s Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular VRF level conforms to NERC’s definition of that risk level.

Guideline (5) – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

NERC Criteria for Violation Severity Levels

VSLs define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one, two, or three VSLs.

VSLs should be based on NERC’s overarching criteria shown in the table below:

Lower VSL	Moderate VSL	High VSL	Severe VSL
The performance or product measured almost meets the full intent of the requirement.	The performance or product measured meets the majority of the intent of the requirement.	The performance or product measured does not meet the majority of the intent of the requirement, but does meet some of the intent.	The performance or product measured does not substantively meet the intent of the requirement.

FERC Order of Violation Severity Levels

The FERC VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in the standard meet the FERC Guidelines for assessing VSLs:

Guideline (1) – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline (2) – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline (3) – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline (4) – Violation Severity Level Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations

Unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

EOP-011-2

VRF Justification for EOP-011-2, Requirement R1

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R1

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R2

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R2

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R3

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R3

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R4

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R4

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R5

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R5

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R6

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R6

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VRF Justification for EOP-011-2, Requirement R8

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R8

The justification for this new requirement is provided on the following page.

R#	VRF for EOP-011-2, Requirement R7	Justifications
R7	High	<ol style="list-style-type: none"> 1. Generator Owners must implement and maintain one or more cold weather preparedness plans for its generating facilities during cold weather conditions to avoid unnecessary trips, derates or failures to start 2. FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R7				
R#	Lower	Moderate	High	Severe
R7	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	<p>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</p> <p>OR</p> <p>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</p>	<p>The Generator Owner does not have a cold weather preparedness plan.</p> <p>OR</p> <p>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</p>

VSL Justification for EOP-011-2 Requirement R7	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R7 is a new requirement and there were no prior levels of non-compliance. Requirement R7 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner's responsibility to develop, maintain and implement a cold weather preparedness plan. Each VSL considers what or how many conditions or Parts of R7 have been met by the Generator Owner related to the cold weather preparedness plan.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R7.</p>

R#	VRF for EOP-011-2, Requirement R8	Justifications
R8	Medium	<ol style="list-style-type: none"> 1. Generator Owners or Generator Operator must provide generating unit-specific training to its maintenance and operations personnel. 2. FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R8				
R#	Lower	Moderate	High	Severe
R8	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

VSL Justification for EOP-011-2 Requirement R8	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R8 is a new requirement and there were no prior levels of non-compliance. Requirement R8 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner or Generator Operator's responsibility to provide generating unit-specific training to its maintenance and operations personnel. Each VSL considers what or how many personnel or percentage of personnel training has been completed in R8.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R8 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R8.</p>

IRO-010-4

VRF Justification for IRO-010-4, Requirement R1

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R1

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for IRO-010-4, Requirement R2

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R2

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VRF Justification for IRO-010-4, Requirement R3

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R3

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSLs for IRO-010-4, Requirement R1				
R#	Lower	Moderate	High	Severe
R1	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSLs for IRO-010-4, Requirement R1

R#	Lower	Moderate	High	Severe
				OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSL Justification for IRO-010-4 Requirement R1

<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R1 is an existing requirement with a new subpart developed, which Reliability Coordinator maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p>	<p>The VSL assignments describe the Reliability Coordinator responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers what or how many conditions or Parts of R1 have been met by the Reliability Coordinator related to the cold weather preparedness plan.</p>

VSL Justification for IRO-010-4 Requirement R1

<p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

TOP-003-5

VRF Justification for TOP-003-5, Requirement R1

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R1

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for TOP-003-05 Requirement R2

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R2

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for TOP-003-5 Requirement R3

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R3

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VRF Justification for TOP-003-5 Requirement R4

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R4

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSLs for TOP-003-5, Requirement R1				
R#	Lower	Moderate	High	Severe
R1	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSL Justification for TOP-003-5 Requirement R1	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R1 is an existing requirement with a new subpart developed, which the Transmission Operator maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Transmission Operator responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers subparts based on completion.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for Requirement R1 will result in a single violation of this requirement that is independent of all other requirements of TOP-003-5 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

VSLs for TOP-003-5, Requirement R2				
R#	Lower	Moderate	High	Severe
R2	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.

VSL Justification for TOP-003-5 Requirement R2	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Requirement R2 is an existing requirement with a new subpart developed, which the Balancing Authority maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.
FERC VSL G2 Violation Severity Level Assignments Should Ensure	The VSL assignments describe the Balancing Authority responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers subparts based on completion.

VSL Justification for TOP-003-5 Requirement R2

<p>Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for Requirement R1 will result in a single violation of this requirement that is independent of all other requirements of TOP-003-5 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Emergency Operations and Preparedness

Technical Rationale and Justification for
Reliability Standard EOP-011-2

April 2021

RELIABILITY | RESILIENCE | SECURITY



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Table of Contents

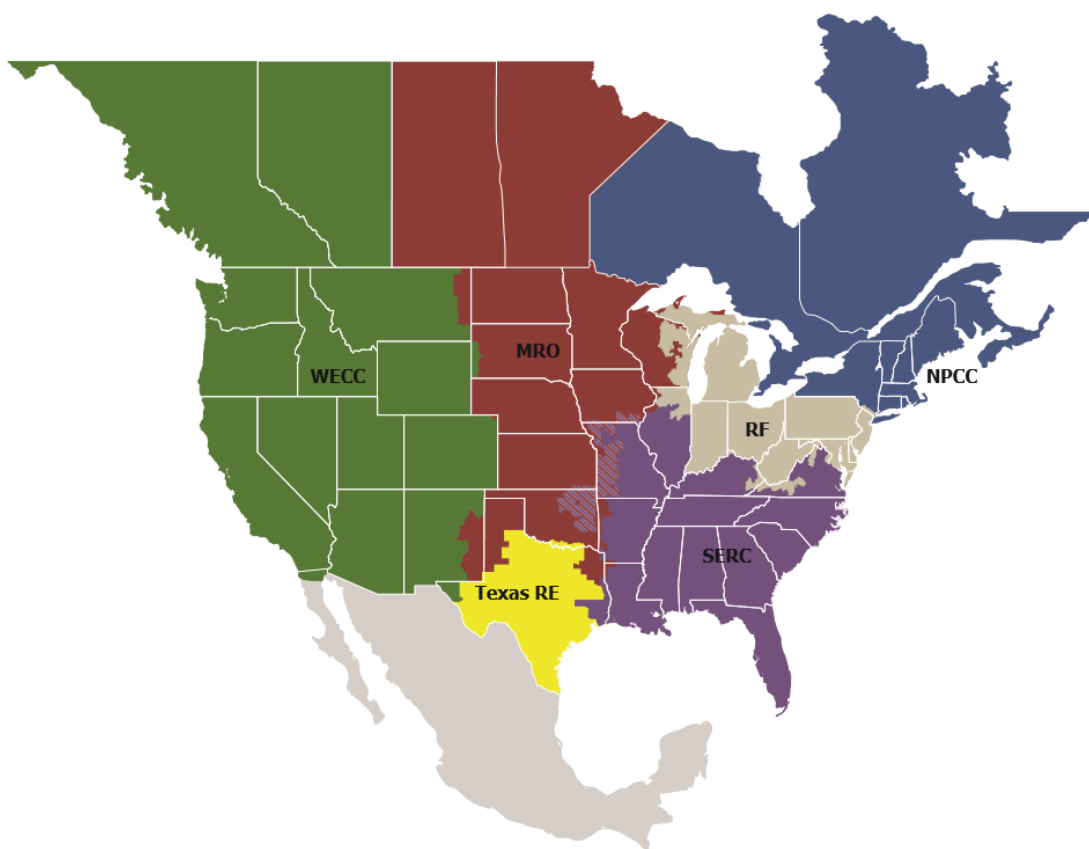
Preface	iii
Introduction	iv
Requirement R7 and R8	1
Appendix 1: Technical Rational for Reliability Standard EOP-011-1	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

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The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Introduction

This document explains the technical rationale and justification for the proposed Reliability Standard EOP-011-2. It provides stakeholders and the ERO Enterprise with an understanding of the Cold Weather requirements in the Reliability Standard. It also contains information on the intent of the Standard Drafting Team (SDT) in drafting the requirements. This Technical Rationale and Justification for EOP-011-2 is not a Reliability Standard, which is not mandatory and enforceable.

Requirement R7 and R8

Rationale for Requirement R7

The *2019 FERC and NERC Staff Report on The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Report) recommends modified Reliability Standards to require Generator Owners to implement “winterization activities on generating units to prepare for [cold weather].” The Generator Owner plans and procedures should include, but are not limited to, necessary and appropriate freeze protection measures, periodic maintenance and inspection of such measures, accurate ambient temperature design specifications, and generating unit limitations and expected performance in cold weather.

To address these recommendations contained in the Report, the SDT developed Requirement R7 to require each Generator Owner to implement and maintain one or more cold weather preparedness plans for its generating unit(s) subject to the standard. The standard requires the cold weather preparedness plan to contain a generating-units operating limitations during cold weather and other availability and capability information, and an annual requirement to inspect with associated maintenance of the generating unit(s).

Additionally, Requirement R7 requires the Generator Owner to develop accurate data to include the generating unit(s)’ minimum design temperature (i.e., faceplate capability) during cold weather. If such information is not available due to the status of the generating unit(s), the SDT developed two additional options to produce an equivalent proxy to the design specification: minimum historical operating temperature or engineering analysis to determine current minimum cold weather performance temperature.

Rationale for Requirement R8

To address the recommendation contained in the Report to require Generator Operators and Generator Owners to “[c]onduct winter-specific and plant-specific operator awareness training,” the SDT developed Requirement R8. Requirement R8 requires each Generator Operator or Generator Owner to provide generating unit-specific training to its maintenance and operations personnel responsible for implementing the cold weather preparedness plan(s) required under Requirement R7. The SDT created R8 as applicable to both the Generator Owner and the Generator Operator based on the roles and responsibilities identified in the Functional Model, whereas both entities may have personnel that are responsible to implement the cold weather preparedness plan(s) and require training.

See the Glossary terms for Generator Operator and Generator Owner.

1. Generator Operator – “The entity that operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services.”¹
2. Generator Owner – “Entity that owns and maintains generating Facility(ies).”²

¹ See NERC Glossary of Terms (page 13 of 49): https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf

² See NERC Glossary of Terms (page 13 of 49): https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf

Appendix 1: Technical Rational for Reliability Standard EOP-011-1

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.

Rationale for R1:

The EOP SDT examined the recommendation of the EOP Five-Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.

The Operating Plan(s) can be one plan, or it can be multiple plans.

“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.

To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.

Rationale for R2:

To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.

The Operating Plan(s) can be one plan, or it can be multiple plans.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

The EOP SDT retained the statement “Operator-controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.

The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.

Rationale for R3:

The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.

Rationale for Requirement R4:

Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.

Rationale for R5

The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.

Rationale for Introduction

LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.

EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB WEQ E-tag Specification v1811 R3.6.1.3, this has been modified and now the TSP has

the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.

Rationale for (2) Notification

The EOP SDT deleted the language, *“The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended”* as duplicative to proposed IRO-014-3 Requirement R1:

R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following:

Communications and notifications, and the process to follow in making those notifications.

Energy and capacity shortages.

Control of voltage, including the coordination of reactive resources.

Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.

Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.

Provisions for weekly conference calls.

Rationale for EEA 2:

The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.

Rationale for EEA 3:

This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.

The previous language in EOP-002-3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.

Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very **close to shedding Load (“imminent or in progress”)**. **The drafting team felt that this warrants categorization at the highest level of EEA.**

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NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Reliability Coordinator Data Specification and Collection

Technical Rationale and Justification for
Reliability Standard IRO-010-4

April 2021

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Table of Contents

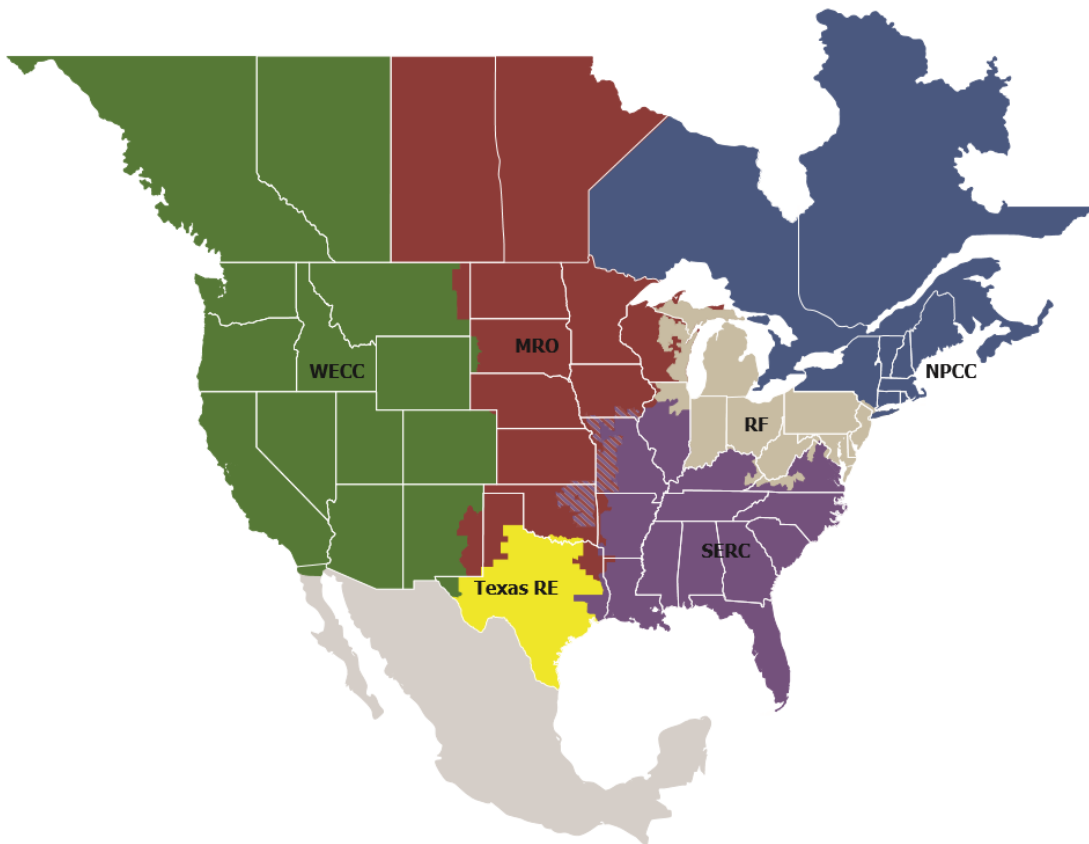
Preface	iii
Introduction	iv
Requirement R1	1
Appendix 1: Technical Rational for Reliability Standard IRO-010-2.....	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

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Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Introduction

This document explains the technical rationale and justification for the proposed Reliability Standard IRO-010-4. It provides stakeholders and the ERO Enterprise with an understanding of the Cold Weather requirements in the Reliability Standard. It also contains information on the intent of the Standard Drafting Team (SDT) in drafting the requirements. This Technical Rationale and Justification for IRO-010-4 is not a Reliability Standard, which is not mandatory and enforceable.

Requirement R1

Proposed Requirement R1, Part 1.3:

The Requirements contained in Requirement R1 Part 1.3 are in response to the recommendations contained in the *2019 FERC and NERC Staff Report on The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Report). The Report recommends reliability standards be implemented that require communication protocols for the Reliability Coordinator to receive generating unit ambient temperature design temperatures, capabilities, and limitations associated with cold weather conditions for use in operational analysis.

To implement the Report's recommendation, the SDT has included new data specifications for Reliability Coordinators in Requirements R1 Part 1.3. The data specifications are consistent with the data information the Generator Owner is required to collect regarding its generating unit(s) pursuant to EOP-011-2 Requirement R7. TOP-003-4 has corresponding changes.

Appendix 1: Technical Rational for Reliability Standard IRO-010-2

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT adoption, the text from the rationale text boxes have been moved to this section.

Rationale for Definitions:

Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

Rationale for Applicability Changes:

Changes were made to applicability based on IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.

The Interchange Authority was removed because activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.

The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard.

Rationale:

Proposed Requirement R1, Part 1.1:

Is in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.

Proposed Requirement R1, Part 1.2:

Is in response to NOPR paragraph 78 on relay data.

Proposed Requirement R3, Part 3.3:

Is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks. Corresponding changes have been made to proposed TOP-003-3.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Operational Reliability Data

Technical Rationale and Justification for
Reliability Standard TOP-003-5

April 2021

RELIABILITY | RESILIENCE | SECURITY



3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Table of Contents

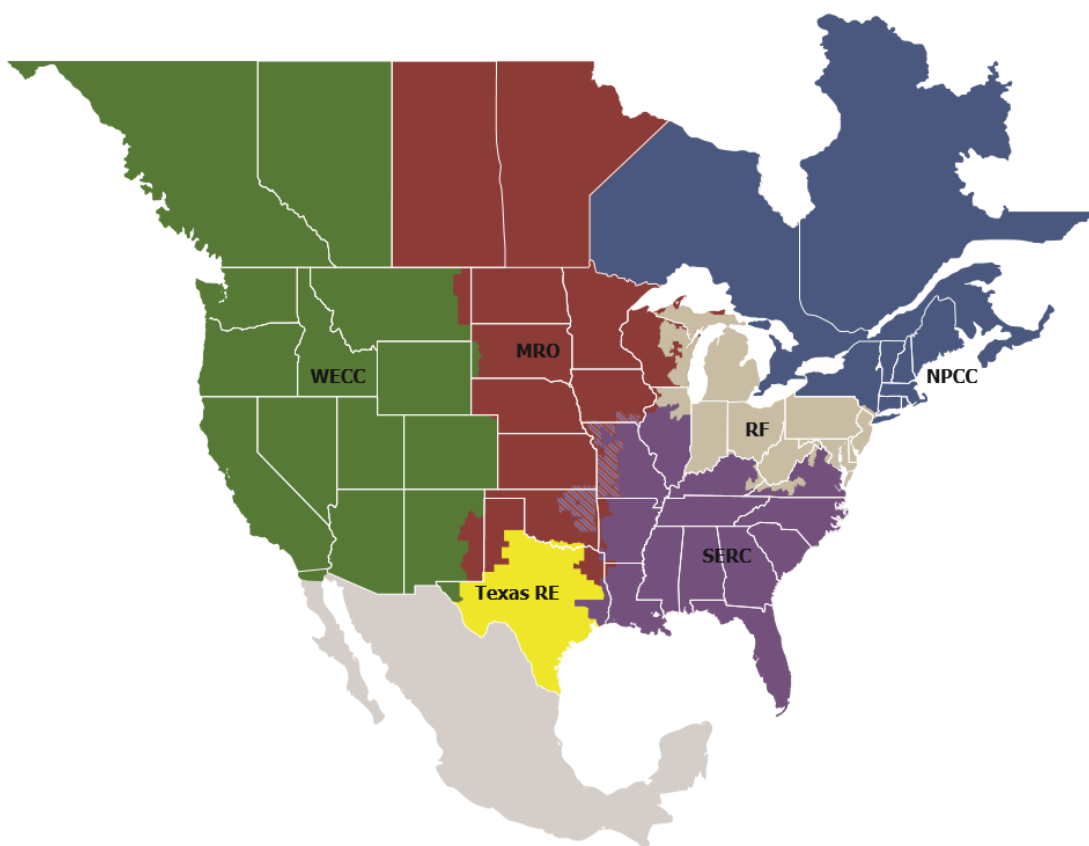
Preface	iii
Introduction	iv
Requirement R1	1
Appendix 1: Technical Rational for Reliability Standard TOP-003-5	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Introduction

This document explains the technical rationale and justification for the proposed Reliability Standard TOP-003-5. It provides stakeholders and the ERO Enterprise with an understanding of the Cold Weather requirements in the Reliability Standard. It also contains information on the intent of the Standard Drafting Team (SDT) in drafting the requirements. This Technical Rationale and Justification for TOP-003-5 is not a Reliability Standard, which is not mandatory and enforceable.

Requirement R1

Rationale for R1.3 and R2.3.

The Requirements contained in Requirements R1 Part 1.3 and Requirement R2 Part 2.3 are in response to the recommendations contained in the *2019 FERC and NERC Staff Report on The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018* (Report). The Report recommends reliability standards be implemented that require communication protocols for the Balancing Authorities to receive generating unit ambient temperature design temperatures, capabilities, and limitations associated with cold weather conditions for use in operational analysis and determination of contingency reserves. The SDT determined that both the Balancing Authority and Transmission Operator are appropriate entities to receive this information.

To implement the Report's recommendations, the SDT has included new data specifications for Transmission Operators and Balancing Authorities in Requirements R1 Part 1.3 and Requirement R2 Part 2.3, respectively. The data specifications are consistent with the data information the Generator Owner is required to collect regarding its generating unit(s) pursuant to EOP-011-2 Requirement R7 and the Balancing Authorities must include in its Operating Plans pursuant to EOP-011-2 Requirement R2 Part 2.2.3. IRO-010-3 has corresponding changes.

Appendix 1: Technical Rational for Reliability Standard TOP-003-5

Guidelines and Technical Basis

Rationale:

During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.

Rationale for Definitions:

Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

Rationale for R1:

Changes to proposed Requirement R1, Part 1.1 are in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Transmission Operator to fulfill its responsibilities. Proposed Requirement R1, Part 1.2 is in response to NOPR paragraph 78 on relay data. The language has been moved from approved PRC-001-1. Corresponding changes have been made to Requirement R2 for the Balancing Authority and to proposed IRO-010-2, Requirement R1 for the Reliability Coordinator.

Rationale for R5:

Proposed Requirement R5, Part 5.3 is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Emergency Operations and Preparedness

Implementation Guidance for Reliability Standard
EOP-011-2

April 2021

RELIABILITY | RESILIENCE | SECURITY



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Table of Contents

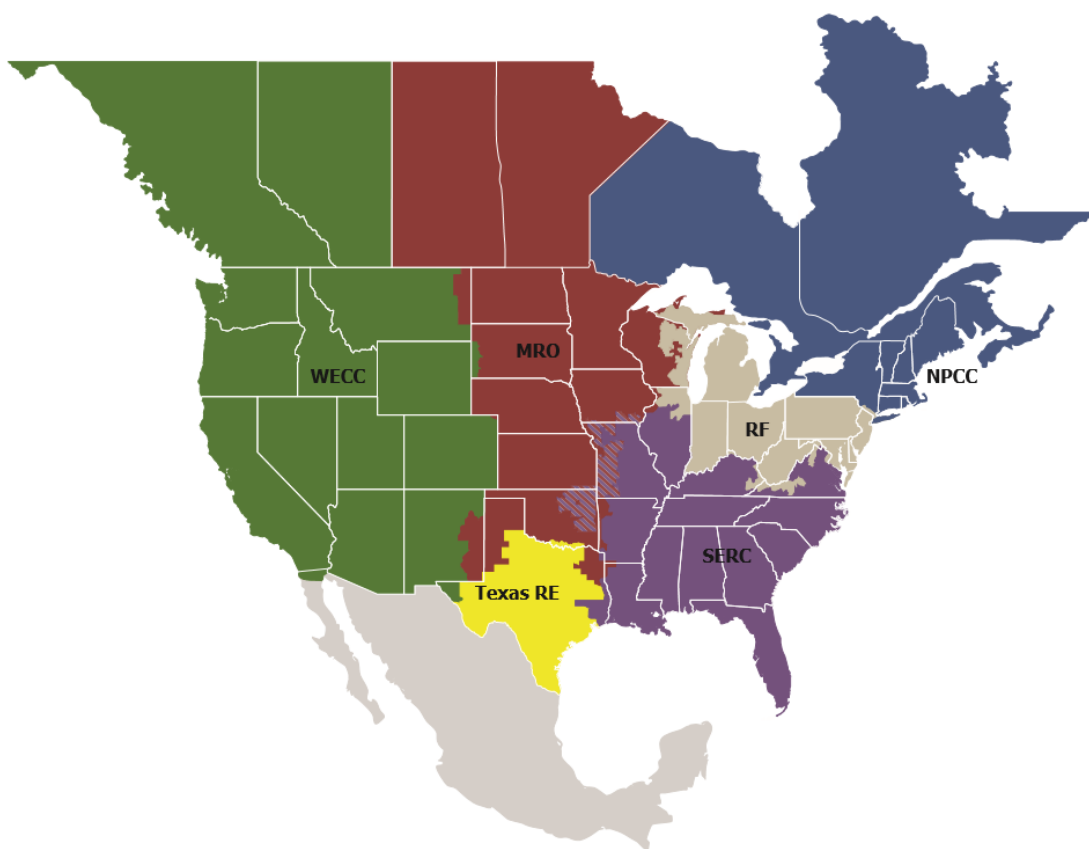
Preface	iii
Introduction	iv
Requirement R7	1
Requirement R8	2

Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

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The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one Region while associated Transmission Owners/Operators participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Introduction

This Implementation Guidance was prepared to provide example approaches for compliance with EOP-011-2. Implementation Guidance does not prescribe the only approach but highlights one or more approaches that could be effective in achieving compliance with the standard. Because Implementation Guidance only provides examples, entities may choose alternative approaches that better fit their individual situations.¹ This Implementation Guidance for EOP-011-2 is not a Reliability Standard and should not be considered mandatory and enforceable.

Responsible entities may find it useful to consider this Implementation Guidance document along with the additional context and background provided in the SDT developed Technical Rationale and Justification for the modifications to EOP-011-2.

¹ [NERC's Compliance Guidance Policy](#)

Requirement R7

General Considerations for Requirement R7

None

Implementation Guidance for R7

The Generator Owner determines the definition of cold weather based on their generating unit(s)'s geographical location, climate, and the Generator Owner's experience with operations during local cold weather events. A Generator Owner may utilize an additional resource to develop their definition of cold weather, such as one or more commonly used industry resources (e.g. the National Weather Service Climate Predictions Center maps sponsored by the National Oceanic and Atmospheric Administration which depicts average annual extreme minimum temperatures within the United States), but the requirement does not dictate any specific definition for cold weather.

For any analysis to determine the "minimum historical operating temperature", it is recommended that the analysis be based on no less than five (5) years of operational data, but should include the most recent extreme cold weather event data available if outside the five year timeframe.

Requirement R7 does not requires a Generator Owner to install any specific freeze protections measures on their generating unit(s). The cold weather preparedness plan must contain, however, information on freeze protection measures currently in place, if any, as identified by the Generator Owner. Requirement R7 does not supplant the discretionary decision-making of the Generator Owner as to the appropriate level of freeze protection measures for its generating unit(s) or dictate a baseline or minimal level of freeze protection measures that must be utilized.

Requirement R8

General Considerations for Requirement R8

None

Implementation Guidance for R8

No specific training method or process is specified within Requirement R8. Each Generator Operator or Generator Owner should determine who will be responsible for training of the maintenance and operations personnel and develop training to address the details of the Generator Owner's cold weather preparedness plan(s).

Standards Announcement

Project 2019-06 Cold Weather

Formal Comment Period Open through April 26, 2021

[Now Available](#)

A **25-day** formal comment period is open through **8 p.m. Eastern, Monday, April 26, 2021** for the following:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

The standard drafting team's considerations of the responses received from the previous comment period are reflected in these drafts of the standards.

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. An unofficial Word version of the comment form is posted on the [project page](#).

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS is **not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

Additional ballots for the standards and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels will be conducted **April 16-26, 2021**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
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404-446-2560 | www.nerc.com

Comment Report

Project Name: 2019-06 Cold Weather | Draft 2 – EOP-011-2, IRO-010-4, TOP-003-5
Comment Period Start Date: 4/2/2021
Comment Period End Date: 4/26/2021
Associated Ballots: 2019-06 Cold Weather EOP-011-2 AB 2 ST
2019-06 Cold Weather IRO-010-4 AB 2 ST
2019-06 Cold Weather TOP-003-5 AB 2 ST

There were 89 sets of responses, including comments from approximately 210 different people from approximately 137 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

- 1. The SDT removed the generator unit-specific training from Requirement R7 and created a new Requirement R8. The new Requirement R8 was created by the SDT to add the GOP to the functional entities responsible for training. Whereas Requirement R7 is narrowly constructed for the GO to be responsible for the cold weather preparedness plan(s), Requirement R8 requires both the GO and GOP to provide the generating unit-specific training to their respective maintenance and operations personnel. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**
- 2. In response to comments from the first posting, the SDT added cold weather data specification requirements for the BA within TOP-003, similar to what is required of the RC and TO. Do you agree with the inclusion of these requirements in the TOP-003 standard? If you do not agree, please provide an alternative to address the comments. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**
- 3. In response to comments, the SDT modified the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. Do you agree with this modification? If you do not agree, please provide an alternative implementation timeframe. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.**
- 4. The SDT has provided draft Implementation Guidance to address some issues identified by industry during the previous comment period. Recognizing that Implementation Guidance is not subject to ballot body approval, do you agree with the SDT proceeding with the development of the Implementation Guidance? If you do not agree, or have additional topics you would like the SDT to consider in the Implementation Guidance, please provide your explanation and suggested language.**
- 5. Please provide any additional comments for the SDT to consider, if desired.**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
Santee Cooper	Chris Wagner	1		Santee Cooper	Rene' Free	Santee Cooper	1,3,5,6	SERC
					Jennifer Richards	Santee Cooper	1,3,5,6	SERC
					Paul Camilletti	Santee Cooper	1,3,5,6	SERC
					LaChelle Brooks	Santee Cooper	1,3,5,6	SERC
MRO	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Andy Crooks	SaskPower Corporation	1	MRO
					Bryan Sherrow	Kansas City Board of Public Utilities	1	MRO
					Bobbi Welch	Omaha Public Power District	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Bobbi Welch	Midcontinent ISO	2	MRO
					Douglas Webb	Kansas City Power & Light	1,3,5,6	MRO

					Fred Meyer	Algonquin Power Co.	1	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					James Williams	Southwest Power Pool, Inc.	2	MRO
					Jamie Monette	Minnesota Power / ALLETE	1	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Sing Tay	Oklahoma Gas & Electric	1,3,5,6	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Troy Brumfield	American Transmission Company	1	MRO
New York Independent System Operator	Gregory Campoli	2		ISO/RTO Standards Review Committee	Gregory Campoli	New York Independent System Operator	2	NPCC
					Helen Lainis	IESO	2	NPCC
					Michael Del Viscio	PJM	2	RF
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	MRO
					Bobbi Welch	Midcontinent ISO, Inc.	2	RF
					Ali Miremadi	CAISO	2	WECC
					Kahtleen Goodman	ISO-NE	2	NPCC
Jennie Wike	Jennie Wike		WECC	LPPC	Jennie Wike	LPPC	1,3,4,5,6	WECC
					John Babik	JEA	5	SERC
					Joe Tarantino	SMUD	1,3,4,5,6	WECC
					Tyson Archie	Platte River Power Authority	5	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric	1	SERC

						Cooperative, Inc.		
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					David Hartman	Arizona Electric Power Cooperative	1	WECC
					Nick Fogleman	Prairie Power Incorporated	1,3	SERC
					Susan Sosbe	Wabash Valley Power Association	3	RF
					Amber Skillern	East Kentucky Power Cooperative	1	SERC
					Ellen Watkins	Sunflower Electric Power Corporation	1	MRO
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3		DTE Energy - DTE Electric	Adrian Raducea	DTE Energy - Detroit Edison Company	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
MRO	Kendra Buesgens	1,2,3,4,5,6	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Christopher Bills	City of Independence Power & Light	4	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO
					Jamie Monette	Allele - Minnesota Power, Inc.	1	MRO
					Jodi Jensen	Western Area Power	1,6	MRO

						Administration - Upper Great Plains East (WAPA)		
					John Chang	Manitoba Hydro	1,3,6	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO
					Matthew Harward	Southwest Power Pool, Inc.	2	MRO
					LaTroy Brumfield	American Transmission Company, LLC	1	MRO
					Bryan Sherrow	Kansas City Board Of Public Utilities	1	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1,3,5	MRO
					Joe DePoorter	Madison Gas and Electric	4	MRO
					David Heins	Omaha Public Power District	1,3,5,6	MRO
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC,Texas RE	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Southern Indiana Gas and Electric Co.	Leslie Hamby	3,5,6	RF	SIGE Project 2019-06	Erin Spence	Southern Indiana Gas and Electric Co.	6	RF

					Larry Rogers	Southern Indiana Gas and Electric Co.	5	RF
					Ryan Abshier	Southern Indiana Gas and Electric Co.	3	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Public Utility District No. 1 of Chelan County	Meaghan Connell	5		CHPD	Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Ginette Lacasse	Public Utility District No. 1 of Chelan County	1	WECC
					Glen Pruitt	Public Utility District No. 1 of Chelan County	6	WECC
					Meaghan Connell	Public Utility District No. 1 Chelan County	5	WECC
Northern California Power Agency	Michael Whitney	3		NCPA	Scott Tomashefsky	Northern California Power Agency	4	WECC
					Marty Hostler	Northern California Power Agency	5,6	WECC

					Marty Hostler	Northern California Power Agency	5,6	WECC
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
					Jim Howell	Southern Company - Southern Company Services, Inc. - Gen	5	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards Committee No Dominion	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Helen Lainis	IESO	2	NPCC
					David Kiguel	Independent	7	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC

Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Shivaz Chopra	New York Power Authority	5	NPCC
Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Cristhian Godoy	Con Ed - Consolidated Edison Co. of New York	6	NPCC
Nurul Abser	NB Power Corporation	1	NPCC
Randy MacDonald	NB Power Corporation	2	NPCC
Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
Vijay Puran	NYSPPS	6	NPCC
ALAN ADAMSON	New York State Reliability Council	10	NPCC
Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC

					Brian Robinson	Utility Services	5	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Jim Grant	NYISO	2	NPCC
					John Pearson	ISONE	2	NPCC
					John Hastings	National Grid USA	1	NPCC
					Michael Jones	National Grid USA	1	NPCC
					Nicolas Turcotte	Hydro-Qu?bec TransEnergie	1	NPCC
					Chantal Mazza	Hydro-Quebec	2	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
Dominion - Dominion Resources, Inc.	Sean Bodkin	6		Dominion	Connie Lowe	Dominion - Dominion Resources, Inc.	3	NA - Not Applicable
					Lou Oberski	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
					Larry Nash	Dominion - Dominion Virginia Power	1	NA - Not Applicable
					Rachel Snead	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma	3	MRO

						Gas and Electric Co.		
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO

1. The SDT removed the generator unit-specific training from Requirement R7 and created a new Requirement R8. The new Requirement R8 was created by the SDT to add the GOP to the functional entities responsible for training. Whereas Requirement R7 is narrowly constructed for the GO to be responsible for the cold weather preparedness plan(s), Requirement R8 requires both the GO and GOP to provide the generating unit-specific training to their respective maintenance and operations personnel. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

John Allen - City Utilities of Springfield, Missouri - 4

Answer No

Document Name

Comment

The requirement does not state a clear measurable reliability objective. Without this clarity, the ERO and industry will likely have various interpretations and it may not meet its intended objective. Additionally, it applies to the GOP but the GOP has no requirement for a preparedness plan. Whose plan is this referencing? If the GOP is supposed to have a plan, then it needs to be a requirement. Otherwise, I offer the following alternative to R8.

Each Generator Owner shall provide training to personnel on their roles and responsibilities for implementing the cold weather preparedness plan(s) developed in R7.

Likes 0

Dislikes 0

Response

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer No

Document Name

Comment

If the SDT believes R8 is justified and should include the GOP, it should also include the requirement to provide training on the specific cold-weather preparedness plan developed pursuant to R7. Seattle remains concerned about changes to this draft of EOP-011 and in particular the language of the subrequirements of R7, and these concerns are discussed in our responses to items 4 and 5, below.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name	
Comment	
BPA supports Reclamation's comments.	
Likes	0
Dislikes	0
Response	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	No
Document Name	
Comment	
<p>Although, Tri-State agrees with separating out the generator unit-specific training requirement under R8, we believe this training requirement would be better placed under PER-006-1. Even though PER-006-1 R1 applies to protective relaying, the purpose of the standard is to ensure that personnel are receiving training on specific topics essential to reliability to perform or support real-time operations of the Bulk Electric System. This applies to the specific training requirement for Cold Weather plans as well. In addition, we would like to see one entity responsible for training, not both. Having both GO or GOP providing training could lead to confusion of responsibility where the GO and GOP do not belong to the same entity.</p>	
Likes	2
Tarantino Joe On Behalf of: Foung Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; City Utilities of Springfield, Missouri, 4, Allen John	
Dislikes	0
Response	
Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6	
Answer	No
Document Name	
Comment	
<p><i>EOP-011-1 is presently applicable to System Operators (TOP, BA, RC). Adding GO/GOP applicability to EOP-011-2 with proposed Requirement 7 does not appear to be a good fit. NIPSCO suggests that creating a new standard may be more appropriate here, similar to what was done with EOP-010-1 GMD Operations. Also for the new training requirements, there appears to be a concern placing these in EOP-011 where they may be difficult to track. Within the PER standards may be a better location, possibly within PER-006. Also, the term "calendar year" should be considered in lieu of "annual".</i></p>	
Likes	2
Tarantino Joe On Behalf of: Foung Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; City Utilities of Springfield, Missouri, 4, Allen John	
Dislikes	0

Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	
Training requirements for the GO/GOP should be placed into the PER-006 standard. There was a concerted effort a few years ago to have all training requirements within one standard so that Registered Entities would know where to look to find all the requirements associated with training.	
Likes 3	Tarantino Joe On Behalf of: Foung Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; City Utilities of Springfield, Missouri, 4, Allen John; Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
Dislikes 0	
Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name LPPC	
Answer	No
Document Name	
Comment	
<p>LPPC is concerned with locating training requirements in a Standard other than the PER suite of standards. While we agree with the inclusion of the Cold Weather requirements in EOP-011, we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe more appropriate to be included in the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.</p> <p>Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.</p>	
Likes 5	Tarantino Joe On Behalf of: Foung Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; Snohomish County PUD No. 1, 3, Chaney Holly; City Utilities of Springfield, Missouri, 4, Allen John; Platte River Power Authority, 5, Archie Tyson; Platte River Power Authority, 3, Kiess Wade
Dislikes 0	
Response	

Joe Tarantino - Joe Tarantino On Behalf of: Foung Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Wei Shao, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; - Joe Tarantino

Answer No

Document Name

Comment

SMUD is concerned with locating training requirements in a Standard other than the PER suite of standards. While we agree with the inclusion of the Cold Weather requirements in EOP-011 we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe it to be more appropriate for Requirement R8 to be moved into the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Likes 3 City Utilities of Springfield, Missouri, 4, Allen John; Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre; Platte River Power Authority, 5, Archie Tyson

Dislikes 0

Response

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer No

Document Name

Comment

CenterPoint Energy Houston Electric, LLC (CEHE) recognizes the urgency to develop and implement the recommendations identified in the 2019 Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) Staff Report. However, CEHE maintains that cold weather preparedness should be considered standard operating procedure and thus preventative measures to avoid an Emergency Operation.

While CEHE supports the development of a requirement for cold weather rating of facilities and associated training for applicable personnel, CEHE encourages the SDT to reconsider the development of a new FAC Standard which would cover Generation and TO/TOP Substation Winterization practices and requirements. The proposed new FAC Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations.

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer No

Document Name

Comment

Southern Indiana Gas & Electric Company (SIGE) recognizes the urgency to develop and implement the recommendations identified in the 2019 Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) Staff Report. However, SIGE maintains that cold weather preparedness should be considered standard operating procedure and thus preventative measures to avoid an Emergency Operation.

While SIGE supports the development of a requirement for cold weather rating of facilities and associated training for applicable personnel, SIGE encourages the SDT to reconsider the development of a new FAC Standard which would cover Generation and TO/TOP Substation Winterization practices and requirements. The proposed new FAC Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations.

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer

No

Document Name

Comment

The “Redline to Last Posted” version of EOP-011-2 does not appear to be a true redline to last posted version. There was no R7, part 7.4 (as reflected in Draft 1) redlined out.

Requirement R7 in Draft 2 replaces the phrase “...shall develop, maintain, and implement...” with “...shall implement and maintain...”. It would seem the Generator Owner should develop and maintain cold weather preparedness plan(s) for its generating unit(s) in consultation with the Generator Operator(s) of the unit(s). The Generator Operator will foreseeably be responsible for implementing some elements of the plan, particularly those that require execution during or nearing Real-time operations. Part of the plan should be to establish those accountabilities. We suggest Requirement R7 be restated as follows:

“R7. Each Generator Owner, in conjunction with its Generator Operator(s), shall develop and maintain one or more cold weather preparedness plans for its generating units. The cold weather preparedness plan(s) shall address the following concerns, as applicable:

7.1. Accountabilities for implementing the plan. *[new].....”*

Then shift the 7.1 through 7.3.2.3 in Draft 2 to 7.2 through 7.4.2.3. Measure M7 would need to be revised to “Each Generator Owner will have evidence that demonstrates its cold weather preparedness plans have been developed and maintained in conjunction with its Generator Operator(s). Each Generator Owner and Generator Operator will have evidence that demonstrates it implemented actions in the cold weather preparedness plans that it is accountable for.”

Requirement R8 starts by stating, “Each Generator Operator or Generator Owner...”. The “or” infers that one or the other must do this. When the GO and GOP are separate entities, how is it to be determined which will be responsible? We recommend changing the “or” to an “and” such that each is responsible for the training of their “personnel responsible for implementing cold weather preparedness plan(s)”. The same comment goes for the wording in section 1.2, Evidence Retention. This goes along with the Technical Rationale for Requirement R8, which states in part, “...The SDT created R8 as applicable to both the Generator Owner **and** the Generator Operator...” and with the question above which states in part,

“... Requirement R8 requires **both the GO and GOP** to provide the generating unit-specific training to their respective...”. Similarly, Measure M8 should start with “Each Generator Operator and Generator Owner...”.

Likes 0

Dislikes 0

Response

Paul Mehlhaff - Sunflower Electric Power Corporation - 1

Answer

No

Document Name

Comment

Sunflower agrees with the comments ACES provided for question 1.

Likes 0

Dislikes 0

Response

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

No

Document Name

Comment

R7 is a significant administrative burden on the portion of the industry that operates in seasonally cold environments. Those facilities are engineered to operate through expected cold weather conditions, and R7 does not appear to improve the reliability those facilities. The cold weather events that the industry has experienced have disproportionately affected entities that rarely see extreme cold. It may make more sense to pursue a regional standard to address these issues.

As I do not support R7, I also see no need for R8 on a continent wide basis.

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

No

Document Name

Comment

We support the comments made by John Allen from City Utilities of Springfield, Missouri: "

The requirement does not state a clear measurable reliability objective. Without this clarity, the ERO and industry will likely have various interpretations and it may not meet its intended objective. Additionally, it applies to the GOP but the GOP has no requirement for a preparedness plan. Whose plan is this referencing? If the GOP is supposed to have a plan, then it needs to be a requirement. Otherwise, I offer the following alternative to R8.

Each Generator Owner shall provide training to personnel on their roles and responsibilities for implementing the cold weather preparedness plan(s) developed in R7. "

Likes 0

Dislikes 0

Response**W. Dwayne Preston - Austin Energy - 3**

Answer

No

Document Name

Comment

Austin Energy is concerned with locating training requirements in a Standard other than the PER suite of standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.

Likes 2

Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre; Austin Energy, 6, Martin Lisa

Dislikes 0

Response**Glen Farmer - Avista - Avista Corporation - 5**

Answer

No

Document Name

Comment

Having a cold weather plan should be enough from a regulatory point. Reaching to far into the business. Its not clear who all should be trained.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer

No

Document Name

Comment

NO. Requiring GO/GOP Market participants to perform activities that non-registered generator market participants do not have to perform, nor pay for, runs afoul with NERC Market Interference Principles., namely: "A reliability standard shall not give any market participant an unfair competitive advantage".

Likes 0

Dislikes 0

Response

Wendy Center - U.S. Bureau of Reclamation - 5

Answer

No

Document Name

Comment

Reclamation disagrees with placement of a training requirement in an Emergency Operations standard. As identified by NERC's Standards Efficiency Review Team in 2019, training requirements should be consolidated into the Personnel Performance, Training and Qualifications (PER) family of standards to not only help prevent an entity from inadvertently overlooking a training requirement but to avoid the churn required to review and revise inefficiently written standards.

Reclamation disagrees with a continent-wide reliability standard to address cold weather preparation. Because different geographic locations require different levels of cold weather preparation, the fact that entities in geographic locations that commonly experience cold weather may already have adequate preparations in place, but are now required to provide extra documentation of these preparations simply to support compliance, is an added administrative burden that does not directly improve reliability and is therefore inappropriate for a continent-wide standard.

Likes 0

Dislikes 0

Response

Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency, 1, 4; - Scott Berry

Answer No

Document Name

Comment

The GOP is not required to have a cold weather preparedness plan as per requirement R7. The two requirements, R7 and R8, need to be aligned. The GOP should be added to requirement R7, especially when considering that the GOP is very likely the party to operate and maintain the generating unit(s) for the GO.

After fixing the applicability and alignment issue, the requirement for training should be moved to the PER standard family, more than likely in the PER-006 standard. If there is an issue with the SAR for addressing this recommendation, the SAR should be corrected to allow for this training requirement to be included in the proper group of standards.

Likes 1

Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre

Dislikes 0

Response

Erin Green - Western Area Power Administration - 1,6

Answer No

Document Name

Comment

WAPA supports the comments submitted by BPA.

Erin Green, WAPA, Segment 6

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer No

Document Name

Comment

AEPC agrees with this revision as applicable to the GO, however we do not agree with inclusion of the GOP in EOP-011. AEPC recommends that the GOP applicability be added as R2 in PER-006. PER-006 is the current standard applicable to the GOP for "Specific Training for Personnel" that we believe meets and fits the intent of this requirement, and furthermore does not add a new/additional Standard for GOP applicability.

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

John Babik - JEA - 5

Answer

No

Document Name

Comment

In support of LPPC comments

Likes 0

Dislikes 0

Response

Joe McClung - JEA - 1

Answer

No

Document Name

Comment

We support LPPC's comments.

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer

No

Document Name

Comment

The requirement for each Generator Operator (GOP) or Generator Owner (GO) to provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) annually conflicts with PER-005 requirements that expect training to be task-based with training requirements related to the difficulty, importance, and frequency of each task. In addition, NERC has modified other standards to remove training requirements from individual standards in favor of placing them within PER standards. The EOP-011-2 requirement ignores that effort, which is unfortunate considering PER-006 deals specifically with GO and GOP training expectations. Finally, proposed training requirements deal with cold weather only. Training for all applicable extreme weather events should be included in the requirement, not just cold weather.

Place the training requirement in a new PER standard or add it to the PER-006 standard.

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer

No

Document Name

Comment

Thank you for the opportunity to review and comment. BC Hydro supports the comments made by CenterPoint Energy Houston Electric, LLC in regards to the placement of these requirements in a new FAC standard. BC Hydro supports Sacramento Municipal Utility District (SMUD)'s comments in regards to placing the training requirements in PER-006-1.

Likes 0

Dislikes 0

Response

Lisa Martin - Austin Energy - 6

Answer

No

Document Name

Comment

I support comments made by W. Dwayne Preston, Austin Energy, Segment 3.

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer No

Document Name

Comment

ACES agrees with this revision as applicable to the GO, however we do not agree with inclusion of the GOP in EOP-011. ACES recommends that the GOP applicability be added as R2 in PER-006. ACES recommends that the GOP applicability be added as R2 in PER-006. PER-006 is the current standard applicable to the GOP for "Specific Training for Personnel" that we believe meets and fits the intent of this requirement, and furthermore does not add a new/additional Standard for GOP applicability.

Likes 0

Dislikes 0

Response

Glenn Pressler - CPS Energy - 3

Answer No

Document Name

Comment

No, CPSE supports concerns of LPPC, SMUD, TVA, and others, including being concerned with locating training requirements in a Standard other than the PER suite of standards. While OK with the inclusion of the Cold Weather requirements in EOP-011, we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe more appropriate to be included in the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.

Training requirements for the GO/GOP should be placed into the PER-006 standard. There was a concerted effort a few years ago to have all training requirements within one standard so that Registered Entities would know where to look to find all the requirements associated with training.

New training requirements should be in PER; concerned with placing new training requirements in EOP-011, PER-006 may be a better location.

There is confusion regarding who (GO or GOP) is required to have the plan, who owns the plan and who must train to who's plan when GO/GOP not same entity, nor required under R7.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

NERC should not create a reliability standard that applies to all regional entities. Since cold weather is geographic specific, NERC should let the regional entities decide how best to implement any cold weather regional standards specific to their geographic area. For example, in California, there are no cold weather issues that other parts of the country are facing.

Also, requiring GO/GOP Market participants to perform activities that non-registered generator market participants do not have to perform, nor pay for, runs afoul with NERC Market Interference Principles., namely: "A reliability standard shall not give any market participant an unfair competitive advantage".

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer No

Document Name

Comment

No, CPSE supports concerns of LPPC, SMUD, TVA, and others, including being concerned with locating training requirements in a Standard other than the PER suite of standards. While OK with the inclusion of the Cold Weather requirements in EOP-011, we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe more appropriate to be included in the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.

Training requirements for the GO/GOP should be placed into the PER-006 standard. There was a concerted effort a few years ago to have all training requirements within one standard so that Registered Entities would know where to look to find all the requirements associated with training.

New training requirements should be in PER; concerned with placing new training requirements in EOP-011, PER-006 may be a better location.

There is confusion regarding who (GO or GOP) is required to have the plan, who owns the plan and who must train to who's plan when GO/GOP not same entity, nor required under R7.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

See Marty Hostler's comments.

Likes 0

Dislikes 0

Response

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

Changes to requirements 1 and 2 single out cold weather conditions from other extreme weather events. This creates additional effort, tracking, and training for Balancing Authorities and Transmission Operators without providing benefit since determining reliability concerns and impacts provide reliability benefit only to the extent conditions, cold weather or otherwise, are beyond those normally or routinely encountered. Similarly, adding requirement 7 for GOs should relate to extreme weather conditions, of which cold weather is one aspect to be considered. Data sharing requirements of R7 appear useful, but should include generator equipment that may be affected by all applicable extreme weather events not just cold weather.

As presently worded, changed requirements cause entities that already deal with ongoing cold weather conditions to produce plans, tracking processes, training, etc. for routine and/or annual events rather than focusing on consequences of extreme

events.

Regarding training, the requirement for each Generator Operator (GOP) or Generator Owner (GO) to provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) annually conflicts with PER-005 requirements that expect training to be task-based with training requirements related to the difficulty, importance, and frequency of each task. In addition, NERC has modified other standards to remove training requirements from individual standards in favor of placing them within PER standards. The EOP-011- 2 requirement ignores that effort, which is unfortunate considering PER-006 deals specifically with GO and GOP training expectations. Finally, proposed training requirements deal

with cold weather only. Training for all applicable extreme weather events should be included in the requirement, not just cold weather.

Likes 0

Dislikes 0

Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name

Comment

The NSRF agrees with splitting out the training requirement in R7 to R8.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Yes

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

Yes

Document Name

Comment

With the 'or' language within Requirement R8 (i.e. Generator Operator or Generator Owner), when the GOP and GO functional registrations are not both retained by one registered entity, the responsibility for who must implement training is not clearly defined and may lead to missed compliance obligations.

Suggest looking at TPL-007-4 R1 language that describes a way for multiple functional registrations to determine responsibilities (i.e. "Each PC in conjunction with its TP shall identify the individual and joint responsibilities..."). Proposed EOP-011 R8 language:

Each Generator Operator in conjunction with its Generator Owner shall identify the organization responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel, as needed, for the implementation of the cold weather preparedness plan(s).

Likes 2

City Utilities of Springfield, Missouri, 4, Allen John; Taunton Municipal Lighting Plant, 1, Tremont Devon

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name

Comment

The NSRF agrees with splitting out the training requirement in R7 to R8.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Yes

Document Name

Comment

R8 does not say whether training is a one-time obligation or must be renewed each year. If annual refresher training is intended the standard should say so.

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Entergy agrees with the recommendation but suggests the inclusion of "Each Generator Operator and/or Generator Owner" to clarify the applicability to both the GO and the GOP. Perhaps additional clarity is needed to suggest entities collaborate when they are not both a GO and GOP.	
Likes	0
Dislikes	0
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes	0
Dislikes	0
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes
Document Name	
Comment	
MPC supports MRO NERC Standards Review Forum comments.	
Likes	0
Dislikes	0
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes

Document Name	
Comment	
Southern Company supports this change to EOP-011.	
Likes 0	
Dislikes 0	
Response	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
NRG Energy agrees with the addition of R8 to train personnel to implement cold-weather preparedness plans. The location of the training requirement in EOP-011 is acceptable, providing a direct link to R7 for content.	
Likes 0	
Dislikes 0	
Response	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	Yes
Document Name	
Comment	
If tasks that are performed by maintenance personnel within a "cold weather plan" are the same as daily/routine tasks, however on specific components, would additional "specific" training be required per this Requirement or would the regular training evidence be sufficient?	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	

Comment

NRG Energy agrees with the addition of R8 to train personnel to implement cold-weather preparedness plans. The location of the training requirement in EOP-011 is acceptable, providing a direct link to R7 for content.

Likes 0

Dislikes 0

Response**Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1****Answer**

Yes

Document Name**Comment**

MEC supports the MRO NSRF comments.

Likes 0

Dislikes 0

Response**Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD****Answer**

Yes

Document Name**Comment**

CHPD agrees with moving the generator unit-specific training from Requirement R7 and placing it in the new Requirement R8. CHPD however believes the use of "or" in the statement "shall provide generating unit-specific training to its maintenance OR operations personnel responsible for implementing cold weather preparedness plan(s)" causes confusion as to what the compliance obligation is if an entity is both registered as a Generator Owner and Generator Operator and implies there is a choice of who is trained.

Likes 0

Dislikes 0

Response**Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF****Answer**

Yes

Document Name	
Comment	
The NAGF agrees with placement of the generator unit-specific training Requirement R8 in the EOP-11 standard.	
Likes 0	
Dislikes 0	
Response	
Joshua Andersen - Salt River Project - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
SRP agrees it should be the GO's responsibility to ensure the facilities are reasonably prepared for expected cold weather for the facility. SRP also agrees that it may be the GO or GOP's that are best situated to be the ones to activate cold weather preparations.	
Likes 0	
Dislikes 0	
Response	
Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer	
Answer	Yes
Document Name	
Comment	
While we agree with the training requirement, the additional change in R7 (also included in IRO-010) specifically 7.3 requires additional discussion and consideration to effectively accomplish the best approach. Agree with the need and pressure to address, however, it is complex and shouldn't be pushed through last minute without due consideration.	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes

Document Name

Comment

Xcel Energy agrees with the new training Requirement and the close proximity to R7. Including this training Requirement in PER-006 may not adequately address the specific nature of the training.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Yes

Document Name

Comment

The California ISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.

With regard to placement of the requirement, i.e. whether in **EOP-011-2: Emergency Preparedness and Operations** or **PER-006-1: Specific Training for (Generator Operator) Personnel**, MISO is neutral.

Enhance the training requirement to clarify accountability and specify a periodicity to ensure awareness and preparedness of generator personnel - MISO believes it is more important to focus on the content of the training requirement as opposed to the placement of the requirement. To that end, we recommend the following changes to clarify accountability and require a periodicity in training as we believe the proposed requirement does not go far enough in these areas:

1. **Clarify Accountability for Performing Training** - As proposed, requirement R8 applies to the Generator Operator (GOP) **or** Generator Owner (GO) but not both (as this would require the use of "**and**"). This leaves the door open to only one of the GO/GOP functions having to provide training to its maintenance **or** operations personnel but not both (as this would require the use of "**and**"). Typically, maintenance and operations are separate functions where maintenance is the function of the GO and operations the function of the GOP. Therefore, to ensure applicability to each function, MISO

recommends the requirement be modified to be inclusive of all functions whereby use of the word “its” limits applicability to employees of the relevant function.

2. Require a Periodicity for Preparedness Plan Training – As proposed, requirement R8 only requires the GO or GOP to perform training on preparedness plans one time. Over time, this could result in generator personnel falling out of familiarity and not being apprised of revisions to preparedness plans. To remedy this, MISO recommends the training be performed annually similar to the inspection and maintenance of freeze protection measures as required under Part 7.2.

Recommendation: Revise the language to read as follows

R8. Each Generator Operator **and** Generator Owner shall provide **annual** generating unit-specific training to its maintenance **and** operations personnel responsible for implementing cold weather preparedness plan(s). [Violation Risk Factor: Medium] [Time Horizon: Longterm Planning, Operations Planning]

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer

Yes

Document Name

Comment

Ameren generally agrees with the SDT's recommendation but has some comments. Since changes are being made to both standards, an error in one standard could lead to an error in another standard, which doesn't make much sense and seems repetitive.

Ameren would like to know what is going to be done with all the data that needs to be collected. If the data is not being used for a specified purpose why does it need to be collected?

Ameren would like to know how the potential conflict would be resolved if the data is requested but the GOP isn't required to send it and denies the request?

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Yes

Document Name

Comment

As much as we would like to see all training related requirements in the PER standard family, we understand why the Standards Drafting Team chose its placement in EOP-011 R8.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion

Answer Yes

Document Name

Comment

With the 'or' language within Requirement R8 (i.e. Generator Operator or Generator Owner), when the GOP and GO functional registrations are not both retained by one of the registered entities, the responsibility for who must implement training is not clearly defined and may lead to missed compliance obligations.

Suggest looking at TPL-007-4 R1 language that describes a way for multiple functional registrations to determine responsibilities (i.e. "Each PC in conjunction with its TP shall identify the individual and joint responsibilities..."). Proposed EOP-011 R8 language:

Each Generator Operator in conjunction with its Generator Owner shall identify the organization responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel, as needed, for the implementation of the cold weather preparedness plan(s).

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer Yes

Document Name

Comment

EI supports the proposed changes to EOP-011-2 R7.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer Yes

Document Name

Comment

The Taunton Municipal Lighting Plant supports the comments submitted by Utility Services, Inc., which state:

With the 'or' language within Requirement R8 (i.e. Generator Operator or Generator Owner), when the GOP and GO functional registrations are not both retained by one registered entity, the responsibility for who must implement training is not clearly defined and may lead to missed compliance obligations.

Suggest looking at TPL-007-4 R1 language that describes a way for multiple functional registrations to determine responsibilities (i.e. "Each PC in conjunction with its TP shall identify the individual and joint responsibilities..."). Proposed EOP-011 R8 language:

Each Generator Operator in conjunction with its Generator Owner shall identify the organization responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel, as needed, for the implementation of the cold weather preparedness plan(s).

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer Yes

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) would like to suggest the following requirement language.

R8. Each Generator Operator or Generator Owner shall provide generating unit-specific training on its cold weather preparedness plan(s) developed in Requirement R7 to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s).

Likes 0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer Yes

Document Name

Comment

R7 only requires a GO to develop and implement a cold weather preparedness plan. For consistency, R7 should be revised to include GOP OR R8 should be revised to only exclude GOP.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Yes

Document Name

Comment

Exelon supports the proposed changes to EOP-011-2 R7 and the creation of R8.

Submitted on behalf of Exelon, Segments 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Yes

Document Name

Comment

OPG supports NPCC RSC's comments.

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

ERCOT agrees with the addition of GOPs to the functional entities responsible for training.

With respect to the current draft revisions to EOP-011-2, Requirement R7, Part 7.3, ERCOT suggests switching “operating limitations” in Part 7.3.1 with “capability and availability” in Part 7.3.1.1. because “capability and availability” are determined by operating limitations, fuel supply, environmental constraints, etc. ERCOT views “operating limitations” as one of the factors that determines “capability and availability,” not the other way around.

Likes 0

Dislikes 0

Response

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - Laura Nelson

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

LaTroy Brumfield - American Transmission Company, LLC - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Answer	Yes
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Document Name	
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Comment	
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Likes	0
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Dislikes	0
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Response	
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Thomas Foltz - AEP - 5

Answer	Yes
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Document Name	
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Comment	
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Likes	0
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Dislikes	0
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Response	
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Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer	Yes
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Document Name	
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Comment	
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Likes	0
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Dislikes	0
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Response	
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Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer	Yes
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Document Name	
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Comment	
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Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Daniela Atanasovski - APS - Arizona Public Service Co. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Krabe - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jamison Cawley - Nebraska Public Power District - 1

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE agrees with adding a specific training requirement. Texas RE recommends adding a more specific part to document the roles and responsibilities of the personnel. Additionally, there should be a periodicity for personnel to receive training on the cold weather preparedness plan as well as a provision that training be conducted prior to the winter season. Texas RE notes that the 2019 FERC and NERC Staff Report on the South</p>	

Central United States Cold Weather BES Event of January 18, 2018 (“2019 Cold Weather Event Report”) mentions in several places the importance of training and states training should be done annually (page 135).

Additionally, Texas RE is concerned that Requirement R8 requires training for the *GOP or GO* for its maintenance *or* operations personnel. As the requirement is written, an entity can choose to train the *GOP or GO* but is not explicitly required to train both. In Texas RE’s experience, *GOP* personnel should understand the *GOs’* cold weather preparedness plans and a requirement specifying training for appropriate personnel for both functions is appropriate.

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	

2. In response to comments from the first posting, the SDT added cold weather data specification requirements for the BA within TOP-003, similar to what is required of the RC and TO. Do you agree with the inclusion of these requirements in the TOP-003 standard? If you do not agree, please provide an alternative to address the comments. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

IRO-010-4 Comments

The added sub-requirement singles out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Reliability Coordinators with additional information.

TOP-003-5 Comments

The added sub-requirements single out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Balancing Authorities and Transmission Operators with additional information.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

See Marty Hostler's comments.

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer	No
Document Name	
Comment	
No, CPSE does not agree and in general supports the responses by NCPA, Seattle, and Reclamation recommends.	
Likes 0	
Dislikes 0	
Response	
Dennis Sismaet - Northern California Power Agency - 6	
Answer	No
Document Name	
Comment	
NERC Standards already allow registered entities to ask for this data if they need it.	
Requiring entities to request specific data they may not need, use, or have any awareness training on how to use adds expense and administrative burden to all GO/GOPs and has no value.	
Likes 0	
Dislikes 0	
Response	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
CPSE does not agree and in general and supports the responses by NCPA, Seattle, and Reclamation.	
Likes 0	
Dislikes 0	
Response	

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer No

Document Name

Comment

Adding the BA is acceptable, but the added sub-requirements single out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Balancing Authorities and Transmission Operators with additional information.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer No

Document Name

Comment

Ameren would like to know what is going to do be done with the data collected? Why does this need to be added to TOP, and what are they expecting them to do with that info? Why would we want to have the info if it doesn't serve a purpose? Why should TO collect it if RC already has it?

Likes 0

Dislikes 0

Response

Wendy Center - U.S. Bureau of Reclamation - 5

Answer No

Document Name

Comment

Reclamation recommends TOP-003 R1.3 be revised to include the word "status" to align with TOP-003 R2.3.

Important questions have arisen in the industry about what the BA will do with the referenced data. Reclamation is concerned about the required collection of a substantial amount of data coupled with the unidentified purpose for which it is to be used. For example, there have already been modeling standards that resulted in delivery of data that the recipient was not using in any way, creating a regulatory burden for all involved parties with no reliability benefit. Reclamation recommends all requirements should directly support or improve BES reliability and the reliability purpose of all requirements should be readily ascertainable. Requirements should not be imposed that have no identifiable reliability benefit.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer No

Document Name

Comment

NO. Requiring entities to request specific data they may not need, use, or have any awareness training on how to use adds expense and administrative burden to all GO/GOPs and has no value.

Likes 0

Dislikes 0

Response

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

Having a cold weather plan should be enough from a regulatory point. Reaching to far into the business.

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion

Answer No

Document Name

Comment

Dominion Energy fully supports addressing cold weather planning and communication but has concerns over some of the recent additions to the proposed changes to the Standards. Adding requirements requiring the GO/GOP to put fuel supply in its cold weather preparedness plan is not within the scope of the project. The SAR is very specific that communication regarding fuel constraints in operations during cold weather is in scope, but the suggested language places requirements far beyond communication on the GO/GOP. A number of fuel supplies for various types of generators are real-time, for example gas, wind and solar. Asking a GO/GOP to include fuel supply in its cold weather plan is extremely problematic as the fuel supply is dependent on either nature, which changes with little warning, or on a third party supplier (i.e. gas) that does not necessarily communicate or even know

about supply issues to generators on the planning horizon. The SAR for this project is about communicating capabilities and expanding the scope to items such as fuel supply should not occur. Dominion Energy recommends striking the language in the existing standard addressing BA operational plans accounting for fuel supply from the proposed additions.

Likes 0

Dislikes 0

Response

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

No

Document Name

Comment

If the request specified under TOP-003 includes generators, why is that different than any other cold weather effects on any BES equipment? Reasonably, if the BA requests data on generator cold weather performance, should the TOP request data on SF6 breaker tank heater performance? It is assumed that a generator owner or operator has some idea as to whether the facility will operate in extreme cold and that awareness is reflected in its availability or schedule to operate.

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer

No

Document Name

Comment

Entergy does not agree with this inclusion. As was expressed in the first round of comments, Entergy also does not agree with the inclusion of cold weather-specific generation data as proposed for R1.3. This applies to the proposed R2.3 as well. It should be left up to the individual BA to request additional data as system conditions dictate.

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer

No

Document Name	
Comment	
The requirements in TOP-003 R1.3 should be removed. Can the SDT explain how a TOP should be using this data? A TOP does not need this data to perform its OPA. We agree that these should be included in TOP-003 R2.3 for a BA.	
Likes 0	
Dislikes 0	
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	No
Document Name	
Comment	
Duke Energy supports the following NAGF comment: “The NAGF requests clarification regarding Requirement R7.3.1.2 “fuel supply and inventory concerns”. The data to be provided is not so much concerns but has to be actionable/usable for planning models and real-time operations. Generating facility NG pipeline pressure trip limit, % of contract firm gas supply, number of run hrs available on alternate/backup fuel, river flow with current/anticipated ice conditions, and available battery storage MW/Hrs are far more usefull than “concerns”.”	
Likes 0	
Dislikes 0	
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	No
Document Name	
Comment	
Seattle understands the desire the create a continental standard but remains concerned about the “one-size-fits-all” nature of the data specification language of TOP-003 R1.3 and R2.3, and suggests the following change (in CAPS): R1.3 (and R2.3) Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include, AS APPROPRIATE: The reasoning for this change is to allow reasonable flexibility to accommodate the relevant information while avoiding administrative burden and trivia for the wide variety of generation units across North America. The vast majority of units are incapable of fuel switching, for instance, including nuclear, hydroelectric, wind, and solar, among others. Seasonal irrigation-based hydroelectric units that do not operate during winter months (due to lack of	

irrigation flow) represent another category about which detailed cold weather information may be un-useful to anyone and burdensome to acquire and maintain.

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

ERCOT agrees with the inclusion of these requirements in TOP-003.

Similar to its comments in connection with EOP-011-2, with respect to TOP-003, Requirement R1, Part 1.3.1, ERCOT suggests switching “operating limitations” in Part 1.3.1 with “capability and availability” in Part 1.3.1.1. because “capability and availability” are determined by operating limitations, fuel supply, environmental constraints, etc. ERCOT views “operating limitations” as one of the factors that determines “capability and availability,” not the other way around.

With respect to TOP-003, Requirement R1, Part 1.3.2, and Requirement R2, Part 2.3.2, ERCOT suggests revising this to require the data specification to include a generating unit minimum operating temperature that is based on design specification, historical performance, or other engineering analysis.

The language would read as follows:

1.3.2 Generating unit minimum operating temperature based on:

1.3.2.1 design specification; or

1.3.2.2 historical performance; or

1.3.2.3 engineering analysis.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer	Yes
Document Name	
Comment	
OPG supports NPCC RSC's comments.	
Likes 0	
Dislikes 0	
Response	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the changes made to TOP-003.	
Submitted on behalf of Exelon, Segments 1, 3, 5, 6	
Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
ACES agrees with the inclusion of these revisions in TOP-003, but does have concerns over the term "local forecasted cold weather," which has not been defined and could become a burden for any entity over a large geographical area and/or within multiple Regional Entity, BA, TOP, and/or RC zones. Additionally, the revisions do not address the difference in "cold weather" unit parameters for units that are online versus offline, and how that data would be captured and implemented.	
Likes 0	
Dislikes 0	
Response	

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer Yes

Document Name

Comment

The Taunton Municipal Lighting Plant supports the comments submitted by Utility Services, Inc., which state:

With the 'generator data specification' Requirement language in IRO-010 and TOP-003 the same for the RC/BA/TOP; which data specification the GO should follow and incorporate into their cold weather preparedness plan may be unclear.

Suggest modifying EOP-011 R7.3 to clarify which data specification should be utilized:

"7.3. Generating unit(s) cold weather data (from the RC, BA, or TOP data specification as needed), to include:"

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer Yes

Document Name

Comment

EI supports the changes made to TOP-003 aligning the data requirements for local forecasted cold weather for TOs and BAs.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion

Answer Yes

Document Name

Comment

With the 'generator data specification' Requirement language in IRO-010 and TOP-003 the same for the RC/BA/TOP; which data specification the GO should follow and incorporate into their cold weather preparedness plan may be unclear.

Suggest modifying EOP-011 R7.3 to clarify which data specification should be utilized:

7.3. Generating unit(s) cold weather data (from the RC, BA, or TOP data specification, as needed), to include:....

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Yes

Document Name

Comment

We agree with the inclusion of the cold weather data specification requirements for the BA in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.

Process improvement opportunity regarding the placement of cold weather data requirements - MISO believes it is appropriate to include the day-ahead, current day and real-time aspects of the cold weather data requirements in IRO-010 and TOP-003; i.e. IRO-010-4, Parts 1.3.1.1 (operating capability and availability) and 1.3.1.2 (fuel supply and inventory concerns).

Recommendation: The balance of proposed cold weather data requirements; e.g. fuel switching capabilities, environmental constraints, minimum design temperature, minimum historical operating temperature and engineering analysis to determine minimum cold weather temperature, are more static in nature and may better reside in another NERC standard.

Likes 0

Dislikes 0

Response

Jamison Cawley - Nebraska Public Power District - 1

Answer Yes

Document Name

Comment

The requirement for information related to cold weather is appropriate for the BA and RC data specifications, but not appropriate that the TOP should have these same requirements. Suggest removing R1.3. from the proposed TOP-003 requirements.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer Yes

Document Name

Comment

The California ISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer Yes

Document Name

Comment

Xcel Energy agrees with the inclusion of the requirements in TOP-003 and feels they align with IRO-010 and EOP-011. However, we do suggest modifications to R1.3 and R2 to add clarity to who is supposed to notify who.

Likes 0

Dislikes 0

Response

Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer

Answer Yes

Document Name

Comment

Evergy endorses the EEI comments submitted in this comment period.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer Yes

Document Name

Comment

AEPC agrees with the inclusion of these revisions in TOP-003, but does have concerns over the term “local forecasted cold weather,” which has not been defined and could become a burden for any entity over a large geographical area and/or within multiple Regional Entity, BA, TOP, and/or RC zones. Additionally, the revisions do not address the difference in “cold weather” unit parameters for units that are online versus offline, and how that data would be captured and implemented.

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

SRP agrees tha cold weather data requests from the TO and BA are best situated in the TOP-003 Standard. SRP sees that the existing standard provides the mechanism for those entities to gather the data without being expressing required to do so. Adding the requirement that GOs implement and maintain specific cold weather plans with specific requirements adds a burden to the GO and GOP that may not have reliability impacts. Sufficient

unit capabilities should already be gathered with the existing data request in TOP-003, if not then it may be a shortcoming with the entities making the request.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Yes

Document Name

Comment

The NAGF agrees with the inclusion of the cold weather data specification requirements for the BA in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

Yes

Document Name

Comment

MEC supports the MRO NSRF comments.

Likes 0

Dislikes 0

Response

Paul Mehlhaff - Sunflower Electric Power Corporation - 1

Answer

Yes

Document Name

Comment

Sunflower agrees with the comments ACES provided for question 2.

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer

Yes

Document Name

Comment

No additional comments

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

Southern Company supports this change to TOP-003.

Likes 0

Dislikes 0

Response

Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman

Answer

Yes

Document Name

Comment

MPC supports MRO NERC Standards Review Forum comments.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer Yes

Document Name

Comment

The inclusion of the requirements for the BA in TOP-003 aligns with the recommendations made in the 2019 FERC and NERC Staff Report and with the purpose of this Project 2019-06.

Likes 0

Dislikes 0

Response

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer Yes

Document Name

Comment

The inclusion of the requirements for the BA in TOP-003 aligns with the recommendations made in the 2019 FERC and NERC Staff Report and with the purpose of this Project 2019-06.

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

Note: Question correction. Should read," BA within TOP-003, similar to what is required of the RC and TOP." Not the TO.

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer Yes

Document Name

Comment

With the 'generator data specification' Requirement language in IRO-010 and TOP-003 the same for the RC/BA/TOP; which data specification the GO should follow and incorporate into their cold weather preparedness plan may be unclear.

Suggest modifying EOP-011 R7.3 to clarify which data specification should be utilized:

7.3. Generating unit(s) cold weather data (from the RC, BA, or TOP data specification as needed), to include:....

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer Yes

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

Note: Question correction. Should read," BA within TOP-003, similar to what is required of the RC and TOP." Not the TO.

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Babik - JEA - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Dan Roethemeyer - Vistra Energy - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Erin Green - Western Area Power Administration - 1,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Jun Hua - Austin Energy - 4****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**W. Dwayne Preston - Austin Energy - 3****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Daniela Atanasovski - APS - Arizona Public Service Co. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Martin Sidor - NRG - NRG Energy, Inc. - 6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donna Wood - Tri-State G and T Association, Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

LaTroy Brumfield - American Transmission Company, LLC - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - Laura Nelson

Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
John Allen - City Utilities of Springfield, Missouri - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan	
Answer	Yes
Document Name	
Comment	
Likes	0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

Capital Power has no comment on this revision

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer

Document Name

Comment

While BC Hydro agrees that the data specification requirements should be included for the BA, the specific data specification items should be improved as per our comments in Question 5.

Likes 0

Dislikes 0

Response

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer

Document Name

Comment

Yes, No Comment

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE inquires as to whether the SDT considered updating the definitions of Real-time Assessment (RTA) and Operations Planning Analysis (OPA). The language “during local forecasted cold weather” in proposed TOP-003-5 Requirement Part 1.3 could be read to indicate this only applies to Real-time data, but this data is also needed in the operations horizon to prepare and plan for cold weather events. Texas RE notes that during Project 2007-06.2 Phase 2 of System Protection Coordination, these definitions were updated when IRO-010 and TOP-003 were updated.

Likes 0

Dislikes 0

Response

3. In response to comments, the SDT modified the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. Do you agree with this modification? If you do not agree, please provide an alternative implementation timeframe. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Laura Nelson - Laura Nelson

Answer No

Document Name

Comment

Idaho Power requests a phased implementation over 36 months, with 1/3 of BES facilities being implemented the first year; 1/3 the second year, and 1/3 the third year to reach full implementation. With the requirement of additional engineering analysis for each of our BES units, the implementation will need to vary from unit-to-unit. Although Idaho Power feels it has adequate cold weather protections in place, this information is not known to us at this time but would be available after the engineering analysis. Appropriate time needs allotted to budget for, and procure, the engineering analysis, as well as implement any recommendations from the engineering analysis.

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Suggest the proposed 18 month Implementation Plan not include immediate training roll-out compliance, but instead allow training initiation and completion that would be staggered at least one full year after the Implementation Plans effective date.

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation's comments.

Likes 0

Dislikes 0

Response

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Answer

No

Document Name

Comment

12 months seems to be a sufficient amount of time to become compliant given that most of these new requirements have been recommended "best practices" for many years. Also note that the 18 month implementation plan would result in completion after the second winter following approval (2022-2023). A 12 month implementation would only miss implementation for one winter (2021-2022).

Likes 0

Dislikes 0

Response

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

No

Document Name

Comment

EOP-011 R7 contains data specification details that must be included in the cold weather preparedness plan, but without the direction from the BA/RC/TOP on what format this data should be documented, the GO's plan may be inconsistent with the expectations. Suggest IRO-010 and TOP-003 Implementation Plan be 12 months, and EOP-011 Implementation Plan be 18 months to allow GO time to incorporate the data specifications as requested into their plan.

Likes 0

Dislikes 0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

No

Document Name

Comment

Comments: 18 months is an improvement however considering the complexity of the project a 24 month implementation plan may be more appropriate

Likes 0

Dislikes 0

Response**Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC**

Answer

No

Document Name

Comment

All requirements go into effect at the same time under the proposed Implementation Plan.

If the data specifications from the TOP / BA or RC required in TOP-003-5 and IRO-010-4, respectively, aren't received until late into the proposed implementation period, it may not give the GO or GOP receiving the specifications enough time to meet or properly implement their new data requirements. As such, IRO-010-4 Requirement R3 and TOP-003-5 Requirement R5 (while unchanged) should have a later implementation period for the GO and GOP for these versions, to allow the entities to process and respond to the new data specifications from their BA, RC, TOP. The recommendation for this separate implementation period is to be at least 12-months.

Likes 0

Dislikes 0

Response**Anthony Jablonski - ReliabilityFirst - 10**

Answer

No

Document Name

Comment

As the requirements proposed do not require Registered Entities to install any specific freeze protections, rather, they require the entity to have a plan and provide training to its personnel, 18 months seems to be excessive. ReliabilityFirst believes 12 months may be more appropriate. Depending on the timing of the effective date, an 18 month period could potentially have Registered Entities going through two cold weather seasons without being required to perform the steps outlined within the requirements. ReliabilityFirst believes these requirements need to be in place to address cold weather readiness as soon as possible.

Likes 0

Dislikes 0

Response

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer No

Document Name

Comment

Eighteen months (18) seems to be a short time to make any required facility changes. Given capital budgeting processes, engineering, and construction timelines, and the inevitable re-prioritizing over the next 18 months, this time frame seems short. Three to four years is probably more feasible.

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion

Answer No

Document Name

Comment

Given the date is unknown for when the standard/requirements will go effective, each generating unit may not have enough historical data to 1) determine capability based on historical operating performance or 2) perform an adequate engineering analysis. Dominion Energy recommends a 24 month implementation period to allow for at least two cold weather seasons to pass and allow generators to gain the necessary information to ensure proper engineering analysis.

Likes 0

Dislikes 0

Response

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

two years minimum. or 1/2 first year (Thermal Plants) and 1/2 second year (Hydro plants).

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC

Answer No

Document Name

Comment

ISO-NE believes that 12-months would be a sufficient amount of time to become compliant given that most of these new requirements have been recommended “best practices” for many years. Also note that the 18-month implementation plan would result in completion after the second winter following approval (2022-2023). A 12-month implementation would only miss implementation for one winter (2021-2022).

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer No

Document Name

Comment

NO. See prior NCPA comments. Two to three years is need.

Likes 0

Dislikes 0

Response

Wendy Center - U.S. Bureau of Reclamation - 5

Answer No

Document Name

Comment

Reclamation recommends a 24-month implementation plan to allow entities appropriate time to comply with new requirements. Reclamation is concerned that the hasty implementation of requirements that are not carefully thought out will not support or improve BES reliability and in fact could divert entities from performing tasks that do support or improve BES reliability. This is especially important as proposed requirements become more complex. The cold weather modifications project began with the concepts of having a plan and training staff on it periodically. Now, data communications among entities, an annual inspection and maintenance program, and *unit-specific* training have been added to the proposed requirements. Even a 24-month implementation plan would not allow sufficient time for entities with a large number of facilities, generators, and/or personnel to successfully implement all these new mandates.

Likes 0

Dislikes 0

Response

Jamison Cawley - Nebraska Public Power District - 1

Answer No

Document Name

Comment

Recommend a 24 month implementation period.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer No

Document Name

Comment

MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.

12 months is a sufficient amount of time to implement the proposed changes – The original Implementation Plan proposed a 12 month implementation timeline. Following industry comments, the implementation timeline was extended to 18 months based on feedback provided by the GO/GOP community. This fails to demonstrate a sense of urgency in resolving cold weather issues to ensure reliable operations.

In addition, a 6-month delay in implementing these standards, would likely place the effective date (assuming FERC adopts them expeditiously) as April 1, 2023 (just after the winter season); whereas a 12-month implementation would place the effective date as October 1, 2022 (just prior to the winter season), leaving the industry to operate through another entire cold weather season without the benefit of these provisions.

As many of these practices have been recommended by NERC for years, some dating back to the February 2011 Southwest Cold Weather Event, the proposed requirements are largely expense items; i.e. the development of preparedness plans, delivery of training to personnel and the provision of cold weather data, the amount of effort should be minimal. There is no requirement for generators to make capital investments; i.e. install freeze protection measures, which would justify the need for more time to implement.

As a Reliability Coordinator (RC) and Balancing Authority (BA), MISO is prepared to receive cold weather data from the GO and GOP as described under EOP-011, Part 7.3 within a 12 month timeframe. It is important to for reliable grid operations and situational awareness that this information be provided to reliability entities. This will enforce the current provisions that MISO has under its existing business practices for generators to provide this information.

Recommendation: Revise the Implementation Plan to reinstate a 12-month implementation period

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer No

Document Name

Comment

BC Hydro appreciates this opportunity to comment. However, without additional changes to the EOP-011 language, BC Hydro's assessment at this time is that the EOP-011 standard implementation would take 24 months from adoption due to initial assessment of equipment specifications. Please see our comments to Question 5.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion

Answer No

Document Name

Comment

EOP-011 R7 contains data specification details that must be included in the cold weather preparedness plan, but without the direction from the BA/RC/TOP on what format this data should be documented, the GO's plan may be inconsistent with the expectations. Suggest IRO-010 and TOP-003 Implementation Plan be 12 months, and EOP-011 Implementation Plan is 18 months to allow GO time to incorporate the data specifications as requested into their plan.

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer No

Document Name

Comment

The Taunton Municipal Lighting Plant supports the comments submitted by Utility Services, Inc., which state:

EOP-011 R7 contains data specification details that must be included in the cold weather preparedness plan, but without the direction from the BA/RC/TOP on what format this data should be documented, the GO's plan may be inconsistent with the expectations. Suggest IRO-010 and TOP-003 Implementation Plan be 12 months, and EOP-011 Implementation Plan be 18 months to allow GO time to incorporate the data specifications as requested into their plan.

Likes 0

Dislikes 0

Response

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer No

Document Name

Comment

12 months seems to be a sufficient amount of time to become compliant given that most of these new requirements have been recommended "best practices" for many years. Also note that the 18 month implementation plan would result in completion after the second winter following approval (2022-2023). A 12 month implementation would only miss implementation for one winter (2021-2022).

*** CAISO did not join this group response. ***

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer No

Document Name

Comment

OPG supports NPCC RSC's comments.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer	No
Document Name	
Comment	
See prior NCPA comments. Two to three years is needed.	
Likes 0	
Dislikes 0	
Response	
Michael Whitney - Northern California Power Agency - 3, Group Name NCPA	
Answer	No
Document Name	
Comment	
See Marty Hostler's comments.	
Likes 0	
Dislikes 0	
Response	
John Allen - City Utilities of Springfield, Missouri - 4	
Answer	Yes
Document Name	
Comment	
It's unclear why 18 months is needed if we only have administrative obligations to create a plan and identify design parameters based on what we already have implemented.	
Likes 0	
Dislikes 0	
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	

Comment

18 Months will be acceptable depending on the Reliability Coordinator data specifications.

Likes 0

Dislikes 0

Response**Thomas Foltz - AEP - 5**

Answer

Yes

Document Name

Comment

AEP appreciates the changes made in extending the Implementation Plan to 18 months, and thanks the SDT for their consideration of our suggestion.

Likes 0

Dislikes 0

Response**Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE**

Answer

Yes

Document Name

Comment

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, CEHE would prefer a minimum of 24 months to implement the changes, but understands the desire for an accelerated timeline.

Likes 0

Dislikes 0

Response**Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06**

Answer

Yes

Document Name

Comment

Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, SIGE would prefer a minimum of 24 months to implement the changes, but understands the desire for an accelerated timeline.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

Southern Company supports this change to the Implementation Plan.

Likes 0

Dislikes 0

Response

Martin Sidor - NRG - NRG Energy, Inc. - 6

Answer

Yes

Document Name

Comment

NRG agrees with the 18 months. It will take much time to develop a plan, implement the plan and needed changes, then develop and train personnel on the site-specific plan for each site. The time issue becomes magnified in larger fleets with diverse generators in varying locations.

Likes 0

Dislikes 0

Response

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer

Yes

Document Name

Comment

No,

12 months seems to be a sufficient amount of time to become compliant given that most of these new requirements have been recommended “best practices” for many years. Also note that the 18 month implementation plan would result in completion after the second winter following approval (2022-2023). A 12 month implementation would only miss implementation for one winter (2021-2022).

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer

Yes

Document Name

Comment

NRG agrees with the 18 months. It will take much time to develop a plan, implement the plan and needed changes, then develop and train personnel on the site-specific plan for each site. The time issue becomes magnified in larger fleets with diverse generators in varying locations.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

Yes

Document Name

Comment

MEC supports the MRO NSRF comments.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Yes

Document Name

Comment

The NAGF agrees with modifying the Implementation Plan to allow for eighteen (18) months to become compliant following the effective date.

Likes 0

Dislikes 0

Response

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

SRP agrees that entities that do not already have the Cold weather plans and the associated training can benefit from the 18 month implementation period. SRP also feels that any immediate unit capabilities can be required through the existing TOP-003 and IRO-010 data requests.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer

Yes

Document Name

Comment

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer

Answer Yes

Document Name

Comment

Evergy endorses the EEI comments submitted in this comment period.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer Yes

Document Name

Comment

The 18 month implementation period provides sufficient time to become compliant.

Likes 0

Dislikes 0

Response

David Jendras - Ameren - Ameren Services - 3

Answer Yes

Document Name

Comment

Ameren agrees with the change to extend the implementation plan to 18 months

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Yes

Document Name

Comment

We agree with modifying the Implementation Plan to allow for eighteen (18) months to become compliant following the effective date and appreciate the extra time.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

EI supports the SDT's proposal to modify the Implementation Plan to 18 months.

Likes 0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer

Yes

Document Name

Comment

In regards to EOP-011, Capital Power agrees with 18 month timeline for the development of the plan; however, implementation and training may take longer. Capital Power recommends a phased in implementation plan – Phase 1) Development of Plan (18 monts) 2) Implementation & Training (24 months).

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Yes

Document Name

Comment

PJM understands additional resources and commitments may be required to develop and distribute revised data specifications and develop and implement cold weather preparedness plans. Nevertheless, PJM continues to urge the immediate implementation of the revised standards with a subsequent twelve-month period before auditable compliance is required. If the SDT rejects this request and requires implementation of the revised standard 18 months after the adoption of the standard, PJM requests that NERC clearly state in its submission of the standard to the NERC Board and FERC that NERC strongly encourages Responsible Entities to voluntarily implement the revised standard as soon as possible to enhance winter readiness at the earliest date practicable within the Responsible Entity's region.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Yes

Document Name

Comment

Exelon supports an 18 month Implementation Plan.

Submitted on behalf of Exelon, Segments 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1**Answer** Yes**Document Name****Comment**

Yes, CPS Energy agrees.

Likes 0

Dislikes 0

Response**Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2****Answer** Yes**Document Name****Comment**

ERCOT agrees with this modification given the system changes that may be necessary in order to implement the revised Reliability Standards.

Likes 0

Dislikes 0

Response**Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

Response**Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC****Answer** Yes**Document Name**

Comment

Likes 0

Dislikes 0

Response

LaTroy Brumfield - American Transmission Company, LLC - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donna Wood - Tri-State G and T Association, Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jamie Monette - Allele - Minnesota Power, Inc. - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Daniela Atanasovski - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Paul Mehlhaff - Sunflower Electric Power Corporation - 1	
Answer	Yes
Document Name	
Comment	

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

W. Dwayne Preston - Austin Energy - 3

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Teresa Krabe - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Babik - JEA - 5

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
George Brown - Acciona Energy North America - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Glenn Pressler - CPS Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE understands that the principal rationale for extending the implementation timeline was to provide additional timelines for generators to perform engineering studies of their resources. Texas RE does not agree modification to the implementation timeline is needed and instead believes the original 12-month timeline provides a sufficient window for generators to perform initial assessments based on design or minimum historical operating experience. Generators will then have the option to update that analysis with engineering information, but the interim operational information will enhance cold weather reliability during the period in which more detailed information is being developed.

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response	
Romel Aquino - Edison International - Southern California Edison Company - 3	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	

4. The SDT has provided draft Implementation Guidance to address some issues identified by industry during the previous comment period. Recognizing that Implementation Guidance is not subject to ballot body approval, do you agree with the SDT proceeding with the development of the Implementation Guidance? If you do not agree, or have additional topics you would like the SDT to consider in the Implementation Guidance, please provide your explanation and suggested language.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

See Marty Hostler's comments.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

Conforming to/with Implementation guidance is not considered during audits.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer No

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) does not believe additional guidance is necessary.

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer No

Document Name

Comment

If approved, entities will be held to requirements. Implementation Guidance is not binding on auditors when they review evidence for compliance. Requirements should be modified to address issues identified by industry during the previous comment period.

Likes 0

Dislikes 0

Response

Jamison Cawley - Nebraska Public Power District - 1

Answer No

Document Name

Comment

The information included in the Implementation Guidance should be included in the Standard, to ensure its consideration during compliance monitoring activities. For example, Requirement R7 includes vague requirements (freeze protection measures) that are open to interpretation. The clarification provided by the Implementation Guidance is helpful, but since it is not part of the Standard it may be disregarded. Request the information be included in the Standard rather than an additional document.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer No

Document Name

Comment

Conforming to/with Implementation guidance is not considered during audits.

Likes 0

Dislikes 0

Response

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

Need more time.

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer No

Document Name

Comment

ReliabilityFirst supports providing guidance to the Registered Entities and developing Implementation Guidance. However, if the guidance is only intended to provide additional explanation and context of the requirements, ReliabilityFirst believes the SDT should rather focus on clarifying the actual Requirements, Measures etc. while the standard is still draft form. Requirements, Measures, etc. should be written to remove any ambiguity and should be written in a clear and concise manner. If the guidance is purely explaining examples on how a Registered Entity may go about meeting the requirements, this is potentially something for the SDT to consider.

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer No

Document Name

Comment

As a general rule, Implementation Guidance is a good thing. However, it doesn't override or provide enforceable requirements. As such, having the recommendation for 5 years of historical operating temperatures in the guidance document doesn't prevent an auditor from expecting (requiring) the history to go back to initial commercial operation. As such, this limitation must be included in EOP-011 Requirement 7.3.2.2 and not in a non-

enforceable guidance document. It must also be included in IRO-010 Requirement 1.3.2.2 and TOP-003 Requirements 1.3.2.2 and 2.3.2.2 to keep RCs, BAs, and TOPs from requiring something more than 5 years.

Likes 0

Dislikes 0

Response

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

ERCOT supports the development of Implementation Guidance. ERCOT suggests information concerning how minimum operating temperature information would be utilized in connection with Operational Planning Analysis and Real-time Assessment be included in the Implementation Guidance.

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer

Yes

Document Name

Comment

Yes, CPS Energy agrees.

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Yes

Document Name

Comment

OPG supports NPCC RSC's comments.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer Yes

Document Name

Comment

Exelon support EEI's comment:

- Among the areas where expanded guidance would provide greater clarity is the intent of Requirement R7, subpart 7.3.

Exelon support NAGF's comments:

- The Implementation Guidance document should reference existing cold weather best practice documents available from NERC and industry.

Submitted on behalf of Exelon, Segments 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer Yes

Document Name

Comment

PJM requests the SDT consider including the following in the development of the Implementation Guidance:

1. Specific guidance for the Generator Owner to provide the host Regional Entity/RC/TOP upon request or on a periodic basis (annually, seasonally or some other periodicity) with the Generator Owner's cold weather preparedness plans and associated data that the Generator Owner uses to ensure the freeze protection measures are designed to be consistent with the geography and meteorology for the location of the unit. The requirement to have Generator Owners provide cold weather preparedness plans to the RC/TOP allows the RC/TOP to have increased visibility into the plans of the Generator Owners and to incorporate Generator Owner's cold weather preparedness plans into the RC's/TOP's operational assessments.
2. A specific requirement that a Generator Owner's document supporting source data as assurance that the preparedness plans are based on equipment limitations, historical performance, and other relevant data to ensure the effectiveness of the plans. To the extent that weather forecasts or historical weather information other than those prepared by NOAA are relied upon, the Generator Owners should be required to provide an explanation in the supporting materials explaining why such an alternative forecast or historic data was utilized.

3. A provision that authorizes periodic spot checks outside audit cycles conducted by the host Regional Entity and results coordinated with the host BA/TOP/RC.

4. A provision that clearly states that the Generator Owner cold weather preparedness plans be based on unit size, type, and fuel sources as appropriate.

5. Provisions that ensure there are standard requirements and increased transparency in each Generator Owner's cold weather preparedness plans that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer

Yes

Document Name

Comment

The IRC/SRC recommends the SDT considers the following in the development of the of additional guidance in the Implementation Guidance document:

The IRC/SRC recommends the Generator Owner's cold weather preparedness plans to be based on unit size, type, and fuel sources as appropriate.

The IRC/SRC recommends the Generator Owner document supporting data as assurance that the preparedness plans are based on equipment limitations, historical performance and other relevant data to ensure the effectiveness of the plans.

The IRC/SRC recommends the Implementation Guidance ensures that there are basic requirements and more transparency that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer

Yes

Document Name

Comment

Capital Power appreciates the flexibility in allowing entities to define cold weather. However, this flexibility may introduce the potential for subjectivity during an audit or guided self-certification. Capital Power would like to see additional guidance regarding a risk based approach to compliance with this standard which may include differences in defining and preparing for cold weather vs. extreme cold weather. In many instances it is within an entities standard operating procedure to operate in 'cold weather' and it is only extreme weather or abnormal weather (cold or hot) that may require an entity to make different / additional preparations. Regulating conditions that are within an entities standard operating procedure and present little risk to the grid is inconsistent with the principals of NERC's Risk Based Compliance Monitoring and Enforcement Plan.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

EI supports plans to develop implementation guidance. Among the areas where expanded guidance would provide greater clarity is the intent of Requirement R7, subpart 7.3.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion

Answer

Yes

Document Name

Comment

Requesting that the Guidance document contains examples of freeze protection measures that are existing.

Please consider adding EOP-011-2 Implementation Guidance for Requirement R7.3 and its subparts involving Generating unit(s) cold weather data, in regard to cold weather preparedness plan(s). For example, does the plan simply involve the communication of data to the Reliability Coordinator, Transmission Operator, and Balancing Authority, or does it involve more than a plan to communicate the data that is required by IRO-010-4 and TOP-003-5? Please consider explaining why it is necessary to have the cold weather data within the cold weather preparedness plan(s). The reason for the data in the cold weather preparedness plan(s) could be subject to different interpretations.

Likes 0

Dislikes 0

Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
DTEE supports the comments made by the NAGF.	
Likes	0
Dislikes	0
Response	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren generally agrees with the SDT's course of action, but we think the development of the Implementation Guidance is being rushed through an aggressive schedule.	
Likes	0
Dislikes	0
Response	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	
MISO would like to acknowledge the Standard Drafting Team (SDT) for seeking to incorporate its recommendation in part; i.e. to establish a national reference with geographic locational emphasis that can be used as a standard for consistency of application across the NERC footprint. Page 1 of the Implementation Guidance for Reliability Standard EOP-011-2 includes a suggestion for Generator Owners (GOs) to: <i>“utilize an additional resource to develop their definition of cold weather, such as one or more commonly used industry resources (e.g. the National Weather Service Climate Predictions Center maps sponsored by the National Oceanic and Atmospheric Administration which depicts average annual extreme minimum temperatures within the United States);”</i> however, stops short of dictating any specific definition for cold weather.	

Likewise, the proposed standard, **EOP-011-2**, stops short of requiring GOs to use a national reference in establishing the level of winterization measures required to enable its facility to operate through extreme temperatures as recommended by MISO in its comments submitted on March 12, 2021.

Lack of a “cold weather” definition means we may not see much of a reliability benefit – In the absence of a “cold weather” definition, each individual GO/GOP is left to define “cold weather” for themselves. As the recommendation contained in the **Implementation Guidance for Reliability Standard EOP-011-2** is merely a suggestion, it does not compel the GO/GOP to use the National Weather Service Climate Predictions Center maps as a reference. This could result in a wide variation of generator interpretations and compliance applications across the footprint with no means for NERC to enforce a minimum application of performance.

Recommendation: MISO reiterates its recommendation for NERC to establish a national reference with geographic locational emphasis that can be used as a standard for consistency of application across the NERC footprint.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Yes

Document Name

Comment

The California ISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes 0

Dislikes 0

Response

Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer

Answer

Yes

Document Name

Comment

If Requirement 7.3 is not addressed as requested / suggested above, I recommend the SDT take this up with Implementation Guidance.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer Yes

Document Name

Comment

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

SRP agrees that these guidance documents assist the industry in understanding the intent of the drafting team. However, as noted in the questions these guidance documents are not auditable or resources for entities to base compliance plans on.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer Yes

Document Name

Comment

The NAGF supports the development of Implementation Guidance to provide example approaches for achieving compliance with EOP-011-2. The NAGF provides the following comments for consideration:

- The Implementation Guidance document should reference existing cold weather best practice documents available from NERC and industry.
- The draft Implementation Guidance document as written is very basic and should incorporate additional clarification for the items listed under Question #5.

Likes 0

Dislikes 0

Response

Wendy Center - U.S. Bureau of Reclamation - 5

Answer Yes

Document Name

Comment

Reclamation supports the development of implementation guidance; however, the problem with the proposed cold weather modifications is the universal application of a compliance burden to solve a problem in a limited geographic area that is limited to certain types of generation facilities. Reclamation observes the lack of specificity in the proposed implementation guidance does little to guide the implementation of the new requirements. Lack of solid guidance almost certainly guarantees conflict between entities and auditors based on varying interpretations.

The implementation guidance states that Generator Owners will determine their own definition of cold weather and identify any associated protection measures. By avoiding prescriptive requirements to address a very specific problem, the result is requirements that are simply administrative in nature and that do not significantly improve reliability. Reclamation observes that this approach is not dissimilar from the current industry approach, which purportedly led to the recent cold weather reliability problems; i.e., that market factors “could” encourage entities in warm climates to proactively prepare for cold weather but the reality that those entities were not adequately prepared.

Reclamation recommends entities that are already adequately protected against cold weather do not need a reliability standard to require cold weather protections and entities that are not adequately protected against cold weather need clear, definitive requirements to meet NERC and FERC’s objectives of electric reliability during extreme cold weather. This is appropriately achieved by a regional reliability standard or by excluding certain geographic locations and/or certain types of generators. The fact that an entity can write its cold weather preparedness plan to be as little or as much detailed as it wants gives little support to genuinely improving reliability.

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer Yes

Document Name

Comment

MEC supports the MRO NSRF comments.

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC

Answer Yes

Document Name

Comment

ISO-NE recommends the SDT considers the following in the development of the of additional guidance in the Implementation Guidance document:

ISO-NE recommends the Generator Owner's cold weather preparedness plans to be based on unit size, type, and fuel sources as appropriate.

ISO-NE recommends the Generator Owner document supporting data as assurance that the preparedness plans are based on equipment limitations, historical performance and other relevant data to ensure the effectiveness of the plans.

ISO-NE recommends the Implementation Guidance ensures that there are basic requirements and more transparency that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer Yes

Document Name

Comment

The IRC/SRC recommends the SDT considers the following in the development of the of additional guidance in the Implementation Guidance document:

The ISO-NE recommends the Generator Owner's cold weather preparedness plans to be based on unit size, type, and fuel sources as appropriate.

The ISO-NE recommends the Generator Owner document supporting data as assurance that the preparedness plans are based on equipment limitations, historical performance and other relevant data to ensure the effectiveness of the plans.

The ISO-NE recommends the Implementation Guidance ensures that there are basic requirements and more transparency that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer Yes

Document Name

Comment

Implementation guidance for a new requiriement is always helpful.

Likes 0

Dislikes 0

Response

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Southern Company supports the drafting of Implementation Guidance.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer	Yes
Document Name	
Comment	
<p>We agree that GOs should not have to retrofit existing generation units to meet cold weather criteria different from those for which plants were designed, but the statement, "Requirement R7 does not requires a Generator Owner to install any specific freeze protections measures on their generating unit(s)," appears to invite those building new facilities to ignore the subject and report for EOP-011 a freeze protection design temperature of 33 F. New units should be designed for at least the lowest historical ambient air temperature for their locations, plus a substantial wind speed.</p> <p>NERC should explain that the preparedness plans cited in R7 and R8 pertain solely to pre-winter equipment preparations, and do not address non-equipment issues (e.g. checking inventories of food, cots and blankets for operators, hiring a snowplowing contractor) and actions taken during winter storms (e.g. criteria for calling-out extra personnel, expanded operator's rounds, turning-on heaters at various temperature trigger-points, cold-weather lay-up practices following shutdown).</p> <p>NERC should explain that the preparedness plan of R7 and R8 is to address all wintertime equipment protection measures, not just those related to the freezing of water, despite use of the term, "freeze protection measures," in R7.1 and R7.2. Alternatively, replace, "freeze protection," in the standard with, "winterization," or, "cold weather."</p> <p>The Implementation Guidance document should provide recommended best practices for key winter storm survival issues supplemental to those addressed in the requirements of EOP-011, such as keeping CTG inlet air filters from becoming blocked by snow.</p> <p>The Implementation Guidance document should educate readers as to why freeze prevention measures often fail to function as designed, in particular the fact that the IEEE-515 formula for piping represents an insulation-encapsulated system suspended in midair. Substantial additional heating is needed in places for heat lost through supports and clamps, and for bare surfaces on valves. Again recommended best practices should be discussed.</p>	
Likes	0
Dislikes	0
Response	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	Yes
Document Name	
Comment	
<p>OKGE agrees with the creation of an Implementation Guidance. However, we suggest adding clarification on R8 regarding the periodicity of training required. Currently, the language is not clear and it is open to interpretation during an audit as to how often training is required.</p> <p>Also, we are not certain if the proposed Implementation Guidance (IG) will be approved as part of the whole package when the project receives approval from the industry. Our understanding is that Implementation Guidance follows a separate process, different from the standard development process. So, we want to emphasize that it is important for the IG to be endorsed by the ERO prior to the effective date of the three standards so that registered entities are able to use it to adequately plan and implement by the effective date.</p>	
Likes	0
Dislikes	0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer Yes

Document Name

Comment

Comments: *Guidance likely to be usefull*

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer Yes

Document Name

Comment

The Implementation Guidance is helpful. The analysis to determine the “minimum historical operating temperature” still includes the 5 years of operational data which was removed from the standard. It also requires you to use the most recent extreme cold weather event even if that was 10 years ago. For Registered Entities in the South cold weather is rare and there may not be data available from the Registered Entity for the most recent cold weather event.

Likes 0

Dislikes 0

Response

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer Yes

Document Name

Comment

Seattle appreciates the efforts of the SDT to develop implementation guidance for EOP-011. However, we find the guidance provided to contradict itself. EOP-011 Implementation Guidance for R7 indicates “but the requirement does not dictate any specific definition for cold weather” whereas that provided for R8 states “The cold weather preparedness plan must contain, however, information on freeze protection measures currently in place...” By connecting freeze protection with cold weather in the guidance for R8, the SDT directly implies that freezing conditions must be included in any definition of cold weather. This directly contradicts the R7 guidance.

Seattle is concerned about this contradiction because we remain confused by the expectations of new EOP-011 for generation units located in naturally cold locations, designed for cold conditions, and with long histories of successful operation in winter. Some of our hydroelectric units are located high in mountains and have operated in all winter conditions over more than 100 years. The guidance for R7 directs that we would be able to define “cold weather” as “abnormally cold weather” and focus our preparation plans on such conditions. The guidance of R8, however, directs that we include all existing freeze protection measures in such plans, which implies that cold weather plans should accommodate all conditions below freezing.

Seattle finds this contradictory thinking to pervade all aspects of Project 2019-06 and asks that the SDT resolve in its mind which is meant: that entities may define cold weather for themselves and develop appropriate preparedness plans, or that cold weather is defined as “below freezing” and entities must plan for and document how they address freezing conditions and below. Seattle strongly prefers the former interpretation.

Seattle also asks that the guidance clarify the flexibility in definitions and plans envisioned by the SDT. For example, is an entity is permitted to develop different definitions for cold weather for different units located in different areas with different cold weather conditions, or is each entity is expected to have a common definition for cold weather and a common preparedness plan. Is a summer-only unit, such as a hydroelectric unit powered by irrigation flows that does not operate during winter, required to document and train on a comprehensive cold weather operating plan?

Likes	1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
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Dislikes	0	
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Response

John Allen - City Utilities of Springfield, Missouri - 4

Answer	Yes
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Document Name	
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Comment

I fully support the SDT drafting Implementation Guidance to describe one or more ways to implement this standard. If it moves forward, then it will need more detail.

Likes	0	
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Dislikes	0	
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Response

Glenn Pressler - CPS Energy - 3

Answer	Yes
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Document Name	
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Comment

Likes	0	
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Dislikes	0	
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Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Babik - JEA - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - Lower Colorado River Authority - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Krabe - Lower Colorado River Authority - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jun Hua - Austin Energy - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

W. Dwayne Preston - Austin Energy - 3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Paul Mehlhaff - Sunflower Electric Power Corporation - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Daniela Atanasovski - APS - Arizona Public Service Co. - 1

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Donna Wood - Tri-State G and T Association, Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**LaTroy Brumfield - American Transmission Company, LLC - 1****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response

Laura Nelson - Laura Nelson

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer

Document Name

Comment

BC Hydro supports the comments of Seattle City Light.

Likes 0

Dislikes 0

Response

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes	0	
Dislikes	0	
Response		
Rachel Coyne - Texas Reliability Entity, Inc. - 10		
Answer		
Document Name		
Comment		
<p>Texas RE understands the purpose of implementation guidance is to include “examples or approaches to illustrate how registered entities could comply with a standard.” (Compliance Guidance Policy, page 3). This implementation guidance does not include any specific examples or approaches for complying with proposed EOP-011 Requirements R7 and R8. In general, it is preferable for the requirement language to set clear compliance expectations as is noted on page 5 of the Compliance Guidance Policy: “Compliance expectations should be made as clear as possible through the standards development process which should minimize the need for guidance after final ballot approval of a standard.”</p>		
Likes	1	OGE Energy - Oklahoma Gas and Electric Co., 6, Tay Sing
Dislikes	0	
Response		

5. Please provide any additional comments for the SDT to consider, if desired.

John Allen - City Utilities of Springfield, Missouri - 4

Answer

Document Name

Comment

Overall, I believe the new requirements are not results-based and instead mostly administrative without a clear measurable reliability objective. This makes it unclear if any of the new requirements will actually benefit reliability. However, I will vote affirmative to move this project forward so the SDT can meet their mandate to the NERC BOT.

Likes 0

Dislikes 0

Response

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Document Name

Comment

Seattle appreciates the efforts of the SDT to address the many comments of industry while accommodating the mandates of FERC and NERC surrounding this project, especially in light of the recent cold weather event in the Texas area. It's a challenging effort.

Seattle does not believe that all changes have improved the proposed Standards. In particular, Seattle asks that the language of EOP-011 R1.2.6.2 be restored, such that the term "and other" remains to modify "extreme weather conditions." As currently written, R1.2.6.1 and R1.2.6.2 taken together imply that "cold weather" is an extreme weather condition. Which may be true in Texas and many southern states, but is manifestly not true in northern parts of North America such as Minnesota or New York or Washington or Canada. Although restoring the modifier "and other" to R1.2.6.2 does not fully clarify what is meant by "cold weather," it does suggest that the type of cold weather of concern for EOP-011 (and by extension IRO-010 and TOP-003) is the "extreme" variety, i.e., not those conditions that occur annually but rather those that occur once every 5 or 10 or 20 years, perhaps.

Seattle furthermore asks, as in our prior comments, that the SDT better clarify the intent regarding "cold weather conditions" for Project 2019-06 by replacing everywhere in EOP-011, IRO-010, and TOP-003 the term "cold weather" with "abnormally cold weather." This change would make clear the intent and reach of these revised and new requirements, resolve confusion about how to apply these changes to the majority of North American generation units, and minimize purely administrative, trivial activities having no reliability benefit.

Seattle's comments for item 4, above, also discuss clarification of what is meant by "cold weather," in this case as exposed by a contradiction in the draft implementation guidance for EOP-011 R7 and R8. Clearing up the contradiction here would help clarify what is intended in the proposed changes to EOP-011 R1, R7, and R8, and by extension IRO-010 and TOP-003.

Thank you for your consideration.

Likes 0

Dislikes 0

Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	
Document Name	
Comment	
<p>IRO-010-5, R1 Sub requirement numbering correction.</p> <p>1.3.2. Generating unit(s):</p> <p>2.3.2.1. minimum design temperature; or</p> <p>2.3.2.2. minimum historical operating temperature; or</p> <p>2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.</p> <p>These should be 1.3.2.1, 1.3.2.2 and 1.3.2.3 respectively.</p>	
Likes	0
Dislikes	0
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	
Document Name	
Comment	
<p>Regarding the Transmission Operator data specification requirements within TOP-003-5 R1.3:</p> <p>1. For TOP-003-5 R1.3, suggest removal of the phrase “generating unit-specific design specification or minimum historical performance during cold weather” because this information is only valuable if the facility has a single cold weather design specification.</p> <p>Regarding the Reliability Coordinator data specification requirements within IRO-010-4 R1.3:</p> <p>1. The proposed change is made redundant by the proposed change in TOP-003 and existing coordination required between the RC, BA, and TOP in IRO-008-2 R2. Since the BAs and TOPs will be required to include cold weather considerations as part of their data specifications and into their Operational Planning Analyses, the RC will have to consider the potential cold weather impacts of the generators that have been accounted for in the Operating Plans of the respective BAs and TOPs. Suggest removal of R1.3 Reliability Coordinator data specification requirements.</p>	

Additionally, Duke Energy supports the following NAGF comments:

“The NAGF provides the following comments for consideration:

EOP-011-2:

1. The NAGF requests clarifying the term “extreme weather conditions” referenced in R1.2.6.2 and R2.2.9.2. For example, does the term address non-temperature related cold weather conditions (heavy snowfall, ice storms, freezing fog, etc.) and/or warm extreme weather conditions (tornados, hail storms, derecho, etc.)? Clarifying this term will help to confirm the conditions that the TOP and BA operating plans need to address as well as the data to be provided by the GO/GOPs.
2. The NAGF requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) cold weather data, to include”. We suggest that NERC specify that this requirement pertains only to known, measurable effects on capacity, start-up capability or operational reliability.
3. The NAGF requests clarification regarding the terms “capability and availability” referenced in R7.3.1.1.
4. The NAGF requests clarification regarding Requirement R7.3.1.2 “fuel supply and inventory concerns”. The data to be provided is not so much concerns but has to be actionable/usable for planning models and real-time operations. Generating facility NG pipeline pressure trip limit, % of contract firm gas supply, number of run hrs available on alternate/backup fuel, river flow with current/anticipated ice conditions, and available battery storage MW/Hrs are far more usefull than “concerns”.
5. The NAGF requests clarification regarding Requirement R7.3.2.2 “minimum historical operating temperature” with respect to wind speed and wet-bulb temperatures affecting the generator unit operation. Generator facilities may be able to operate at -1 deg F with little or no wind but could suffer a freeze-related forced outage at -1 deg F with sustained 20 mph winds (-23 deg F wind chill).”

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

BPA believes this should be a regional standard. Many areas in the country experience extreme weather regularly and are prepared to maintain reliability during extreme weather. In those areas, the standard would be additional compliance burden without a reliability benefit.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes 0

Dislikes 0

Response

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Answer

Document Name

Comment

EOP-11

ISO-NE believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. **The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).**

Recommended language:

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors

such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze

protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

1) Within R7, add a new sub-bullet under "the cold weather preparedness plan shall include, at a minimum," which states the following "an evaluation of the resource's ability to operate the lowest recorded temperature in the previous 40 years at the generator's physical location (or nearest location where temperature was recorded for which data exists)".

2) In addition, "Extreme Weather" (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator's physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.

3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing "cold weather" (not "extreme") conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.

4) R7 As part of 7.3.1 recommend including a requirement that the GO's cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)

5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since "fuel switching capabilities" is not a **limitation** (7.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an "environmental constraint".

7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to "new" maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as "Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:"

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since "fuel switching capabilities" is not a **limitation** (1.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer

Document Name

Comment

EOP-011:

The meaning of the phrase "provision to determine" in R's 1.2.6 and 2.2.9 is unclear due to the subjectivity of the word "provision." As currently proposed, the obligation might be inconsistently interpreted among entities. AEP believes the original text "Reliability impacts of..." is far superior, and recommends the SDT refrain from changing it and retaining the original text as part of R's 1.2.6 and 2.2.9.

Newly proposed R 1.2.6 and R 2.2.9 state that the Transmission Operator's and Balancing Authority's Operating Plans must include "provisions to determine" the reliability impacts of cold weather conditions and extreme weather conditions, however nothing is stated which requires action taken as a result of any determinations which might require them. The team might wish to consider whether or not a potential reliability gap exists as a result of not requiring that action be taken, for those determinations made which would require that action(s) be taken.

AEP believes that R 7.3.1 could be improved by making it clear that operations limitations in cold weather are dependent on the unit's operating status. AEP suggests that R 7.3.1 be revised to state "7.3.1. Generating unit(s) operating limitations in cold weather (including units in-service and units out-of-service) to include..."

The terms "capability" and "availability" as proposed for 7.3.1.1 are of potential concern, as these terms are commercial in nature. The meaning of these terms within the commercial environment are obviously quite different than the meanings intended for this standard. As a result, the usage of these terms within this standard may result in confusion and would not provide the desired results. Rather than these terms, AEP recommends instead using "impact assessment" or perhaps "likelihood of availability."

EOP-011 Violation Severity Levels for R8:

AEP is concerned by the reference to "personnel at a single generating unit" within the proposed Violation Severity Levels (VSLs). Personnel are typically assigned to a generating facility as opposed to a single generating unit. Therefore, AEP recommends changing "single generating unit" to "generating facility" across all VSLs.

In addition, AEP recommends SDT to consider the followings modifications to VSLs:

- 1) Revise the phrase of "5% or less of its total applicable personnel" in the Lower VSL to state "5% of its total applicable personnel".
- 2) The VSL table should be revised to allow for a grace period to accommodate the scenarios where the identified applicable personnel may be returning from extended period of leave (e.g., sick, military service, etc.)
- 3) Add qualifiers to GO and GOP in each of the VSLs as in "The Generator Owner or Generator Operator that implemented the cold weather preparedness plan" failed to provide ...

EOP-011 Technical Rationale for R8:

AEP also recommends SDT to consider adding the following languages to the associated Technical Rationale to R8: "It is recommended that Generator Owner's and/or Generator Operator's cold weather preparedness plans address operator and maintenance training for all personnel specific to job functions outlined in these plans with roles including step-up employees and temporary roles that perform weatherization functions at the plant. In addition, it is recommended that Generator Owner and Generator Operator include the specific scenarios, in their training program, such as training requirements for maintenance and operations regional personnel who may travel to more than one site."

TOP-003:

As similarly stated for EOP-011, the terms "capability" and "availability" as proposed for 1.3.1.1 are of potential concern, as these terms are commercial in nature. The meaning of these terms within the commercial environment are obviously quite different than the meanings intended for this standard. As a result, the usage of these terms within this standard may result in confusion and would not provide the desired results. Rather than these terms, AEP recommends instead using "impact assessment" or perhaps "likelihood of availability."

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Document Name

Comment

IRO-010-5, R1 Sub requirement numbering correction.

1.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

These should be 1.3.2.1, 1.3.2.2 and 1.3.2.3 respectively.

Likes 0

Dislikes 0

Response

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer

Document Name

Comment

R7.3.1.1 refers to cold weather data related to generating unit operating limitations in cold weather to include capability and availability. Specifically, what items should be addressed to meet this requirement?

The Technical Reference, under Rationale for Requirement R7 says, "The Generator Owner plans and procedures should include, but are not limited to, necessary and appropriate freeze protection measures, periodic maintenance and inspection of such measures, accurate ambient temperature design specifications, and generating unit limitations and expected performance in cold weather." What is meant by accurate ambient temperature design specifications? The design ambient temperature was determined as part of the original design. Records for the design temperatures may not be available for older units. The basis of the design temperatures may also not be available. Recalculating these numbers based on current methods does not change the as built condition.

What is meant by Generating unit limitations and expected performance in cold weather? Does this mean that the Facility needs to be rated with respect to an expected net or gross output based on a range of temperatures?

The Technical Reference, under Rationale for Requirement R7, Paragraph 2 says, "The standard requires the cold weather preparedness plan to contain a generating-units operating limitations during cold weather and other availability and capability information, and an annual requirement to inspect with associated maintenance of the generating unit(s).

What does "other availability and capability information specifically refer to?

What does "an annual requirement to inspect with associated maintenance of the generating unit(s)" mean and specifically refer to?

If deficiencies are documented on the inspection, is there a time requirement related to correcting the deficiencies?

The Technical Reference, under Rationale for Requirement R7, Paragraph 3 says, "Additionally, Requirement R7 requires the Generator Owner to develop accurate data to include the generating unit(s)' minimum design temperature (i.e., faceplate capability) during cold weather."

What is an "accurate units design temperature"

When a temperature is cited on a combustion turbine nameplate along with a KW rating, it is for the purposes of determining if the turbine is performing as designed. The KW cited on a turbine nameplate is a mathematical conversion of horsepower. It does not necessarily refer to the unit's electrical generating capability.

Likes 0

Dislikes 0

Response

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

Document Name

Comment

The efforts of the SDT are appreciated

Likes 0

Dislikes 0

Response

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer

Document Name

Comment

1) Technical Rationale and Justification for EOP-011-2:

On page 1, under Rationale for Requirement R8, there are some spelling errors (highlighted in bold):

See the Glossary terms for Generator Operator and Generator Owner.

1. **Generator Operator** – “The entity that operates generating **Favility**(ies) and performs the functions of supplying energy and **Interconnected Opeartions Services**.”

2. **Geneartor Onwer** – “Entity that owns and maintains generating Facility(ies).”

2) OKGE recommends the SDT to expand the Technical Rationale to clarify the intent of the modifications to R7 and its subrequirements. Expanded technical rationale and Implementation Guidance will help prevent misinterpretations by both registered entities and auditors.

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE appreciates the development of a specific standard for training. As stated in response to Question 1, Texas RE notes that Requirement R8 does not include a periodicity for training as was recommended in the 2019 Cold Weather Report.

Proposed EOP-011-2 Requirement Parts 1.2.6 and Part 2.2.9 require the TOP and BA to provide provisions to determine the reliability impacts of cold weather conditions in their Emergency Operating Plans. Texas RE recommends the TOP and BA also be required to include actions to address those reliability impacts in their Emergency Operating Plans.

Likes 0

Dislikes 0

Response

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer

Document Name

Comment

EOP-011-2:

R1 and R2: CEHE appreciates the removal of the term "any other" from R1 and R2 of the first draft. However, the inclusion of the term "provisions to determine reliability impacts" seems vague. CEHE requests clarification from the SDT on the intent of this requirement, and would suggest using "methods" instead of "provisions".

R8: The use of "or" between "maintenance" and "operations" in R8 leaves uncertainty as to which Registered Function is responsible for training which personnel. Both the Implementation Guidance and Technical Rationale use "and".

IRO-010-4:

R1.3.2: The R1.3.2 sub-requirements are miss-numbered. In the latest draft, the R1.3.2 sub-requirement numbers are currently 2.3.2.1, 2.3.2.2, and 2.3.2.3.

TOP-003-5:

CEHE questions the data specification requirements included in TOP-003 for all registered TOP functions. For those TOPs that do not own generation and only perform Real-time monitoring, the proposed data specification requirements would be an excessive administrative burden and only provide information for situational awareness. If the SDT determines that a TOP which performs Operational Planning Analyses and/or owns generation in its Transmission Operator Area has a reliability need for the data proposed in this modification, there should be a separate requirement with appropriate functional entity applicability. CEHE suggests the following modification:

R1. Each Transmission Operator that performs Real-time monitoring only shall maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

1.1. A list of data and information needed by the Transmission Operator to support its Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

1.3. A periodicity for providing data.

1.4. The deadline by which the respondent is to provide the indicated data.

R2. Each Transmission Operator that performs Operational Planning Analyses, Real-time monitoring, and Real-time Assessments shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

2.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time Assessments, and Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

2.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

2.4. A periodicity for providing data.

2.5. The deadline by which the respondent is to provide the indicated data.

R3. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

- 3.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.
 - 3.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.
 - 3.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:
 - 3.3.1. Operating limitations based on:
 - 3.3.1.1. capability and availability;
 - 3.3.1.2. fuel supply and inventory concerns;
 - 3.3.1.3. fuel switching capabilities; and
 - 3.3.1.4. environmental constraints.
 - 3.3.2. Generating unit(s):
 - 3.3.2.1. minimum design temperature; or
 - 3.3.2.2. minimum historical operating temperature; or
 - 3.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.
 - 3.4. A periodicity for providing data.
 - 3.5. The deadline by which the respondent is to provide the indicated data.
- R4. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Realtime monitoring, and Real-time Assessments. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]
- R5. Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]
- R6. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]
- 6.1. A mutually agreeable format
 - 6.2. A mutually agreeable process for resolving data conflicts
 - 6.3. A mutually agreeable security protocol

Likes 0

Dislikes 0

Response

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer

Document Name**Comment****EOP-011-2:**

- R1 and R2: SIGE appreciates the removal of the term “any other” from R1 and R2 of the first draft. However, the inclusion of the term “provisions to determine reliability impacts” seems vague. SIGE requests clarification from the SDT on the intent of this requirement, and would suggest using “methods” instead of “provisions”.
- R8: The use of "or" between "maintenance" and "operations" in R8 leaves uncertainty as to which Registered Function is responsible for training which personnel. Both the Implementation Guidance and Technical Rationale use "and".

IRO-010-4:

R1.3.2: The R1.3.2 sub-requirements are miss-numbered. In the latest draft, the R1.3.2 sub-requirement numbers are currently 2.3.2.1, 2.3.2.2, and 2.3.2.3.

TOP-003-5:

SIGE questions the data specification requirements included in TOP-003 for all registered TOP functions. For those TOPs that do not own generation and only perform Real-time monitoring, the proposed data specification requirements would be an excessive administrative burden and only provide information for situational awareness. If the SDT determines that a TOP which performs Operational Planning Analyses and/or owns generation in its Transmission Operator Area has a reliability need for the data proposed in this modification, there should be a separate requirement with appropriate functional entity applicability. SIGE suggests the following modification:

R1. Each Transmission Operator that performs Real-time monitoring only shall maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

1.1. A list of data and information needed by the Transmission Operator to support its Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

1.3. A periodicity for providing data.

1.4. The deadline by which the respondent is to provide the indicated data.

R2. Each Transmission Operator that performs Operational Planning Analyses, Real-time monitoring, and Real-time Assessments shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

2.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time Assessments, and Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

2.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

2.4. A periodicity for providing data.

2.5. The deadline by which the respondent is to provide the indicated data.

R3. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

3.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

3.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.

3.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

3.3.1. Operating limitations based on:

3.3.1.1. capability and availability;

3.3.1.2. fuel supply and inventory concerns;

3.3.1.3. fuel switching capabilities; and

3.3.1.4. environmental constraints.

3.3.2. Generating unit(s):

3.3.2.1. minimum design temperature; or

3.3.2.2. minimum historical operating temperature; or

3.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

3.4. A periodicity for providing data.

3.5. The deadline by which the respondent is to provide the indicated data.

R4. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Realtime monitoring, and Real-time Assessments. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

R5. Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

R6. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]

6.1. A mutually agreeable format

6.2. A mutually agreeable process for resolving data conflicts

6.3. A mutually agreeable security protocol

Likes 0

Dislikes 0

Response

Donald Lock - Talen Generation, LLC - 5

Answer

Document Name

Comment

1. R1.2 of EOP-011-2 should be supplemented with, "Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components." This verbiage is drawn from NERC's Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4, https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf). Blacking-out natural gas compression stations, thereby forcing NG-fueled generation units offline, was reportedly a major contributor to the Texas blackouts of February, 2021.

2. R1 should be supplemented by a plan to put additional generation units online in advance of severe winter storms, since keeping them running through extreme weather is far more reliable than waiting until temperatures have bottomed-out before requesting cold start-up. This is by far the best and easiest means of bolstering BES wintertime reliability, but for unknown reasons it is almost never used.

3. The phrase, "extreme weather conditions," in Requirement 1.2.6.2 should be replaced by, "non-temperature-related winter challenges, e.g. heavy snowfall, ice storms and freezing fog."

{4. Requirement 7.3.1 should be changed to, "Known generating unit(s) operating limitations in cold weather, to include..." Cold weather-related forced outages are caused principally by hidden vulnerabilities, e.g. mis-installed heat tracing, which cannot be detected in inspection and maintenance activities because it is covered by insulation. EOP-011-2 should not give the impression that GOs will be held responsible for knowing the unknowable.

5. R7.3.1.1 should be changed to, "capacity and start-up reliability." The present references to "capability" and "availability" are excessively vague.

6. The qualifier, "real-time" should be added to R7.3.1.2. Inputs such as, "We'll lose capacity if the NG pipeline pressure falls another 20 psi," and, "Roads are closed, and we only have 10 hours of oil fuel left," would be far more useful than, "MW output depends on fuel pressure," and, "Need periodic oil truck deliveries."

7. R7.3.2.1 should be changed to, "design ambient air temperature and wind speed for heat tracing/insulation systems." This is the principal equipment of interest, and that plants can do something about. There can be many other items with design temperatures, such as lube oil reservoir heaters, fuel oil storage tank heaters, coal plant tripper floor roof heaters, oil gun ignitors, air preheat coils, ash handling systems, and aux boilers. Plants can consequently have a multitude of design temperatures, many of which are known only to the original equipment manufacturers and not to GOs.

8. R7.3.2.2 should be changed to, "minimum historical ambient dry bulb air temperature or (preferably) wind chill temperature." Many plants have been able to ride-out weather dipping to, say, -5 F with little or no wind, only to later suffer a freeze-related forced outage at -1 F with sustained 20 mph winds (-23 F wind chill).

9. R7.3.2.3 should be deleted, because it gives the false impression that winter storm survivability can be determined solely via calculations. One needs accurate input data to obtain authoritative results, and it is often the case that:

- No one knows how the heat tracing beneath piping and instrument system insulation was installed, e.g. as regards using the specified spiral pitch or looping it for extra heat input at valves and supports
- No one knows if or how bare surfaces on valves were accounted-for in the heat tracing design.
- Numerous elements come into play for which information is sparse or nonexistent, ref. comment #5 above
- Temperature is not the issue when outages are caused by heavy snowfall rates, high winds, ice storms and freezing fog.

10. The expressions, "implement and maintain," in R7 and, "implemented and maintained," in M7 should be shortened to just reference implementation. One maintains equipment, not plans, and this obligation is addressed in R7.2.

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 6, Group Name Entergy

Answer

Document Name

Comment

Entergy would like the Standard Drafting Team to take into consideration that cold weather design limit is not helpful information. It is the mitigation activities that drive the ability to reliably operate in cold weather. Water cooled condensers cannot operate with water below about 32 degrees and generally sites do not shut down at a prescribed temperature. Some sites have more design features (trip critical small lines in buildings or insulated with heat trace protection, circulating water discharge recirculating to intake structures, cooling fan deicing modes, and etc). Other sites rely more on temporary insulation, heaters and scaffolding tents.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer	
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	
Document Name	
Comment	
MPC supports MRO NERC Standards Review Forum comments.	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	
Document Name	
Comment	
<p>To ensure all sub-parts are worded consistently, Southern Company recommends re-wording 7.3.2.3 in EOP-011 to “Minimum cold weather performance temperature determined by an engineering analysis”. This is also applicable to 2.3.2.3 in both TOP-003 and IRO-010.</p> <p>Also, the team should consider shortening M8 in EOP-011, similar to the way that M7 was shortened. For example, “Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner’s cold weather preparedness plan(s).”</p>	
Likes 0	
Dislikes 0	
Response	

Martin Sidor - NRG - NRG Energy, Inc. - 6

Answer

Document Name

Comment

For EOP-011-2, R7.3.2., NRG has concerns with the quality of the requested data and how it will be used. Generating units can be designed to operate down to a given temperature or have historical temperature information showing successful operation, but other weather factors can influence real-time operating performance. The addition of wind or precipitation to a unit operating at its defined cold temperature limit can have a significant impact on the unit's ability to perform. Any temperature limit data that is submitted to the TOP, BA, and RC should be considered a starting point for analysis and not an absolute.

Likes 0

Dislikes 0

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer

Document Name

Comment

In all versions of the latest IRO-010-4, the sub-steps under section 1.3.2 are numbered incorrectly, i.e. they start with a 2 rather than a 1.

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer

Document Name

Comment

General Comment – ReliabilityFirst believes all cold weather requirements should be located in a new standard specifically dedicated to cold weather preparedness. One standard will promote continuity of the cold weather preparedness process and the responsibilities of the associated functional entities. Placing cold weather requirements across three different standards only dilutes the importance of cold weather preparedness and may lead to confusion and possible gaps in responsibilities.

Specific feedback for EOP-011-2 R7. The concerns and suggested rewording/changes are listed below:

- The wording, “minimal historical operating temperature”, in 7.3.2.2 could be interpreted that historical cold weather information is only applicable when the generator is typically running/operational. Suggest to reword so that 7.3.2.2 is focused on cold weather experienced over a period of time at a plant location like, “minimum demonstrated historical cold weather experienced in the previous 10 years”. The timeframe of 10 years aligns with the language in BAL-0502-RF-03 to review resource adequacy based on “one day in ten year” loss of Load expectation. Other Reliability Coordinators/Planning Coordinators also has various assessment test methods that are designed to review risks associated with a “one day in ten year” type of event. This change may better cover geographic areas that do not frequently experience cold weather events.
- The language in 7.3.2.3, “engineering analysis to determine current minimum cold weather performance temperature”, may prove difficult to enforce and provides enough flexibility that historical cold weather information is only applicable when the generator is typically running/operational. It is recommended to remove 7.3.2.3.

Likes 0

Dislikes 0

Response

Paul Mehlhaff - Sunflower Electric Power Corporation - 1

Answer

Document Name

Comment

Sunflower agrees with the comments ACES provided for question 5 plus we have additional comments below.

Sunflower Additional Comments:

The requirement 7.3.1.1 obligates each generation owner to implement and maintain a cold weather preparedness plan for generating units that must include undefined “cold weather data” which must include cold weather capability and availability.

Capability and availability are undefined terms that are not described within the IEEE 762 methodology nor within current or planned revised SPP testing criteria to my knowledge.

This is no different than the point about the undefined term “maintenance” and how it might contribute to a future audit dispute.

It appears the terms were well-intentioned, but without clear definition, the draft language has the potential for causing a lot of confusion. Here is a simple example:

Generally speaking, I would presume that the term availability would be similarly referenced to the defined term availability factor. The availability factor for a unit over a given period is simply the available hours a unit was capable of operation or was actually in service during a given period divided by the period hours. Simple enough. But let’s apply some different scenarios.

- 1) If a unit is in service before ambient temperatures drop and if the unit is allowed to continuously operate over this cold period, the unit could easily achieve a 100% availability factor.
 - a. Available hours = Service hours
 - b. Service hours = Period hours
 - c. Available hours = Period hours resulting in 100% Availability Factor
- 2) Take the same unit and leave it out of service as ambient temperatures collapse; then, issue dispatch orders for the unit to enter service at the worst possible time coinciding with the lowest ambient temperatures. This sets up conditions likely resulting in a unit start failure resulting in no service

hours and some accumulation of forced outage hours which results in a lower calculated availability factor over the same period with the exact same ambient conditions.

a. Available hours = Period hours – Forced Outage hours associated with start failure

b. Resulting Availability Factor < 100%

3) Or pass ill-advised compliance rules forcing the owner to take a conservative approach to managing regulatory risk, and force the owner to develop a plan where this same unit is considered unavailable any time ambient temperatures drop below freezing if the unit isn't already in service – which results in a calculated availability factor that is very low during the winter season.

a. Available hours = all hours of the period where ambient temperature is >32F

b. Availability Factor <<<100%

4) In all three scenarios, identical unit exposed to identical ambient conditions with the same owner and same operator.

So what is that generation owner/operator supposed to put into their cold weather operating plan that must address, at a minimum, the expected generator's availability and capability?

Is availability the same thing as IEEE 762 availability factor? Or some new concept? If new, where is availability defined/described?

Capability is similarly a new concept not reflected clearly in the draft standard, IEEE 762, or SPP criteria. Even under conditions where a unit is already in service, I'm not aware of any uniform methodology to determine unit output as temperatures drop. There are methodologies that can be used as temperatures increase such as condenser backpressure correction curves. So, predicting unit output during high temperatures extremes is "a thing." However, I'm not aware of concepts that work similarly as temperatures continue to drop.

Thank you for your hard work on this project and thank you for the opportunity to provide feedback.

Likes 0

Dislikes 0

Response

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

Document Name

Comment

No further comments.

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion

Answer

Document Name

Comment

It appears that the Registered Entities will define "cold weather". Will it be required for the definition of cold weather be the same across the entire fleet of generation or can it be specific to the generating units capabilities, design and/or fuel type? Many factors impact what what may be considered "cold weather" in the area of preparedness.

Likes 0

Dislikes 0

Response

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer

Document Name

Comment

EOP-11

The ISO-NE believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. **The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).**

Recommended language:

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

1) Within R7, add a new sub-bullet under "the cold weather preparedness plan shall include, at a minimum," which states the following "an evaluation of the resource's ability to operate the lowest recorded temperature in the previous 40 years at the generator's physical location (or nearest location where temperature was recorded for which data exists)".

2) In addition, "Extreme Weather" (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator's physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.

3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing "cold weather" (not "extreme") conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.

4) R7 As part of 7.3.1 recommend including a requirement that the GO's cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)

5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since "fuel switching capabilities" is not a **limitation** (7.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an "environmental constraint".

7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to "new" maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as "Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:"

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since "fuel switching capabilities" is not a **limitation** (1.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer

Document Name

Comment

For EOP-011-2, R7.3.2., NRG has concerns with the quality of the requested data and how it will be used. Generating units can be designed to operate down to a given temperature or have historical temperature information showing successful operation, but other weather factors can influence real-time operating performance. The addition of wind or precipitation to a unit operating at its defined cold temperature limit can have a significant impact on the unit's ability to perform. Any temperature limit data that is submitted to the TOP, BA, and RC should be considered a starting point for analysis and not an absolute.

Likes 0

Dislikes 0

Response

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC

Answer

Document Name

Comment

EOP-11

The ISO/RTO Council Standards Review Committee (IRC SRC) believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. **The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).**

Recommended language:

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

1) Within R7, add a new sub-bullet under “the cold weather preparedness plan shall include, at a minimum,” which states the following “an evaluation of the resource’s ability to operate the lowest recorded temperature in the previous 40 years at the generator’s physical location (or nearest location where temperature was recorded for which data exists)”.

2) In addition, “Extreme Weather” (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator’s physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.

3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing “cold weather” (not “extreme”) conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.

4) R7 As part of 7.3.1 recommend including a requirement that the GO’s cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)

5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since “fuel switching capabilities” is not a **limitation** (7.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).

6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an “environmental constraint”.

7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to “new” maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as “Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:”

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since “fuel switching capabilities” is not a **limitation** (1.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

Likes 0

Dislikes 0

Response

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer

Document Name

Comment

MEC supports the MRO NSRF comments.

Likes 0

Dislikes 0

Response

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer

Document Name

Comment

NO.

a. Another unfair violation of NERC Market Interference Principles is the fact that BAs and regional RC RTOs will be able to use requested information in bid stack analysis for award Day Ahead and real-time dispatch. Non-GO/GOPs will not have to submit the same information used in Modeling evaluations of their competitive bids.

b. The STD refuses to make reliability enhancement requirements for BA and RC Winterization training, load forecasting improvements, and reserve increases which the FERC/NERC Report also discusses.

c. STD responses to the last round of Stakeholder comments states a new SAR would be required to include these concerns. A couple months ago, during the SC meeting discussing SAR approval, NERC and the STD chair advertised that the SAR the was written broadly to address stakeholder concerns. Now the STD is refuses to address these concerns.

Likes 0

Dislikes 0

Response

Wendy Center - U.S. Bureau of Reclamation - 5

Answer

Document Name

Comment

Reclamation again recommends the cold weather modifications not apply to hydroelectric generators and/or to certain geographic locations. Reclamation supports the comments provided by NAGF in response to Question 5.

Likes 0

Dislikes 0

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Document Name

Comment

The NAGF provides the following comments for consideration:

EOP-011-2:

1. The NAGF recommends that R1.2 of EOP-011-2 be supplemented with, "Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components." This verbiage is drawn from NERC's Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4):
https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf
2. The NAGF requests clarifying the term "extreme weather conditions" referenced in R1.2.6.2 and R2.2.9.2. For example, does the term address non-temperature related cold weather conditions (heavy snowfall, ice storms, freezing fog, etc.) and/or warm extreme weather conditions (tornados, hail storms, derecho, etc.)? Clarifying this term will help to confirm the conditions that the TOP and BA operating plans need to address as well as the data to be provided by the GO/GOPs.

3. The NAGF requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) cold weather data, to include”. We suggest that NERC specify that this requirement pertains only to known, measurable effects on capacity, start-up capability or operational reliability.
4. The NAGF requests clarification regarding the terms “capability and availability” referenced in R7.3.1.1.
5. The NAGF requests clarification regarding Requirement R7.3.1.2 “fuel supply and inventory concerns”. The data to be provided is not so much concerns but has to be actionable/usable for planning models and real-time operations. Generating facility NG pipeline pressure trip limit, % of contract firm gas supply, number of run hrs available on alternate/backup fuel, river flow with current/anticipated ice conditions, and available battery storage MW/Hrs are far more usefull than “concerns”.
6. The NAGF requests clarification regarding Requirement R7.3.2.2 “minimum historical operating temperature” with respect to wind speed and wet-bulb temperatures affecting the generator unit operation. Generator facilities may be able to operate at -1 deg F with little or no wind but could suffer a freeze-related forced outage at -1 deg F with sustained 20 mph winds (-23 deg F wind chill).

Likes 0

Dislikes 0

Response

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute.

Likes 0

Dislikes 0

Response

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer

Document Name

Comment

SRP urges the drafting team to review the verbiage used in TOP-003 and IRO-008. As the requirement is written the enteties responding to the data request are required to provide the requested items and status changes during cold weather. SRP requests flexibility be given to those requesting the data to determine the granularity of data necessary rather than requiring every unti to provide the specific information. Units that are not severely impacted by local forcasted cold weather may not have to provide the same level of detail as those that are more adversely impacted.

Likes 0

Dislikes 0

Response

Dan Roethemeyer - Vistra Energy - 5

Answer

Document Name

Comment

EOP-011 R7 has been revised in the new draft to provide more specificity as requested by several commenters. However, the new wording still leaves unclear what data is required from the GO. Below are specific comments we provide for consideration.

7.3.1 General Concern: As currently drafted, this provision could be read to require generating units to provide information regarding operating limitations that is not known to the generating units. For example, fuel supply and inventory concerns could arise from pipeline capacity limitations that generators would only be aware of if it were communicated by the pipeline. We believe that the intent of this provision is to require generators to only include such information that is known by the generating units. Thus, we propose the following revision to 7.3.1.

7.3.1. Generating unit(s) operating limitations in cold weather to include, to the best of its/their knowledge,

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns;

7.3.1.3. fuel switching capabilities; and

7.3.1.4. environmental constraints.

Additionally, we are highlighting specific comments regarding the subsections under 7.3.1 and 7.3.2.

7.3.1.1 Capability and availability – daily capability/availability numbers are routinely shared with the RC already; it’s not clear what is being asked for here

7.3.1.2 Fuel supply and inventory concerns – limitations on gas supply (i.e., compressor malfunction) depend on the gas supplier informing the GO

7.3.2.1 Minimum design temperature – it’s not clear if the Standard is asking for a single temperature for the entire generating unit. A generating unit has many components and auxiliary systems required to support generation, each with its own design criteria.

Likes 0

Dislikes 0

Response

Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency, 1, 4; - Scott Berry

Answer

Document Name

Comment

In Requirement R7, IMPA agrees with the use of “implementing” a cold weather preparedness plan but not the use of “maintain”. Even if the other previous requirements include this word it does not mean that this requirement should not be corrected since it is a new requirement. To maintain a plan is a pure administrative action and the focus should be on results based actions.

IMPA understands the priority of getting this standard approved and implemented, but we also believe in doing the standard in the correct fashion to prevent issues which will require additional time to fix.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer

Document Name

Comment

AEPC encourages the SDT to define the term “cold weather,” which is broadly used in each of these standards and may create confusion, discrepancies, and a compliance burden due the potentially numerous definitions, conditions, and parameters that entities across the NERC footprint could use.

We are also concerned about EOP-011 requirement 7.2 that requires entites to perform “annual inspection and maintenance.” As written it makes performing annual maintenance a requirement when there may not be any maintenance actually required. We recommend rephrasing and adding language to state that maintenance is only required when identified by the inspection i.e. “Annual inspection of generating unit(s) freeze protection measures and any maintenance identified during inspection.”

Thank you for the opportunity to provide feedback on this project.

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer

Answer

Document Name

Comment

Energy endorses the EEI comments submitted in this comment period.

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

Additional clarification could be added to EOP-011 to differentiate between minimum operating temperatures and minimum starting temperatures.

Likes 0

Dislikes 0

Response

Jamie Johnson - California ISO - 2

Answer

Document Name

Comment

The California ISO requests the SDT consider that data being requested in TOP-003-4 R1.3.2 and R2.3.2 is not appropriately requested “during local forecasted cold weather” as stated in R1.3 and R2.3. The same comment relates to IRO-010-3 R1.3.2 for R1.3

Likes 0

Dislikes 0

Response

Jamison Cawley - Nebraska Public Power District - 1

Answer

Document Name

Comment

Numerous entities already provide adequate cold weather measures due to being exposed regularly to freezing temperatures. Mandating compliance requirements for all registered entities overly applies compliance with a broad brush and does not properly address the specific risk to the BES of

entities that are not exposed regularly to freezing temperatures. Recommend implementing an alternative approach by each State to allow States not experiencing these risks to be exempt and possibly removing Canadian entities completely from the requirements due to their current cold weather preparations. The proposed requirements are vague to allow flexibility, but more specific requirements for entities not regularly exposed to freezing temperatures will better address the risk. With an active investigation currently being conducted on the February 2021 Cold Weather Event, a sound approach would be to wait for the recommendations from that event before voting on new NERC Reliability requirements today. Also, proposed EOP-011 Requirement R1.2.6. includes provisions for impacts of both cold weather conditions and extreme weather conditions. Cold weather conditions should be considered when evaluating extreme weather conditions, and the requirement is therefore redundant. Suggest deletion of the cold weather sub-part of R1.2.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Document Name

Comment

MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.

Lack of a requirement to install freeze protection measures means we may not see much of a reliability benefit. Without a mandate to install relevant freeze protection measures; i.e. heat trace equipment, wind breaks, insulation, etc., no additional operational output will be realized. Notifications alone will merely serve to provide the RC and BA with a means to forecast impending emergencies with incremental advance notice.

Recommendation: Winterization must be addressed. Although we support the intent of the proposed requirements in EOP-011, IRO-010 and TOP-003 as they seek to move industry forward in the right direction, we don't think the proposed requirements are sufficient without clear, measurable objectives, i.e. a "cold weather" definition and performance requirements tied to that definition, the proposed standards may not achieve their intended outcome or provide a measurable reliability benefit. MISO offers some proposed language below; that language is offered consistent with the current scope of this drafting effort with its focus on the 2018 recommendations. MISO notes that the events of February 2021 will generate more lessons learned which may require additional modifications to this standard.

Recommended language:

R7. Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. Generating unit(s) freeze protection measures based on geographical location and plant configuration that are adequate to operate through extreme temperatures and weather. The methodology used to establish extreme temperatures for each solely and joint owned unit shall be one or more industry standards to include temperature, wind, precipitation and other relevant factors for the geography.

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer

Document Name

Comment

EOP-011-2 Comments:

Changes to requirements 1 and 2 single out cold weather conditions from other extreme weather events. This creates additional effort, tracking, and training for Balancing Authorities and Transmission Operators without providing benefit since determining reliability concerns and impacts provide reliability benefit only to the extent conditions, cold weather or otherwise, are beyond those normally or routinely encountered. Similarly, adding requirement 7 for GOs should relate to extreme weather conditions, of which cold weather is one aspect to be considered. Data sharing requirements of R7 appear useful, but should include generator equipment that may be affected by all applicable extreme weather events not just cold weather.

As presently worded, changed requirements cause entities that already deal with ongoing cold weather conditions to produce plans, tracking processes, training, etc. for routine and/or annual events rather than focusing on consequences of extreme events.

TOP-003-5 comments:

The added sub-requirements single out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Balancing Authorities and Transmission Operators with additional information. Similarly, IRO-010 changes have the same affect related to Reliability Coordinators.

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer

Document Name

Comment

On EOP-011-2: BC Hydro believes further clarification is required for the intent of the term “cold weather”. Provisions should be made to clarify whether “cold weather” is intended to capture normal seasonal preparations that many utilities take, or should be focusing only on extremes of cold weather when temperatures are outside of normal seasonal ranges. To include existing cold weather preparations (i.e. normal seasonal cold and freeze protection measures taken by many northern utilities seems excessive and not contributing to improving BES reliability). BC Hydro supports Seattle City Light’s comments on further defining ‘abnormally cold weather’ to ensure the focus is on the extreme cold issues.

On IRO-010-5: BC Hydro is supportive of the comments made by Duke Energy to remove IRO-010 R1.3 as redundant to the TOP-003 requirements.

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric

Answer

Document Name

Comment

DTEE supports the extensive comments made by the NAGF.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion

Answer

Document Name

Comment

In IRO-010-4 Evidence Retention (1.2), why are there 3 separate retention periods listed? It should be as same for all. "since the last compliance audit."

The Reliability Coordinator (BA, GO, GOP, TOP, TO, & DP for R3, M3) shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, R2, R3 Measure M1, M2 & M3 as well as any documents in force since the last compliance audit.

In TOP-003-5, why does the BA, GO, GOP, TOP, TO, & DP receiving data only have a 90-day retention period. It should be three calendar years to be consistent with the rest of the data retention period.

Provide clarification in Section 7.2 that this is for equipment that is permanent. Provide clarification of what the definition of freeze protection "measures" is in relation to procedures and plans. Section 7.2 could be interpreted that the plans have to be maintained annually.

Likes 0

Dislikes 0

Response

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Document Name

Comment

In addition to expanding the current Implementation Guidance, the Technical Rationale should also be expanded to clarify the intent of the modifications to all parts and subparts of Requirement R7. Expanded technical rationale and Implementation Guidance will help prevent misinterpretations by both entities and auditors.

Likes 0

Dislikes 0

Response

George Brown - Acciona Energy North America - 5

Answer

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) would like to thank the SDT on its hard work in the expedited time frame and understand that the priority is to have an enforceable standard regarding generator preparation for cold weather that can be further refined in future versions. Acciona does have the following question and suggestion:

1: How has the SDT addressed the uniqueness of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, such as wind generation Facilities, where each individual wind turbine generator could have a dozen or more possible freeze protections installed, as it relates to proposed EOP-011, Requirement 7.2. “annual inspection & maintenance of freeze protection measures”, especially considering that an outage of an individual generating unit (single wind turbine generator) would not cause adverse effects to the BES and the precedent set by Project 2014-01 Standards Applicability for Dispersed Generation Resources SDT?

2: In regards to EOP-011, Requirement R7.2 please consider adding the language “,as applicable based on the inspection,” after “and maintenance”. As currently written, the requirement requires a generator owner to perform maintenance on its freeze protection regardless of the results of the inspection.

Likes 0

Dislikes 0

Response

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

Capital Power appreciates the opportunity to participate in NERC’s stakeholder consultation process. We recognize the risk that severe weather can have on the grid and appreciate the desire to implement a regulation to mitigate the risk. However, Capital Power believes that EOP-011 R7, as it is currently written, does not set out a clear or measurable path for entities to meet the reliability objective.

1. Capital Power would like to see the incorporation of NERC's risk based approach to grid reliability within Project 2019-06. Specifically, Capital Power believed that the integration of language related to abnormal / unusual / extreme weather vs. cold weather would:
 - **Focus resources on areas of highest risk:** Operating in cold weather conditions is standard / normal operating procedure for many entities and the inclusion of language specifically directed at extreme / abnormal / unusual weather may help ensure appropriate focus is placed on areas of highest risk.
 - **Clarity:** Although the current version of the standard allows entities to define 'cold weather', this flexibility creates ambiguity which may increase the likelihood of subjectivity during the audit process. The inclusion of language related to extreme / abnormal / unusual weather offers more clarity to the entities in forming their definition of 'extreme weather', and to auditors in assessing compliance.
 - **Consistency:** Capital Power believes that the inclusion of more direct / clear language is consistent with NERC's risk based approach to compliance as well as language in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018:
 - "A mandatory Reliability Standard would require Generator Owner/Operators to properly prepare for extreme cold weather, and would help RCs and BAs identify units which may not be able to perform during an extreme weather event"^[1]
2. Capital Power requests clarification on R7.2 – This requirement requires the annual inspection and maintenance of generating units freeze protection measures, but if the entity does not have any freeze protection measures they will have nothing to implement. Capital Power recommends the inclusion of 'as applicable' in R7.2 to offset the 'at a minimum' language in R7
3. Capital Power requests clarification on M7 – and the auditability of 'implementation'. Based on the minimum requirements of the entities [Extreme] Cold Weather Preparedness plan (R7.1-7.3) the only element that can be 'implemented' (if applicable) is R7.2, the annual inspection and maintenance of generating unit(s). The rest of the 'at a minimum' requirements outlined in this requirement are essentially data related to the existing facility/ operational capability with nothing to actively implement.

[1] https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf

Likes 0

Dislikes 0

Response

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer

Document Name

Comment

EOP-11

The ISO/RTO Council Standards Review Committee (IRC SRC) believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. **The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).**

Recommended language:

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for

which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

1) Within R7, add a new sub-bullet under "the cold weather preparedness plan shall include, at a minimum," which states the following "an evaluation of the resource's ability to operate the lowest recorded temperature in the previous 40 years at the generator's physical location (or nearest location where temperature was recorded for which data exists)".

2) In addition, "Extreme Weather" (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator's physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.

3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing "cold weather" (not "extreme") conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.

4) R7 As part of 7.3.1 recommend including a requirement that the GO's cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)

5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since "fuel switching capabilities" is not a **limitation** (7.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an "environmental constraint".

7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to "new" maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as "Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:"

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since "fuel switching capabilities" is not a **limitation** (1.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

** CAISO and SPP did not join this group response. **

Likes 0

Dislikes 0

Response

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

Document Name

Comment

ACES encourages the SDT to define the term “cold weather,” which is broadly used in each of these standards and may create confusion, discrepancies, and a compliance burden due the potentially numerous definitions, conditions, and parameters that entities across the NERC footprint could use. ACES also encourages the SDT to define “capability and availability” as used in EOP-011 R7.3.1.1. Additionally, we are concerned about EOP-011 requirement 7.2 that requires entites to perform “annual inspection and maintenance.” As written it makes performing annual maintenance a requirement when there may not be any maintenance actually required. We recommend rephrasing and adding language to state that maintenance is only required when identified by the inspection i.e. “Annual inspection of generating unit(s) freeze protection measures and any maintenance identified during inspection.”

Thank you for the opportunity to provide feedback on this project.

Likes 0

Dislikes 0

Response

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Document Name

Comment

In addition to supporting the IRC SRC comments, PJM requests consideration of the following:

PJM requests the SDT to add EOP-011 Requirement for GOs to include the following additional items:

1. A specific requirement for the Generator Owner to provide the host Regional Entity/RC/TOP upon request or on a periodic basis (annually, seasonally or some other periodicity) with the Generator Owner’s cold weather preparedness plans and associated data that the Generator Owner uses to ensure the freeze protection measures are designed to be consistent with the geography and meteorology for the location of the unit. The

requirement to have Generator Owners provide cold weather preparedness plans to the RC/TOP allows the RC/TOP to have increased visibility into the plans of the Generator Owners and to incorporate Generator Owner's cold weather preparedness plans into the RC's/TOP's operational assessments.

2. A specific requirement that a Generator Owner's document supporting source data as assurance that the preparedness plans are based on equipment limitations, historical performance, and other relevant data to ensure the effectiveness of the plans. To the extent that weather forecasts or historical weather information other than those prepared by NOAA are relied upon, the Generator Owners should be required to provide an explanation in the supporting materials explaining why such an alternative forecast or historic data was utilized.

3. A provision that authorizes periodic spot checks outside audit cycles conducted by the host Regional Entity and results coordinated with the host BA/TOP/RC.

4. A provision that clearly states that the Generator Owner cold weather preparedness plans be based on unit size, type, and fuel sources as appropriate.

Likes 0

Dislikes 0

Response

Daniel Gacek - Exelon - 1

Answer

Document Name

Comment

Exelon supports EEI's comment:

- In addition to expanding the current Implementation Guidance, the Technical Rationale should also be expanded to clarify the intent of the modifications to all parts and subparts of Requirement R7. Expanded technical rationale and Implementation Guidance will help prevent misinterpretations by both entities and auditors.

Submitted on behalf of Exelon, Segments 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Document Name

Comment

OPG supports NPCC RSC's comments.

Likes 0

Dislikes 0

Response

Dennis Sismaet - Northern California Power Agency - 6

Answer

Document Name

Comment

1. Another unfair violation of NERC Market Interference Principles is the fact that BAs and regional RC RTOs will be able to use requested information in bid stack analysis for awarded Day Ahead and real-time dispatch. Non-GO/GOPs will not have to submit the same information used in Modeling evaluations of their competitive bids.
2. The STD refuses to make reliability enhancement requirements for BA and RC Winterization training, load forecasting improvements, and reserve increases which the FERC/NERC Report also discusses.
3. STD responses to the last round of Stakeholder comments states a new SAR would be required to include these concerns. A couple months ago, during the SC meeting discussing SAR approval, NERC and the STD chair advertised that the SAR was written broadly to address stakeholder concerns. Now the STD is refusing to address these concerns.

Likes 0

Dislikes 0

Response

Gladys DeLaO - CPS Energy - 1

Answer

Document Name

Comment

N/A, CPS Energy has no additional comment.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	
Document Name	
Comment	
See Marty Hostler's comments.	
Likes 0	
Dislikes 0	
Response	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	
Document Name	
Comment	
<p>ERCOT also proposes to revise IRO-010, Requirement R1, Parts 1.3.1 and 1.3.1.1, to switch “operating limitations” with “capability and availability” in order to be consistent with the changes suggested by ERCOT in response to Questions 1 and 2. ERCOT also suggests revising Part 1.3.2, to be consistent with the revisions proposed for TOP-003, Requirement R1, Part 1.3.2 in response to Question 2.</p> <p>ERCOT is supportive of the cold weather preparedness plan requirements. However, ERCOT continues to believe that a GOP requirement to communicate generator capability and availability due to cold weather would be more straightforward than a data specification requirement, and could be included as a new requirement in EOP-011, if the proposed R7 for GOs is adopted. The language of the new requirement could read as follows:</p> <p>R___. Each Generator Operator shall notify each impacted Balancing Authority and Transmission Operator of the capability and availability of each of its generating units based on any operating limitations or unit-specific design specifications during actual or anticipated cold weather conditions. [Violation Risk Factor: High] [Time Horizon: Operations Planning, Same Day Operations, and Real-Time Operations]</p> <p>If not included now, ERCOT suggests including this requirement in the future.</p>	
Likes 0	
Dislikes 0	
Response	

Consideration of Comments

Project Name:	2019-06 Cold Weather Draft 2- EOP-011-2, IRO-010-4, TOP-003-5
Comment Period Start Date:	4/2/2021
Comment Period End Date:	4/26/2021
Associated Ballots:	2019-06 Cold Weather EOP-011-2 AB 2 ST 2019-06 Cold Weather IRO-010-4 AB 2 ST 2019-06 Cold Weather TOP-003-5 AB 2 ST

There were 89 sets of responses, including comments from approximately 210 different people from approximately 137 companies representing 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, contact Vice President of Engineering and Standards [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. The SDT removed the generator unit-specific training from Requirement R7 and created a new Requirement R8. The new Requirement R8 was created by the SDT to add the GOP to the functional entities responsible for training. Whereas Requirement R7 is narrowly constructed for the GO to be responsible for the cold weather preparedness plan(s), Requirement R8 requires both the GO and GOP to provide the generating unit-specific training to their respective maintenance and operations personnel. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
2. In response to comments from the first posting, the SDT added cold weather data specification requirements for the BA within TOP-003, similar to what is required of the RC and TO. Do you agree with the inclusion of these requirements in the TOP-003 standard? If you do not agree, please provide an alternative to address the comments. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
3. In response to comments, the SDT modified the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. Do you agree with this modification? If you do not agree, please provide an alternative implementation timeframe. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.
4. The SDT has provided draft Implementation Guidance to address some issues identified by industry during the previous comment period. Recognizing that Implementation Guidance is not subject to ballot body approval, do you agree with the SDT proceeding with the development of the Implementation Guidance? If you do not agree, or have additional topics you would like the SDT to consider in the Implementation Guidance, please provide your explanation and suggested language.
5. Please provide any additional comments for the SDT to consider, if desired.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
Santee Cooper	Chris Wagner	1		Santee Cooper	Rene' Free	Santee Cooper	1,3,5,6	SERC
					Jennifer Richards	Santee Cooper	1,3,5,6	SERC
					Paul Camilletti	Santee Cooper	1,3,5,6	SERC
					LaChelle Brooks	Santee Cooper	1,3,5,6	SERC
MRO	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Andy Crooks	SaskPower Corporation	1	MRO
					Bryan Sherrow	Kansas City Board of Public Utilities	1	MRO
					Bobbi Welch	Omaha Public Power District	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Bobbi Welch	Midcontinent ISO	2	MRO
					Douglas Webb	Kansas City Power & Light	1,3,5,6	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					James Williams	Southwest Power Pool, Inc.	2	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Jamie Monette	Minnesota Power / ALLETE	1	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Sing Tay	Oklahoma Gas & Electric	1,3,5,6	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Troy Brumfield	American Transmission Company	1	MRO
New York Independent System Operator	Gregory Campoli	2		ISO/RTO Standards Review Committee	Gregory Campoli	New York Independent System Operator	2	NPCC
					Helen Lainis	IESO	2	NPCC
					Michael Del Viscio	PJM	2	RF
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	MRO
					Bobbi Welch	Midcontinent ISO, Inc.	2	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Ali Miremadi	CAISO	2	WECC
					Kahtleen Goodman	ISO-NE	2	NPCC
Jennie Wike	Jennie Wike		WECC	LPPC	Jennie Wike	LPPC	1,3,4,5,6	WECC
					John Babik	JEA	5	SERC
					Joe Tarantino	SMUD	1,3,4,5,6	WECC
					Tyson Archie	Platte River Power Authority	5	WECC
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,NA - Not Applicable,RF,SERC,Texas RE,WECC	ACES Standard Collaborations	Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	SERC
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					David Hartman	Arizona Electric Power Cooperative	1	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Nick Fogleman	Prairie Power Incorporated	1,3	SERC
					Susan Sosbe	Wabash Valley Power Association	3	RF
					Amber Skillern	East Kentucky Power Cooperative	1	SERC
					Ellen Watkins	Sunflower Electric Power Corporation	1	MRO
Entergy	Julie Hall	6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
DTE Energy - Detroit Edison Company	Karie Barczak	3		DTE Energy - DTE Electric	Adrian Raducea	DTE Energy - Detroit Edison Company	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
MRO	Kendra Buesgens	1,2,3,4,5,6	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Christopher Bills	City of Independence Power & Light	4	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO
					Jamie Monette	Allete - Minnesota Power, Inc.	1	MRO
					Jodi Jensen	Western Area Power Administration - Upper Great Plains East (WAPA)	1,6	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO
					Matthew Harward	Southwest Power Pool, Inc.	2	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					LaTroy Brumfield	American Transmission Company, LLC	1	MRO
					Bryan Sherrow	Kansas City Board Of Public Utilities	1	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1,3,5	MRO
					Joe DePoorter	Madison Gas and Electric	4	MRO
					David Heins	Omaha Public Power District	1,3,5,6	MRO
Duke Energy		1,3,5,6	FRCC,RF,SERC,Texas RE	Duke Energy	Laura Lee	Duke Energy	1	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
	Kim Thomas				Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Southern Indiana Gas and Electric Co.	Leslie Hamby	3,5,6	RF	SIGE Project 2019-06	Erin Spence	Southern Indiana Gas and Electric Co.	6	RF
					Larry Rogers	Southern Indiana Gas and Electric Co.	5	RF
					Ryan Abshier	Southern Indiana Gas and Electric Co.	3	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Public Utility District No. 1 of Chelan County	Meaghan Connell	5		CHPD	Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Ginette Lacasse	Public Utility District No. 1 of Chelan County	1	WECC
					Glen Pruitt	Public Utility District No. 1 of Chelan County	6	WECC
					Meaghan Connell	Public Utility District No. 1 Chelan County	5	WECC
Northern California	Michael Whitney	3		NCPA	Scott Tomashefsky	Northern California Power Agency	4	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Power Agency					Marty Hostler	Northern California Power Agency	5,6	WECC
					Marty Hostler	Northern California Power Agency	5,6	WECC
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
					Jim Howell	Southern Company - Southern Company	5	SERC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						Services, Inc. - Gen		
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards Committee No Dominion	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Helen Lainis	IESO	2	NPCC
					David Kiguel	Independent	7	NPCC
					Nick Kowalczyk	Orange and Rockland	1	NPCC
					Joel Charlebois	AESI - Acumen Engineered	5	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						Solutions International Inc.		
					Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Shivaz Chopra	New York Power Authority	5	NPCC
					Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Cristhian Godoy	Con Ed - Consolidated	6	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						Edison Co. of New York		
					Nurul Abser	NB Power Corporation	1	NPCC
					Randy MacDonald	NB Power Corporation	2	NPCC
					Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
					Vijay Puran	NYSPS	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Jim Grant	NYISO	2	NPCC
					John Pearson	ISONE	2	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					John Hastings	National Grid USA	1	NPCC
					Michael Jones	National Grid USA	1	NPCC
					Nicolas Turcotte	Hydro-Quebec TransEnergie	1	NPCC
					Chantal Mazza	Hydro-Quebec	2	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
Dominion - Dominion Resources, Inc.	Sean Bodkin	6		Dominion	Connie Lowe	Dominion - Dominion Resources, Inc.	3	NA - Not Applicable
					Lou Oberski	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
					Larry Nash	Dominion - Dominion Virginia Power	1	NA - Not Applicable

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Rachel Snead	Dominion - Dominion Resources, Inc.	5	NA - Not Applicable
OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay	6	SPP RE	OKGE	Sing Tay	OGE Energy - Oklahoma	6	MRO
					Terri Pyle	OGE Energy - Oklahoma Gas and Electric Co.	1	MRO
					Donald Hargrove	OGE Energy - Oklahoma Gas and Electric Co.	3	MRO
					Patrick Wells	OGE Energy - Oklahoma Gas and Electric Co.	5	MRO

1. The SDT removed the generator unit-specific training from Requirement R7 and created a new Requirement R8. The new Requirement R8 was created by the SDT to add the GOP to the functional entities responsible for training. Whereas Requirement R7 is narrowly constructed for the GO to be responsible for the cold weather preparedness plan(s), Requirement R8 requires both the GO and GOP to provide the generating unit-specific training to their respective maintenance and operations personnel. Do you agree with this new requirement placement in the EOP-011 standard? If you do not agree, please provide an alternative. If you agree but have comments or suggestions on the SDT’s recommendation, please provide your explanation and suggested language.

John Allen - City Utilities of Springfield, Missouri - 4

Answer No

Document Name

Comment

The requirement does not state a clear measurable reliability objective. Without this clarity, the ERO and industry will likely have various interpretations and it may not meet its intended objective. Additionally, it applies to the GOP but the GOP has no requirement for a preparedness plan. Whose plan is this referencing? If the GOP is supposed to have a plan, then it needs to be a requirement. Otherwise, I offer the following alternative to R8.

Each Generator Owner shall provide training to personnel on their roles and responsibilities for implementing the cold weather preparedness plan(s) developed in R7.

Likes 0

Dislikes 0

Response

Thank you for your comments. Requirement R8 has been modified to further clarify the intent.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer No

Document Name

Comment	
<p>If the SDT believes R8 is justified and should include the GOP, it should also include the requirement to provide training on the specific cold-weather preparedness plan developed pursuant to R7. Seattle remains concerned about changes to this draft of EOP-011 and in particular the language of the subrequirements of R7, and these concerns are discussed in our responses to items 4 and 5, below.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Requirement R8 has been modified to further clarify the intent.</p>	
<p>Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC</p>	
Answer	No
Document Name	
Comment	
<p>BPA supports Reclamation's comments.</p>	
Likes	0
Dislikes	0
Response	
<p>Please see the SDT's response to Reclamation.</p>	
<p>Donna Wood - Tri-State G and T Association, Inc. - 1</p>	
Answer	No
Document Name	
Comment	

Although, Tri-State agrees with separating out the generator unit-specific training requirement under R8, we believe this training requirement would be better placed under PER-006-1. Even though PER-006-1 R1 applies to protective relaying, the purpose of the standard is to ensure that personnel are receiving training on specific topics essential to reliability to perform or support real-time operations of the Bulk Electric System. This applies to the specific training requirement for Cold Weather plans as well. In addition, we would like to see one entity responsible for training, not both. Having both GO or GOP providing training could lead to confusion of responsibility where the GO and GOP do not belong to the same entity.

Likes 2	Tarantino Joe On Behalf of: Fong Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; City Utilities of Springfield, Missouri, 4, Allen John
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Dislikes 0	
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Response

Thank you for your comments. Requirement R8 has been modified to further clarify the intent. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer	No
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Document Name	
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Comment

EOP-011-1 is presently applicable to System Operators (TOP, BA, RC). Adding GO/GOP applicability to EOP-011-2 with proposed Requirement 7 does not appear to be a good fit. NIPSCO suggests that creating a new standard may be more appropriate here, similar to what was done with EOP-010-1 GMD Operations. Also for the new training requirements, there appears to be a concern placing these in EOP-011 where they may be difficult to track. Within the PER standards may be a better location, possibly within PER-006. Also, the term "calendar year" should be considered in lieu of "annual".

Likes 2	Tarantino Joe On Behalf of: Fong Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; City Utilities of Springfield, Missouri, 4, Allen John
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Dislikes	0
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development. The SDT voted to provide additional clarification regarding the timing of training within the Implementation Guidance.	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	
Training requirements for the GO/GOP should be placed into the PER-006 standard. There was a concerted effort a few years ago to have all training requirements within one standard so that Registered Entities would know where to look to find all the requirements associated with training.	
Likes	3
Tarantino Joe On Behalf of: Fong Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; City Utilities of Springfield, Missouri, 4, Allen John; Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre	
Dislikes	0
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merrell, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Marc Donaldson, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; - Jennie Wike, Group Name LPPC	
Answer	No
Document Name	

Comment

LPPC is concerned with locating training requirements in a Standard other than the PER suite of standards. While we agree with the inclusion of the Cold Weather requirements in EOP-011, we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe more appropriate to be included in the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.

Likes 5

Tarantino Joe On Behalf of: Fong Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin; Snohomish County PUD No. 1, 3, Chaney Holly; City Utilities of Springfield, Missouri, 4, Allen John; Platte River Power Authority, 5, Archie Tyson; Platte River Power Authority, 3, Kiess Wade

Dislikes 0

Response

Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.

Joe Tarantino - Joe Tarantino On Behalf of: Fong Mua, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Looney, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; Wei Shao, Sacramento Municipal Utility District, 3, 5, 6, 4, 1; - Joe Tarantino

Answer

No

Document Name

Comment

SMUD is concerned with locating training requirements in a Standard other than the PER suite of standards. While we agree with the inclusion of the Cold Weather requirements in EOP-011 we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe it to be more appropriate for Requirement R8 to be moved into the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Likes 3

City Utilities of Springfield, Missouri, 4, Allen John; Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre; Platte River Power Authority, 5, Archie Tyson

Dislikes 0

Response

Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.

Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer

No

Document Name

Comment

CenterPoint Energy Houston Electric, LLC (CEHE) recognizes the urgency to develop and implement the recommendations identified in the 2019 Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) Staff Report. However, CEHE maintains that cold weather preparedness should be considered standard operating procedure and thus preventative measures to avoid an Emergency Operation.

While CEHE supports the development of a requirement for cold weather rating of facilities and associated training for applicable personnel, CEHE encourages the SDT to reconsider the development of a new FAC Standard which would cover Generation and TO/TOP

Substation Winterization practices and requirements. The proposed new FAC Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT team will forward your suggestion for a new FAC standard onto NERC for further consideration and development.

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer

No

Document Name

Comment

Southern Indiana Gas & Electric Company (SIGE) recognizes the urgency to develop and implement the recommendations identified in the 2019 Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) Staff Report. However, SIGE maintains that cold weather preparedness should be considered standard operating procedure and thus preventative measures to avoid an Emergency Operation.

While SIGE supports the development of a requirement for cold weather rating of facilities and associated training for applicable personnel, SIGE encourages the SDT to reconsider the development of a new FAC Standard which would cover Generation and TO/TOP Substation Winterization practices and requirements. The proposed new FAC Standard would focus on the development and implementation of preventative standard operating procedures intended to mitigate cold weather emergency-level situations.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT team will forward your suggestion for a new FAC standard onto NERC for further consideration and development.

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	
<p>The “Redline to Last Posted” version of EOP-011-2 does not appear to be a true redline to last posted version. There was no R7, part 7.4 (as reflected in Draft 1) redlined out.</p> <p>Requirement R7 in Draft 2 replaces the phrase “...shall develop, maintain, and implement...” with “...shall implement and maintain...”. It would seem the Generator Owner should develop and maintain cold weather preparedness plan(s) for its generating unit(s) in consultation with the Generator Operator(s) of the unit(s). The Generator Operator will foreseeably be responsible for implementing some elements of the plan, particularly those that require execution during or nearing Real-time operations. Part of the plan should be to establish those accountabilities. We suggest Requirement R7 be restated as follows:</p> <p>“R7. Each Generator Owner, in conjunction with its Generator Operator(s), shall develop and maintain one or more cold weather preparedness plans for its generating units. The cold weather preparedness plan(s) shall address the following concerns, as applicable:</p> <p style="padding-left: 40px;">7.1. Accountabilities for implementing the plan. <i>[new].....</i>”</p> <p>Then shift the 7.1 through 7.3.2.3 in Draft 2 to 7.2 through 7.4.2.3. Measure M7 would need to be revised to “Each Generator Owner will have evidence that demonstrates its cold weather preparedness plans have been developed and maintained in conjunction with its Generator Operator(s). Each Generator Owner and Generator Operator will have evidence that demonstrates it implemented actions in the cold weather preparedness plans that it is accountable for.”</p> <p>Requirement R8 starts by stating, “Each Generator Operator or Generator Owner...”. The “or” infers that one or the other must do this. When the GO and GOP are separate entities, how is it to be determined which will be responsible? We recommend changing the “or” to an “and” such that each is responsible for the training of their “personnel responsible for implementing cold weather preparedness plan(s)”. The same comment goes for the wording in section 1.2, Evidence Retention. This goes along with the Technical Rationale for Requirement R8, which states in part, “...The SDT created R8 as applicable to both the Generator Owner and the Generator Operator...” and with the question above which states in part, “...Requirement R8 requires both the GO and GOP to provide</p>	

the generating unit-specific training to their respective...”. Similarly, Measure M8 should start with “Each Generator Operator and Generator Owner...”.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT has revised Requirement R8 to clarify the intent and added language regarding the GO and GOP working “in conjunction” to identify the responsible entity.

Paul Mehlhaff - Sunflower Electric Power Corporation - 1

Answer

No

Document Name

Comment

Sunflower agrees with the comments ACES provided for question 1.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to ACES.

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

No

Document Name

Comment

R7 is a significant administrative burden on the portion of the industry that operates in seasonally cold environments. Those facilities are engineered to operate through expected cold weather conditions, and R7 does not appear to improve the reliability those facilities. The

cold weather events that the industry has experienced have disproportionately affected entities that rarely see extreme cold. It may make more sense to pursue a regional standard to address these issues.

As I do not support R7, I also see no need for R8 on a continent wide basis.

Likes 0

Dislikes 0

Response

The FERC\NERC Report has recommended an industry wide standard. The SDT discussed and previously determined to not include proposed regional standards within the scope of the project and recommends the issue be raised with the appropriate Regional Entities for further consideration.

Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le

Answer

No

Document Name

Comment

We support the comments made by John Allen from City Utilities of Springfield, Missouri: "

The requirement does not state a clear measurable reliability objective. Without this clarity, the ERO and industry will likely have various interpretations and it may not meet its intended objective. Additionally, it applies to the GOP but the GOP has no requirement for a preparedness plan. Whose plan is this referencing? If the GOP is supposed to have a plan, then it needs to be a requirement. Otherwise, I offer the following alternative to R8.

Each Generator Owner shall provide training to personnel on their roles and responsibilities for implementing the cold weather preparedness plan(s) developed in R7. "

Likes 0

Dislikes 0

Response	
Thank you for your comments. Requirement R8 has been modified to further clarify the intent.	
W. Dwayne Preston - Austin Energy - 3	
Answer	No
Document Name	
Comment	
<p><i>Austin Energy is concerned with locating training requirements in a Standard other than the PER suite of standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.</i></p> <p><i>Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.</i></p>	
Likes 2	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre; Austin Energy, 6, Martin Lisa
Dislikes 0	
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	

Having a cold weather plan should be enough from a regulatory point. Reaching to far into the business. Its not clear who all should be trained.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The proposed standards are consistent with the recommendations of the FERC/NERC Staff report and the SAR. In addition, the FERC\NERC report recommended unit-specific awareness training be provided by the GO and GOP. The SDT revised Requirement R8 to clarify the intent.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
NO. Requiring GO/GOP Market participants to perform activities that non-registered generator market participants do not have to perform, nor pay for, runs afoul with NERC Market Interference Principles., namely: "A reliability standard shall not give any market participant an unfair competitive advantage".	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The proposed standards are applicable to all BES generation and the SDT doesn't agree that the proposed standards violate NERC Market Interface Principles in the manner of which you reference.	
Wendy Center - U.S. Bureau of Reclamation - 5	
Answer	No
Document Name	

Comment

Reclamation disagrees with placement of a training requirement in an Emergency Operations standard. As identified by NERC’s Standards Efficiency Review Team in 2019, training requirements should be consolidated into the Personnel Performance, Training and Qualifications (PER) family of standards to not only help prevent an entity from inadvertently overlooking a training requirement but to avoid the churn required to review and revise inefficiently written standards.

Reclamation disagrees with a continent-wide reliability standard to address cold weather preparation. Because different geographic locations require different levels of cold weather preparation, the fact that entities in geographic locations that commonly experience cold weather may already have adequate preparations in place, but are now required to provide extra documentation of these preparations simply to support compliance, is an added administrative burden that does not directly improve reliability and is therefore inappropriate for a continent-wide standard.

Likes 0

Dislikes 0

Response

Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.

Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency, 1, 4; - Scott Berry

Answer

No

Document Name

Comment

The GOP is not required to have a cold weather preparedness plan as per requirement R7. The two requirements, R7 and R8, need to be aligned. The GOP should be added to requirement R7, especially when considering that the GOP is very likely the party to operate and maintain the generating unit(s) for the GO.

After fixing the applicability and alignment issue, the requirement for training should be moved to the PER standard family, more than likely in the PER-006 standard. If there is an issue with the SAR for addressing this recommendation, the SAR should be corrected to allow for this training requirement to be included in the proper group of standards.

Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
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Dislikes 0	
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Response

Thank you for your comments. The SDT determined that the GO is responsible for the cold weather preparedness plan pursuant to the responsibilities outlined in the Functional Model and the GOP is responsible to train its staff on the plan. The SDT has revised Requirement R8 to clarify the coordination required between the GO and GOP to implement the training requirement. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.

Erin Green - Western Area Power Administration - 1,6

Answer	No
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Document Name	
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Comment

WAPA supports the comments submitted by BPA.

Erin Green, WAPA, Segment 6

Likes 0	
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Dislikes 0	
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Response

Please see the SDT's response to BPA.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer	No
Document Name	
Comment	
<p>AEPC agrees with this revision as applicable to the GO, however we do not agree with inclusion of the GOP in EOP-011. AEPC recommends that the GOP applicability be added as R2 in PER-006. PER-006 is the current standard applicable to the GOP for “Specific Training for Personnel” that we believe meets and fits the intent of this requirement, and furthermore does not add a new/additional Standard for GOP applicability.</p> <p>AEPC has signed on to ACES comments.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development. Please see the response to ACES.</p>	
John Babik - JEA - 5	
Answer	No
Document Name	
Comment	
<p>In support of LPPC comments</p>	
Likes 0	
Dislikes 0	
Response	
<p>Please see the SDT’s response to LPPC.</p>	

Joe McClung - JEA - 1	
Answer	No
Document Name	
Comment	
We support LPPC's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to LPPC.	
LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6	
Answer	No
Document Name	
Comment	
<p>The requirement for each Generator Operator (GOP) or Generator Owner (GO) to provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) annually conflicts with PER-005 requirements that expect training to be task-based with training requirements related to the difficulty, importance, and frequency of each task. In addition, NERC has modified other standards to remove training requirements from individual standards in favor of placing them within PER standards. The EOP-011-2 requirement ignores that effort, which is unfortunate considering PER-006 deals specifically with GO and GOP training expectations. Finally, proposed training requirements deal with cold weather only. Training for all applicable extreme weather events should be included in the requirement, not just cold weather.</p> <p>Place the training requirement in a new PER standard or add it to the PER-006 standard.</p>	
Likes 0	

Dislikes	0
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	No
Document Name	
Comment	
Thank you for the opportunity to review and comment. BC Hydro supports the comments made by CenterPoint Energy Houston Electric, LLC in regards to the placement of these requirements in a new FAC standard. BC Hydro supports Sacramento Municipal Utility District (SMUD)'s comments in regards to placing the training requirements in PER-006-1.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.	
Lisa Martin - Austin Energy - 6	
Answer	No
Document Name	
Comment	
I support comments made by W. Dwayne Preston, Austin Energy, Segment 3.	
Likes	0

Dislikes	0
Response	
Please see the SDT's response to Dwayne Preston, Auston Energy.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	No
Document Name	
Comment	
<p>ACES agrees with this revision as applicable to the GO, however we do not agree with inclusion of the GOP in EOP-011. ACES recommends that the GOP applicability be added as R2 in PER-006. ACES recommends that the GOP applicability be added as R2 in PER-006. PER-006 is the current standard applicable to the GOP for "Specific Training for Personnel" that we believe meets and fits the intent of this requirement, and furthermore does not add a new/additional Standard for GOP applicability.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development.	
Glenn Pressler - CPS Energy - 3	
Answer	No
Document Name	
Comment	
<p>No, CPSE supports concerns of LPPC, SMUD, TVA, and others, including being concerned with locating training requirements in a Standard other than the PER suite of standards. While OK with the inclusion of the Cold Weather requirements in EOP-011, we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe more appropriate</p>	

to be included in the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.

Training requirements for the GO/GOP should be placed into the PER-006 standard. There was a concerted effort a few years ago to have all training requirements within one standard so that Registered Entities would know where to look to find all the requirements associated with training.

New training requirements should be in PER; concerned with placing new training requirements in EOP-011, PER-006 may be a better location.

There is confusion regarding who (GO or GOP) is required to have the plan, who owns the plan and who must train to who's plan when GO/GOP not same entity, nor required under R7.

Likes	0
Dislikes	0
Response	
Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development. The SDT has revised Requirement R8 to clarify the intent of the training.	
Dennis Sismaet - Northern California Power Agency - 6	
Answer	No
Document Name	
Comment	

NERC should not create a reliability standard that applies to all regional entities. Since cold weather is geographic specific, NERC should let the regional entities decide how best to implement any cold weather regional standards specific to their geographic area. For example, in California, there are no cold weather issues that other parts of the country are facing.

Also, requiring GO/GOP Market participants to perform activities that non-registered generator market participants do not have to perform, nor pay for, runs afoul with NERC Market Interference Principles., namely: "A reliability standard shall not give any market participant an unfair competitive advantage".

Likes 0

Dislikes 0

Response

Thank you for your comment. FERC recommended industry wide requirements. The SDT recommends you approach the appropriate Regional Entity with your request for a regional standard. The proposed standards are applicable to all BES generation and the SDT doesn't agree that the proposed standards violate NERC Market Interface Principles in the manner of which you reference.

Gladys DeLaO - CPS Energy - 1

Answer

No

Document Name

Comment

No, CPSE supports concerns of, SMUD, TVA, and others, including being concerned with locating training requirements in a Standard other than the PER suite of standards. While OK with the inclusion of the Cold Weather requirements in EOP-011, we disagree with the inclusion of the training requirement associated with cold weather preparedness in the EOP-011 standard and believe more appropriate to be included in the PER suite of training standards. Adding training requirements to other non-training standards creates a condition that makes training requirements hard to find and easy to lose; a condition that is not conducive to a quality standard. Locating training requirements outside of PER Standards is also not following industry precedent, such as the Standards Efficiency Review recommendations and the recent Project 2007-06.2 that moved training requirements from PRC Standards to the new PER-006-1 Standard.

Currently, PER-006 includes training for the GOP and respective plant personnel. A simple fix to this issue is to strike Requirement R8 from the EOP-011 standard and place it into the appropriate PER-006 standard. If PER-006 is not allowed to be modified due to the scope of the SAR, then a new SAR to address this training requirements should be created.

Training requirements for the GO/GOP should be placed into the PER-006 standard. There was a concerted effort a few years ago to have all training requirements within one standard so that Registered Entities would know where to look to find all the requirements associated with training.

New training requirements should be in PER; concerned with placing new training requirements in EOP-011, PER-006 may be a better location.

There is confusion regarding who (GO or GOP) is required to have the plan, who owns the plan and who must train to who's plan when GO/GOP not same entity, nor required under R7.

Likes 0

Dislikes 0

Response

Thank you for your comments. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development. The SDT has revised Requirement R8 to clarify the intent of the training.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

No

Document Name

Comment

See Marty Hostler's comments.

Likes 0

Dislikes 0

Response	
Please see the SDT's response to Marty Hostler.	
Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	No
Document Name	
Comment	
<p>Changes to requirements 1 and 2 single out cold weather conditions from other extreme weather events. This creates additional effort, tracking, and training for Balancing Authorities and Transmission Operators without providing benefit since determining reliability concerns and impacts provide reliability benefit only to the extent conditions, cold weather or otherwise, are beyond those normally or routinely encountered. Similarly, adding requirement 7 for GOs should relate to extreme weather conditions, of which cold weather is one aspect to be considered. Data sharing requirements of R7 appear useful, but should include generator equipment that may be affected by all applicable extreme weather events not just cold weather.</p> <p>As presently worded, changed requirements cause entities that already deal with ongoing cold weather conditions to produce plans, tracking processes, training, etc. for routine and/or annual events rather than focusing on consequences of extreme events.</p> <p>Regarding training, the requirement for each Generator Operator (GOP) or Generator Owner (GO) to provide generating unit-specific training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) annually conflicts with PER-005 requirements that expect training to be task-based with training requirements related to the difficulty, importance, and frequency of each task. In addition, NERC has modified other standards to remove training requirements from individual standards in favor of placing them within PER standards. The EOP-011- 2 requirement ignores that effort, which is unfortunate considering PER-006 deals specifically with GO and GOP training expectations. Finally, proposed training requirements deal</p>	

with cold weather only. Training for all applicable extreme weather events should be included in the requirement, not just cold weather.

Likes 0

Dislikes 0

Response

Thank you for your comments. The scope of the SAR is limited to cold weather and is consistent with the FERC recommendations contained in the FERC\NERC report. The SDT will forward your suggestion for including all extreme weather in preparation plans to NERC for further review. Given the timeframe and questions regarding the scope of the SAR, the SDT will forward your comments regarding the PER standards onto NERC for further consideration and development. The SDT has revised Requirement R8 to clarify the intent of the training.

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name

Comment

The NSRF agrees with splitting out the training requirement in R7 to R8.

Likes 0

Dislikes 0

Response

Thank you for your support.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Yes

Document Name

Comment

Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
<p>With the 'or' language within Requirement R8 (i.e. Generator Operator or Generator Owner), when the GOP and GO functional registrations are not both retained by one registered entity, the responsibility for who must implement training is not clearly defined and may lead to missed compliance obligations.</p> <p>Suggest looking at TPL-007-4 R1 language that describes a way for multiple functional registrations to determine responsibilities (i.e. "Each PC in conjunction with its TP shall identify the individual and joint responsibilities..."). Proposed EOP-011 R8 language:</p> <p>Each Generator Operator in conjunction with its Generator Owner shall identify the organization responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel, as needed, for the implementation of the cold weather preparedness plan(s).</p>	
Likes	2
Dislikes	0
City Utilities of Springfield, Missouri, 4, Allen John; Taunton Municipal Lighting Plant, 1, Tremont Devon	
Response	

Thank you for your support. The SDT has revised Requirement R8 to clarify the intent and has incorporated language similar to your suggested change.	
Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
The NSRF agrees with splitting out the training requirement in R7 to R8.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
R8 does not say whether training is a one-time obligation or must be renewed each year. If annual refresher training is intended the standard should say so.	
Likes	0
Dislikes	0
Response	
Thank you for your support. The SDT voted to include further clarification on the timing of training requirements in the Implementation Guidance.	

Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Entergy agrees with the recommendation but suggests the inclusion of “Each Generator Operator and/or Generator Owner” to clarify the applicability to both the GO and the GOP. Perhaps additional clarity is needed to suggest entities collaborate when they are not both a GO and GOP.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support. The SDT revised Requirement R8 to clarify the intent.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes

Document Name	
Comment	
MPC supports MRO NERC Standards Review Forum comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company supports this change to EOP-011.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	

<p>NRG Energy agrees with the addition of R8 to train personnel to implement cold-weather preparedness plans. The location of the training requirement in EOP-011 is acceptable, providing a direct link to R7 for content.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your support.</p>	
<p>Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion</p>	
Answer	Yes
Document Name	
Comment	
<p>If tasks that are performed by maintenance personnel within a "cold weather plan" are the same as daily/routine tasks, however on specific components, would additional "specific" training be required per this Requirement or would the regular training evidence be sufficient?</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SDT believes the responsible entity is in the best position to decide which training to provide to meet the basic requirements.</p>	
<p>Patricia Lynch - NRG - NRG Energy, Inc. - 5</p>	
Answer	Yes
Document Name	
Comment	

<p>NRG Energy agrees with the addition of R8 to train personnel to implement cold-weather preparedness plans. The location of the training requirement in EOP-011 is acceptable, providing a direct link to R7 for content.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your support.</p>	
<p>Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1</p>	
Answer	Yes
Document Name	
Comment	
<p>MEC supports the MRO NSRF comments.</p>	
Likes	0
Dislikes	0
Response	
<p>Please see the SDT's response to MRO NSRF.</p>	
<p>Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD</p>	
Answer	Yes
Document Name	
Comment	
<p>CHPD agrees with moving the generator unit-specific training from Requirement R7 and placing it in the new Requirement R8. CHPD however believes the use of "or" in the statement "shall provide generating unit-specific training to its maintenance OR operations</p>	

personnel responsible for implementing cold weather preparedness plan(s)” causes confusion as to what the compliance obligation is if an entity is both registered as a Generator Owner and Generator Operator and implies there is a choice of who is trained.

Likes 0

Dislikes 0

Response

Thank you for your support. The SDT has revised Requirement R8 to further clarify the intent.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer

Yes

Document Name

Comment

The NAGF agrees with placement of the generator unit-specific training Requirement R8 in the EOP-11 standard.

Likes 0

Dislikes 0

Response

Thank you for your support.

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

SRP agrees it should be the GO's responsibility to ensure the facilities are reaonably prepared for expected cold weather for the facility. SRP also agrees that it may be the GO or GOP's that are best situated to be the ones to activate cold weather preparations.

Likes	0
Dislikes	0
Response	
Thank you for your support.	
Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer	
Answer	Yes
Document Name	
Comment	
While we agree with the training requirement, the additional change in R7 (also included in IRO-010) specifically 7.3 requires additional discussion and consideration to effectively accomplish the best approach. Agree with the need and pressure to address, however, it is complex and shouldn't be pushed through last minute without due consideration.	
Likes	0
Dislikes	0
Response	
Thank you for your support and comments. The SDT has discussed and give due consideration to yours and other entities comments. 7.3 was added to provide additional clarity/framework around the phrase "operating limitations", using existing language from EOP-011.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	

Xcel Energy agrees with the new training Requirement and the close proximity to R7. Including this training Requirement in PER-006 may not adequately address the specific nature of the training.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
The California ISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to ISO/RTO Counsel Standards Review Committee.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	
MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.	

With regard to placement of the requirement, i.e. whether in **EOP-011-2: Emergency Preparedness and Operations** or **PER-006-1: Specific Training for (Generator Operator) Personnel**, MISO is neutral.

Enhance the training requirement to clarify accountability and specify a periodicity to ensure awareness and preparedness of generator personnel - MISO believes it is more important to focus on the content of the training requirement as opposed to the placement of the requirement. To that end, we recommend the following changes to clarify accountability and require a periodicity in training as we believe the proposed requirement does not go far enough in these areas:

1. Clarify Accountability for Performing Training - As proposed, requirement R8 applies to the Generator Operator (GOP) **or** Generator Owner (GO) but not both (as this would require the use of “**and**”). This leaves the door open to only one of the GO/GOP functions having to provide training to its maintenance **or** operations personnel but not both (as this would require the use of “**and**”). Typically, maintenance and operations are separate functions where maintenance is the function of the GO and operations the function of the GOP. Therefore, to ensure applicability to each function, MISO recommends the requirement be modified to be inclusive of all functions whereby use of the word “its” limits applicability to employees of the relevant function.

2. Require a Periodicity for Preparedness Plan Training – As proposed, requirement R8 only requires the GO or GOP to perform training on preparedness plans one time. Over time, this could result in generator personnel falling out of familiarity and not being apprised of revisions to preparedness plans. To remedy this, MISO recommends the training be performed annually similar to the inspection and maintenance of freeze protection measures as required under Part 7.2.

Recommendation: Revise the language to read as follows

R8. Each Generator Operator **and** Generator Owner shall provide **annual** generating unit-specific training to its maintenance **and** operations personnel responsible for implementing cold weather preparedness plan(s). [Violation Risk Factor: Medium] [Time Horizon: Longterm Planning, Operations Planning]

Likes 0

Dislikes 0

Response

Thank you for your support. The SDT voted to include further clarification on the timing/periodicity of training requirements in the Implementation Guidance. Additionally, the SDT revised Requirement R8 to clarify accountability and intent.

David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
<p>Ameren generally agrees with the SDT's recommendation but has some comments. Since changes are being made to both standards, an error in one standard could lead to an error in another standard, which doesn't make much sense and seems repetitive.</p> <p>Ameren would like to know what is going to be done with all the data that needs to be collected. If the data is not being used for a specified purpose why does it need to be collected?</p> <p>Ameren would like to know how the potential conflict would be resolved if the data is requested but the GOP isn't required to send it and denies the request?</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your support. The SDT believes that the RC/BA/TOP function will utilize the data provided pursuant to the data specifications in its planning and real-time assessment consistent with the standards. Pursuant to the standards, the GOP is required to provide the specified data to the RC/BA/TOP. Any conflicts would be resolved pursuant to the process to resolve other data specification issues.</p>	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	

As much as we would like to see all training related requirements in the PER standard family, we understand why the Standards Drafting Team chose its placement in EOP-011 R8.	
Likes	0
Dislikes	0
Response	
Thank you for your support. The SDT is forwarding the PER issue to NERC for further consideration and development.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion	
Answer	Yes
Document Name	
Comment	
<p>With the 'or' language within Requirement R8 (i.e. Generator Operator or Generator Owner), when the GOP and GO functional registrations are not both retained by one of the registered entities, the responsibility for who must implement training is not clearly defined and may lead to missed compliance obligations.</p> <p>Suggest looking at TPL-007-4 R1 language that describes a way for multiple functional registrations to determine responsibilities (i.e. "Each PC in conjunction with its TP shall identify the individual and joint responsibilities..."). Proposed EOP-011 R8 language:</p> <p>Each Generator Operator in conjunction with its Generator Owner shall identify the organization responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel, as needed, for the implementation of the cold weather preparedness plan(s).</p>	
Likes	0
Dislikes	0
Response	

Thank you for your support. The SDT has revised Requirement R8 to further clarify the intent using vernacular similar to your suggestion.

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer Yes

Document Name

Comment

EEl supports the proposed changes to EOP-011-2 R7.

Likes 0

Dislikes 0

Response

Thank you for your support.

Devon Tremont - Taunton Municipal Lighting Plant - 1

Answer Yes

Document Name

Comment

The Taunton Municipal Lighting Plant supports the comments submitted by Utility Services, Inc., which state:

With the ‘or’ language within Requirement R8 (i.e. Generator Operator or Generator Owner), when the GOP and GO functional registrations are not both retained by one registered entity, the responsibility for who must implement training is not clearly defined and may lead to missed compliance obligations.

Suggest looking at TPL-007-4 R1 language that describes a way for multiple functional registrations to determine responsibilities (i.e. “Each PC in conjunction with its TP shall identify the individual and joint responsibilities...”). Proposed EOP-011 R8 language:

Each Generator Operator in conjunction with its Generator Owner shall identify the organization responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel, as needed, for the implementation of the cold weather preparedness plan(s).

Likes 0

Dislikes 0

Response

Thank you for your support. The SDT has revised Requirement R8 to further clarify the intent using vernacular similar to your suggestion.

George Brown - Acciona Energy North America - 5

Answer Yes

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) would like to suggest the following requirement language.

R8. Each Generator Operator or Generator Owner shall provide generating unit-specific training on its cold weather preparedness plan(s) developed in Requirement R7 to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s).

Likes 0

Dislikes 0

Response

Thank you for your support. The SDT has revised Requirement R8 to further clarify the intent using vernacular similar to your suggestion.

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer Yes

Document Name

Comment	
R7 only requires a GO to develop and implement a cold weather preparedness plan. For consistency, R7 should be revised to include GOP OR R8 should be revised to only exclude GOP.	
Likes	0
Dislikes	0
Response	
Thank you for your support. The SDT has revised Requirement R8 to further clarify the intent. The SDT determined that the GO is the correct entity to prepare the cold weather preparedness plan and so Requirement R7 remains only applicable to the GO.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the proposed changes to EOP-011-2 R7 and the creation of R8.	
Submitted on behalf of Exelon, Segments 1, 3, 5, 6	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	

Comment	
OPG supports NPCC RSC's comments.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	
ERCOT agrees with the addition of GOPs to the functional entities responsible for training.	
With respect to the current draft revisions to EOP-011-2, Requirement R7, Part 7.3, ERCOT suggests switching "operating limitations" in Part 7.3.1 with "capability and availability" in Part 7.3.1.1. because "capability and availability" are determined by operating limitations, fuel supply, environmental constraints, etc. ERCOT views "operating limitations" as one of the factors that determines "capability and availability," not the other way around.	
Likes	0
Dislikes	0
Response	
Thank you for your support. Thank you for your support. In light of the support received for the language during this posting, and the determination by the SDT that your proposed language would be a substantive change, the SDT determined not to include it. The SDT has forwarded your recommendations to NERC for consideration in future projects.	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - Laura Nelson	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
LaTroy Brumfield - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Daniela Atanasovski - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Dillard - Austin Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jamison Cawley - Nebraska Public Power District - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	

Answer	
Document Name	
Comment	
<p>Texas RE agrees with adding a specific training requirement. Texas RE recommends adding a more specific part to document the roles and responsibilities of the personnel. Additionally, there should be a periodicity for personnel to receive training on the cold weather preparedness plan as well as a provision that training be conducted prior to the winter season. Texas RE notes that the 2019 FERC and NERC Staff Report on the South Central United States Cold Weather BES Event of January 18, 2018 (“2019 Cold Weather Event Report”) mentions in several places the importance of training and states training should be done annually (page 135).</p> <p>Additionally, Texas RE is concerned that Requirement R8 requires training for the GOP <i>or</i> GO for its maintenance <i>or</i> operations personnel. As the requirement is written, an entity can choose to train the GOP or GO but is not explicitly required to train both. In Texas RE’s experience, GOP personnel should understand the GOs’ cold weather preparedness plans and a requirement specifying training for appropriate personnel for both functions is appropriate.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your support. The SDT has revised Requirement R8 to further clarify the intent. The SDT voted to include additional clarification on timing/periodicity of training within the Implementation Guidance.</p>	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
<p>See comments submitted by Edison Electric Institute</p>	
Likes 0	

Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Romel Aquino - Edison International - Southern California Edison Company - 3	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	

2. In response to comments from the first posting, the SDT added cold weather data specification requirements for the BA within TOP-003, similar to what is required of the RC and TO. Do you agree with the inclusion of these requirements in the TOP-003 standard? If you do not agree, please provide an alternative to address the comments. If you agree but have comments or suggestions on the SDT's recommendation, please provide your explanation and suggested language.

Amy Jones - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

IRO-010-4 Comments

The added sub-requirement singles out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Reliability Coordinators with additional information.

TOP-003-5 Comments

The added sub-requirements single out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Balancing Authorities and Transmission Operators with additional information.

Likes 0

Dislikes 0

Response

Thank you for your comment. Given the scope of the SAR, the SDT is unable to address readiness plans for all types of extreme weather; however, the issue will be forwarded to NERC for further review.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer	No
Document Name	
Comment	
See Marty Hostler's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to Marty Hostler.	
Gladys DeLaO - CPS Energy - 1	
Answer	No
Document Name	
Comment	
No, CPSE does not agree and in general supports the responses by NCPA, Seattle, and Reclamation recommends.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to NCPA and Reclamation.	
Dennis Sismaet - Northern California Power Agency - 6	
Answer	No
Document Name	
Comment	

NERC Standards already allow registered entities to ask for this data if they need it.

Requiring entities to request specific data they may not need, use, or have any awareness training on how to use adds expense and administrative burden to all GO/GOPs and has no value.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Glenn Pressler - CPS Energy - 3

Answer

No

Document Name

Comment

CPSE does not agree and in general and supports the responses by NCPA, Seattle, and Reclamation.

Likes 0

Dislikes 0

Response

Please see the SDT's response to NCPA, Seattle, and Reclamation.

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer

No

Document Name

Comment

<p>Adding the BA is acceptable, but the added sub-requirements single out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Balancing Authorities and Transmission Operators with additional information.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SDT doesn't disagree with your premise; however, the SDT is limited to cold weather by the project's scope. The issue will be forwarded to NERC for further review.</p>	
David Jendras - Ameren - Ameren Services - 3	
Answer	No
Document Name	
Comment	
<p>Ameren would like to know what is going to do be done with the data collected? Why does this need to be added to TOP, and what are they expecting them to do with that info? Why would we want to have the info if it doesn't serve a purpose? Why should TO collect it if RC already has it?</p>	
Likes	0
Dislikes	0
Response	
<p>The SDT believes that the RC/BA/TOP function will utilize the data provided pursuant to the data specifications in its planning and real-time assessment consistent with the standards. The project scope includes the addition of the TOP and industry has supported the inclusion.</p>	
Wendy Center - U.S. Bureau of Reclamation - 5	
Answer	No

Document Name	
Comment	
<p>Reclamation recommends TOP-003 R1.3 be revised to include the word “status” to align with TOP-003 R2.3.</p> <p>Important questions have arisen in the industry about what the BA will do with the referenced data. Reclamation is concerned about the required collection of a substantial amount of data coupled with the unidentified purpose for which it is to be used. For example, there have already been modeling standards that resulted in delivery of data that the recipient was not using in any way, creating a regulatory burden for all involved parties with no reliability benefit. Reclamation recommends all requirements should directly support or improve BES reliability and the reliability purpose of all requirements should be readily ascertainable. Requirements should not be imposed that have no identifiable reliability benefit.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SDT believes that the RC/BA/TOP function will utilize the data provided pursuant to the data specifications in its planning and real-time assessment consistent with the standards.</p>	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
<p>NO. Requiring entities to request specific data they may not need, use, or have any awareness training on how to use adds expense and administrative burden to all GO/GOPs and has no value.</p>	
Likes	0
Dislikes	0
Response	

Thank you for your comment. The SDT believes that the RC/BA/TOP function will utilize the data provided pursuant to the data specifications in its planning and real-time assessment consistent with the standards, which will benefit their awareness during cold weather.

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

Having a cold weather plan should be enough from a regulatory point. Reaching to far into the business.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion

Answer No

Document Name

Comment

Dominion Energy fully supports addressing cold weather planning and communication but has concerns over some of the recent additions to the proposed changes to the Standards. Adding requirements requiring the GO/GOP to put fuel supply in its cold weather preparedness plan is not within the scope of the project. The SAR is very specific that communication regarding fuel constraints in operations during cold weather is in scope, but the suggested language places requirements far beyond communication on the GO/GOP. A number of fuel supplies for various types of generators are real-time, for example gas, wind and solar. Asking a GO/GOP to include fuel supply in its cold weather plan is extremely problematic as the fuel supply is dependent on either nature, which changes with little warning, or on a third party supplier (i.e. gas) that does not necessarily communicate or even know about supply issues to generators on the planning horizon. The SAR for this project is about communicating capabilities and expanding the scope to items such as fuel supply

should not occur. Dominion Energy recommends striking the language in the existing standard addressing BA operational plans accounting for fuel supply from the proposed additions.

Likes 0

Dislikes 0

Response

Thanks for your comment. As stated in the previous team meetings and on the webinar, the SDT believes that the inclusion of standards that promotes the GO/GOP/RC/BA/TOP awareness of fuel availability issues and potential constraints during cold weather will benefit reliability and is within the scope of the SAR. As per the proposed Implementation Guidance, the standards relate to data and are not a resource adequacy or must-sun requirement.

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

No

Document Name

Comment

If the request specified under TOP-003 includes generators, why is that different than any other cold weather effects on any BES equipment? Reasonably, if the BA requests data on generator cold weather performance, should the TOP request data on SF6 breaker tank heater performance? It is assumed that a generator owner or operator has some idea as to whether the facility will operate in extreme cold and that awareness is reflected in its availability or schedule to operate.

Likes 0

Dislikes 0

Response

Thank you for your comment. The FERC\NERC report stipulates which types of information should be included in the data specification and the SDT decided not to expand on those minimal requirements for purposes of a nation-wide standard. The SDT team believes the generator's winter preparedness plan should be the place where the GO may address the concerns expressed in the comment (e.g., freeze protection measures), but the SDT declines to expand the data specification requirements as currently written.

Julie Hall - Entergy - 6, Group Name Entergy	
Answer	No
Document Name	
Comment	
<p>Entergy does not agree with this inclusion. As was expressed in the first round of comments, Entergy also does not agree with the inclusion of cold weather-specific generation data as proposed for R1.3. This applies to the proposed R2.3 as well. It should be left up to the individual BA to request additional data as system conditions dictate.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. As noted, the proposed standards are in response to the recommendations contained in the FERC\NERC report.</p>	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	No
Document Name	
Comment	
<p>The requirements in TOP-003 R1.3 should be removed. Can the SDT explain how a TOP should be using this data? A TOP does not need this data to perform its OPA. We agree that these should be included in TOP-003 R2.3 for a BA.</p>	
Likes	0
Dislikes	0
Response	

Thank you for your comments. The TOP was added as a party to receive information during the development of the SAR and has been supported by industry. The TOP will utilize the data in its planning and operations as appropriate.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Duke Energy supports the following NAGF comment:

“The NAGF requests clarification regarding Requirement R7.3.1.2 “fuel supply and inventory concerns”. The data to be provided is not so much concerns but has to be actionable/usable for planning models and real-time operations. Generating facility NG pipeline pressure trip limit, % of contract firm gas supply, number of run hrs available on alternate/backup fuel, river flow with current/anticipated ice conditions, and available battery storage MW/Hrs are far more usefull than “concerns”.”

Likes 0

Dislikes 0

Response

Please see the SDT’s response to NAGF.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer No

Document Name

Comment

Seattle understands the desire the create a continental standard but remains concerned about the “one-size-fits-all” nature of the data specification language of TOP-003 R1.3 and R2.3, and suggests the following change (in CAPS):

R1.3 (and R2.3) Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include, AS APPROPRIATE:

The reasoning for this change is to allow reasonable flexibility to accommodate the relevant information while avoiding administrative burden and trivia for the wide variety of generation units across North America. The vast majority of units are incapable of fuel switching, for instance, including nuclear, hydroelectric, wind, and solar, among others. Seasonal irrigation-based hydroelectric units that do not operate during winter months (due to lack of irrigation flow) represent another category about which detailed cold weather information may be un-useful to anyone and burdensome to acquire and maintain.

Likes 0

Dislikes 0

Response

Thank you for your comment. Consistent with the recommendations contained in the FERC\NERC report, the SDT drafted the standards to be applicable to BES generation and contain a consistent approach to data specification between the GO/GOP and the RC/BA/TOP for use in their planning analysis processes.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Yes

Document Name

Comment

ERCOT agrees with the inclusion of these requirements in TOP-003.

Similar to its comments in connection with EOP-011-2, with respect to TOP-003, Requirement R1, Part 1.3.1, ERCOT suggests switching “operating limitations” in Part 1.3.1 with “capability and availability” in Part 1.3.1.1. because “capability and availability” are determined by operating limitations, fuel supply, environmental constraints, etc. ERCOT views “operating limitations” as one of the factors that determines “capability and availability,” not the other way around.

With respect to TOP-003, Requirement R1, Part 1.3.2, and Requirement R2, Part 2.3.2, ERCOT suggests revising this to require the data specification to include a generating unit minimum operating temperature that is based on design specification, historical performance, or other engineering analysis.

The language would read as follows:

1.3.2 Generating unit minimum operating temperature based on:

1.3.2.1 design specification; or

1.3.2.2 historical performance; or

1.3.2.3 engineering analysis.

Likes	0
Dislikes	0

Response

Thank you for your comment. The SDT has revised EOP-011 and TOP-003 requirements in a manner that may partly address your concerns.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer	Yes
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Document Name	
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Comment

OPG supports NPCC RSC's comments.

Likes	0
Dislikes	0

Response

Thanks you for your support and see response to RSC.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon supports the changes made to TOP-003.	
Submitted on behalf of Exelon, Segments 1, 3, 5, 6	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
ACES agrees with the inclusion of these revisions in TOP-003, but does have concerns over the term “local forecasted cold weather,” which has not been defined and could become a burden for any entity over a large geographical area and/or within multiple Regional Entity, BA, TOP, and/or RC zones. Additionally, the revisions do not address the difference in “cold weather” unit parameters for units that are online versus offline, and how that data would be captured and implemented.	
Likes	0
Dislikes	0
Response	

Thank you for your support. The SDT will forward your concerns onto NERC for review.	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	Yes
Document Name	
Comment	
<p>The Taunton Municipal Lighting Plant supports the comments submitted by Utility Services, Inc., which state:</p> <p>With the 'generator data specification' Requirement language in IRO-010 and TOP-003 the same for the RC/BA/TOP; which data specification the GO should follow and incorporate into their cold weather preparedness plan may be unclear.</p> <p>Suggest modifying EOP-011 R7.3 to clarify which data specification should be utilized:</p> <p>"7.3. Generating unit(s) cold weather data (from the RC, BA, or TOP data specification as needed), to include:"</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT determined to include in the GO plan the exact same vernacular that is included in the data specifications.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports the changes made to TOP-003 aligning the data requirements for local forecasted cold weather for TOs and BAs.	
Likes	0

Dislikes	0
Response	
Thank you for your support.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion	
Answer	Yes
Document Name	
Comment	
<p>With the 'generator data specification' Requirement language in IRO-010 and TOP-003 the same for the RC/BA/TOP; which data specification the GO should follow and incorporate into their cold weather preparedness plan may be unclear.</p> <p>Suggest modifying EOP-011 R7.3 to clarify which data specification should be utilized:</p> <p>7.3. Generating unit(s) cold weather data (from the RC, BA, or TOP data specification, as needed), to include:....</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT determined to include in the GO plan the exact same vernacular that is included in the data specifications.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	

We agree with the inclusion of the cold weather data specification requirements for the BA in the TOP-003 standard.	
Likes	0
Dislikes	0
Response	
Thank you for your comment.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	Yes
Document Name	
Comment	
<p>MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.</p> <p>Process improvement opportunity regarding the placement of cold weather data requirements - MISO believes it is appropriate to include the day-ahead, current day and real-time aspects of the cold weather data requirements in IRO-010 and TOP-003; i.e. IRO-010-4, Parts 1.3.1.1 (operating capability and availability) and 1.3.1.2 (fuel supply and inventory concerns).</p> <p>Recommendation: The balance of proposed cold weather data requirements; e.g. fuel switching capabilities, environmental constraints, minimum design temperature, minimum historical operating temperature and engineering analysis to determine minimum cold weather temperature, are more static in nature and may better reside in another NERC standard.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT determined to only make non-substantive changes to the standards in order to preserve the positive ballot received; however, the SDT will forward your comment to NERC for further consideration.	

Jamison Cawley - Nebraska Public Power District - 1	
Answer	Yes
Document Name	
Comment	
The requirement for information related to cold weather is appropriate for the BA and RC data specifications, but not appropriate that the TOP should have these same requirements. Suggest removing R1.3. from the proposed TOP-003 requirements.	
Likes 0	
Dislikes 0	
Response	
Thanks you for your comment. Based on feedback from industry during development of the SAR and previous draft standards, the TOP is included as an entity that would benefit from receiving the cold weather information.	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
The California ISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. Please see response to SRC.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes

Document Name	
Comment	
Xcel Energy agrees with the inclusion of the requirements in TOP-003 and feels they align with IRO-010 and EOP-011. However, we do suggest modifications to R1.3 and R2 to add clarity to who is supposed to notify who.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support and comment. The SDT has previously discussed this issue and determined that the RC/BA/TOP all should receive the information and should communicate via a data specification to the appropriate entity, as determined by the RC/BA/TOP.	
Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer	
Answer	Yes
Document Name	
Comment	
Evergy endorses the EEI comments submitted in this comment period.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	

Comment

AEPC agrees with the inclusion of these revisions in TOP-003, but does have concerns over the term “local forecasted cold weather,” which has not been defined and could become a burden for any entity over a large geographical area and/or within multiple Regional Entity, BA, TOP, and/or RC zones. Additionally, the revisions do not address the difference in “cold weather” unit parameters for units that are online versus offline, and how that data would be captured and implemented.

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

Thank you for your support.

Joshua Andersen - Salt River Project - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

SRP agrees tha cold weather data requests from the TO and BA are best situated in the TOP-003 Standard. SRP sees that the existing standard provides the mechanism for those entities to gather the data without being expressing required to do so. Adding the requirement that GOs implement and maintain specific cold weather plans with specific requirements adds a burden to the GO and GOP that may not have reliability impacts. Sufficient unit capabilities should already be gathered with the existing data request in TOP-003, if not then it may be a shortcoming with the entities making the request.

Likes 0

Dislikes 0

Response

Thank you for your comment. The implementation of cold weather plans by BES generation was a specific recommendation from the FERC\NERC report.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer Yes

Document Name

Comment

The NAGF agrees with the inclusion of the cold weather data specification requirements for the BA in the TOP-003 standard.

Likes 0

Dislikes 0

Response

Thank you for your support.

Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1

Answer Yes

Document Name

Comment

MEC supports the MRO NSRF comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to MRO NSRF.

Paul Mehlhaff - Sunflower Electric Power Corporation - 1

Answer	Yes
Document Name	
Comment	
Sunflower agrees with the comments ACES provided for question 2.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to ACES.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
No additional comments	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	

Southern Company supports this change to TOP-003.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes
Document Name	
Comment	
MPC supports MRO NERC Standards Review Forum comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes	0

Dislikes	0
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
The inclusion of the requirements for the BA in TOP-003 aligns with the recommendations made in the 2019 FERC and NERC Staff Report and with the purpose of this Project 2019-06.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
The inclusion of the requirements for the BA in TOP-003 aligns with the recommendations made in the 2019 FERC and NERC Staff Report and with the purpose of this Project 2019-06.	
Likes	0
Dislikes	0
Response	

Thank you for your support.	
Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Note: Question correction. Should read," BA within TOP-003, similar to what is required of the RC and TOP." Not the TO.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Your clarification of the intent of the question is correct.	
Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
With the 'generator data specification' Requirement language in IRO-010 and TOP-003 the same for the RC/BA/TOP; which data specification the GO should follow and incorporate into their cold weather preparedness plan may be unclear.	
Suggest modifying EOP-011 R7.3 to clarify which data specification should be utilized:	
7.3. Generating unit(s) cold weather data (from the RC, BA, or TOP data specification as needed), to include:....	
Likes	0
Dislikes	0
Response	

Thank you for your comment. The SDT determined to include in the GO plan the exact same vernacular that is included in the data specifications.	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Note: Question correction. Should read," BA within TOP-003, similar to what is required of the RC and TOP." Not the TO.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT determined to include in the GO plan the exact same vernacular that is included in the data specifications.	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
George Brown - Acciona Energy North America - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
John Babik - JEA - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Daniela Atanasovski - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
LaTroy Brumfield - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Laura Nelson - Laura Nelson	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Allen - City Utilities of Springfield, Missouri - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC	
Answer	
Document Name	
Comment	
Capital Power has no comment on this revision	
Likes 0	
Dislikes 0	
Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	
Document Name	
Comment	
While BC Hydro agrees that the data specification requirements should be included for the BA, the specific data specification items should be improved as per our comments in Question 5.	
Likes 0	
Dislikes 0	
Response	

Thank you for your comment.	
Romel Aquino - Edison International - Southern California Edison Company - 3	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen	
Answer	

Document Name	
Comment	
Yes, No Comment	
Likes 0	
Dislikes 0	
Response	
Kenya Streater - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	

Texas RE inquires as to whether the SDT considered updating the definitions of Real-time Assessment (RTA) and Operations Planning Analysis (OPA). The language “during local forecasted cold weather” in proposed TOP-003-5 Requirement Part 1.3 could be read to indicate this only applies to Real-time data, but this data is also needed in the operations horizon to prepare and plan for cold weather events. Texas RE notes that during Project 2007-06.2 Phase 2 of System Protection Coordination, these definitions were updated when IRO-010 and TOP-003 were updated.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT reviewed a similar suggestion in a previous iteration and determined that the definitions covered the information included in the proposed standards; however, the SDT will forward your suggestion onto NERC for further review.

3. In response to comments, the SDT modified the Implementation Plan to allow eighteen (18) months following the effective date to become compliant with EOP-011, IRO-010, and TOP-003. Do you agree with this modification? If you do not agree, please provide an alternative implementation timeframe. If you agree but have comments or suggestions on the SDT’s recommendation, please provide your explanation and suggested language.

Laura Nelson - Laura Nelson

Answer No

Document Name

Comment

Idaho Power requests a phased implementation over 36 months, with 1/3 of BES facilities being implemented the first year; 1/3 the second year, and 1/3 the third year to reach full implementation. With the requirement of additional engineering analysis for each of our BES units, the implementation will need to vary from unit-to-unit. Although Idaho Power feels it has adequate cold weather protections in place, this information is not known to us at this time but would be available after the engineering analysis. Appropriate time needs allotted to budget for, and procure, the engineering analysis, as well as implement any recommendations from the engineering analysis.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data. Additionally, the SDT believes that a phased approach would not be as effective or efficient as a one-time implementation.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Suggest the proposed 18 month Implementation Plan not include immediate training roll-out compliance, but instead allow training initiation and completion that would be staggered at least one full year after the Implementation Plans effective date.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that a phased approach would not be as effective as a one-time implementation.

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer No

Document Name

Comment

BPA supports Reclamation’s comments.

Likes 0

Dislikes 0

Response

Please see the SDT’s response to Reclamation.

Kathleen Goodman - ISO New England, Inc. - 2 - NPCC

Answer No

Document Name

Comment

12 months seems to be a sufficient amount of time to become compliant given that most of these new requirements have been recommended “best practices” for many years. Also note that the 18 month implementation plan would result in completion after the

second winter following approval (2022-2023). A 12 month implementation would only miss implementation for one winter (2021-2022).

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.

Brian Evans-Mongeon - Utility Services, Inc. - 4

Answer

No

Document Name

Comment

EOP-011 R7 contains data specification details that must be included in the cold weather preparedness plan, but without the direction from the BA/RC/TOP on what format this data should be documented, the GO's plan may be inconsistent with the expectations. Suggest IRO-010 and TOP-003 Implementation Plan be 12 months, and EOP-011 Implementation Plan be 18 months to allow GO time to incorporate the data specifications as requested into their plan.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that a phased approach would not be as effective or efficient as a one-time implementation.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer

No

Document Name

Comment

Comments: 18 months is an improvement however considering the complexity of the project a 24 month implementation plan may be more appropriate

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option is chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer

No

Document Name

Comment

All requirements go into effect at the same time under the proposed Implementation Plan.

If the data specifications from the TOP / BA or RC required in TOP-003-5 and IRO-010-4, respectively, aren't received until late into the proposed implementation period, it may not give the GO or GOP receiving the specifications enough time to meet or properly implement their new data requirements. As such, IRO-010-4 Requirement R3 and TOP-003-5 Requirement R5 (while unchanged) should have a later implementation period for the GO and GOP for these versions, to allow the entities to process and respond to the new data specifications from their BA, RC, TOP. The recommendation for this separate implementation period is to be at least 12-months.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that a phased approach would not be as effective or efficient as a one-time implementation.	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	No
Document Name	
Comment	
As the requirements proposed do not require Registered Entities to install any specific freeze protections, rather, they require the entity to have a plan and provide training to its personnel, 18 months seems to be excessive. ReliabilityFirst believes 12 months may be more appropriate. Depending on the timing of the effective date, an 18 month period could potentially have Registered Entities going through two cold weather seasons without being required to perform the steps outlined within the requirements. ReliabilityFirst believes these requirements need to be in place to address cold weather readiness as soon as possible.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.	
Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik	
Answer	No
Document Name	
Comment	
Eighteen months (18) seems to be a short time to make any required facility changes. Given capital budgeting processes, engineering, and construction timelines, and the inevitable re-prioritizing over the next 18 months, this time frame seems short. Three to four years is probably more feasible.	

Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option if chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	No
Document Name	
Comment	
Given the date is unknown for when the standard/requirements will go effective, each generating unit may not have enough historical data to 1) determine capability based on historical operating performance or 2) perform an adequate engineering analysis. Dominion Energy recommends a 24 month implementation period to allow for at least two cold weather seasons to pass and allow generators to gain the necessary information to ensure proper engineering analysis.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option if chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.	
Glen Farmer - Avista - Avista Corporation - 5	
Answer	No
Document Name	
Comment	

two years minimum. or 1/2 first year (Thermal Plants) and 1/2 second year (Hydro plants).	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data. Additionally, the SDT believes that a phased approach would not be as effective or efficient as a one-time implementation.	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC	
Answer	No
Document Name	
Comment	
ISO-NE believes that 12-months would be a sufficient amount of time to become compliant given that most of these new requirements have been recommended “best practices” for many years. Also note that the 18-month implementation plan would result in completion after the second winter following approval (2022-2023). A 12-month implementation would only miss implementation for one winter (2021-2022).	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	

Comment

NO. See prior NCPA comments. Two to three years is need.

Likes 0

Dislikes 0

Response

Please see the SDT's response to NCPA.

Wendy Center - U.S. Bureau of Reclamation - 5

Answer

No

Document Name

Comment

Reclamation recommends a 24-month implementation plan to allow entities appropriate time to comply with new requirements. Reclamation is concerned that the hasty implementation of requirements that are not carefully thought out will not support or improve BES reliability and in fact could divert entities from performing tasks that do support or improve BES reliability. This is especially important as proposed requirements become more complex. The cold weather modifications project began with the concepts of having a plan and training staff on it periodically. Now, data communications among entities, an annual inspection and maintenance program, and *unit-specific* training have been added to the proposed requirements. Even a 24-month implementation plan would not allow sufficient time for entities with a large number of facilities, generators, and/or personnel to successfully implement all these new mandates.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option is chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.

Jamison Cawley - Nebraska Public Power District - 1	
Answer	No
Document Name	
Comment	
Recommend a 24 month implementation period.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option is chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	No
Document Name	
Comment	
MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.	
12 months is a sufficient amount of time to implement the proposed changes – The original Implementation Plan proposed a 12 month implementation timeline. Following industry comments, the implementation timeline was extended to 18 months based on feedback provided by the GO/GOP community. This fails to demonstrate a sense of urgency in resolving cold weather issues to ensure reliable operations.	
In addition, a 6-month delay in implementing these standards, would likely place the effective date (assuming FERC adopts them expeditiously) as April 1, 2023 (just after the winter season); whereas a 12-month implementation would place the effective date as	

October 1, 2022 (just prior to the winter season), leaving the industry to operate through another entire cold weather season without the benefit of these provisions.

As many of these practices have been recommended by NERC for years, some dating back to the February 2011 Southwest Cold Weather Event, the proposed requirements are largely expense items; i.e. the development of preparedness plans, delivery of training to personnel and the provision of cold weather data, the amount of effort should be minimal. There is no requirement for generators to make capital investments; i.e. install freeze protection measures, which would justify the need for more time to implement.

As a Reliability Coordinator (RC) and Balancing Authority (BA), MISO is prepared to receive cold weather data from the GO and GOP as described under EOP-011, Part 7.3 within a 12 month timeframe. It is important to for reliable grid operations and situational awareness that this information be provided to reliability entities. This will enforce the current provisions that MISO has under its existing business practices for generators to provide this information.

Recommendation: Revise the Implementation Plan to reinstate a 12-month implementation period

Likes	0
Dislikes	0

Response

Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer	No
Document Name	

Comment

BC Hydro appreciates this opportunity to comment. However, without additional changes to the EOP-011 language, BC Hydro’s assessment at this time is that the EOP-011 standard implementation would take 24 months from adoption due to initial assessment of equipment specifications. Please see our comments to Question 5.

Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option is chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion	
Answer	No
Document Name	
Comment	
EOP-011 R7 contains data specification details that must be included in the cold weather preparedness plan, but without the direction from the BA/RC/TOP on what format this data should be documented, the GO's plan may be inconsistent with the expectations. Suggest IRO-010 and TOP-003 Implementation Plan be 12 months, and EOP-011 Implementation Plan is 18 months to allow GO time to incorporate the data specifications as requested into their plan.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT believes that a phased approach would not be as effective or efficient as a one-time implementation.	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	No
Document Name	
Comment	

The Taunton Municipal Lighting Plant supports the comments submitted by Utility Services, Inc., which state:

EOP-011 R7 contains data specification details that must be included in the cold weather preparedness plan, but without the direction from the BA/RC/TOP on what format this data should be documented, the GO's plan may be inconsistent with the expectations. Suggest IRO-010 and TOP-003 Implementation Plan be 12 months, and EOP-011 Implementation Plan be 18 months to allow GO time to incorporate the data specifications as requested into their plan.

Likes 0

Dislikes 0

Response

Please see the SDT's response to Utility Services, Inc.

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer

No

Document Name

Comment

12 months seems to be a sufficient amount of time to become compliant given that most of these new requirements have been recommended "best practices" for many years. Also note that the 18 month implementation plan would result in completion after the second winter following approval (2022-2023). A 12 month implementation would only miss implementation for one winter (2021-2022).

*** CAISO did not join this group response. ***

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer No

Document Name

Comment

OPG supports NPCC RSC's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to NPCC RSC.

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

See prior NCPA comments. Two to three years is needed.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option is chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA	
Answer	No
Document Name	
Comment	
See Marty Hostler's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to Marty Hostler.	
John Allen - City Utilities of Springfield, Missouri - 4	
Answer	Yes
Document Name	
Comment	
It's unclear why 18 months is needed if we only have administrative obligations to create a plan and identify design parameters based on what we already have implemented.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT believes that 18 months will allow sufficient time for implementation (including conducting an engineering analysis to determine current cold weather performance if this option is chosen for cold weather data), while balancing the need to respond to the recommendations from the FERC/NERC report in a timely manner.	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	

Answer	Yes
Document Name	
Comment	
18 Months will be acceptable depending on the Reliability Coordinator data specifications.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
AEP appreciates the changes made in extending the Implementation Plan to 18 months, and thanks the SDT for their consideration of our suggestion.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE	
Answer	Yes
Document Name	

Comment	
Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, CEHE would prefer a minimum of 24 months to implement the changes, but understands the desire for an accelerated timeline.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Implementation of currently proposed changes to TOP-003 and EOP-011 would require considerable coordination with interconnected resources, assessment and comparison of current practices to proposed changes, and additional time for training personnel on new processes and procedures. As such, SIGE would prefer a minimum of 24 months to implement the changes, but understands the desire for an accelerated timeline.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes

Document Name	
Comment	
N/A.	
Likes 0	
Dislikes 0	
Response	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Southern Company supports this change to the Implementation Plan.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	

NRG agrees with the 18 months. It will take much time to develop a plan, implement the plan and needed changes, then develop and train personnel on the site-specific plan for each site. The time issue becomes magnified in larger fleets with diverse generators in varying locations.

Likes 0

Dislikes 0

Response

Thank you for your support.

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer

Yes

Document Name

Comment

No,
 12 months seems to be a sufficient amount of time to become compliant given that most of these new requirements have been recommended “best practices” for many years. Also note that the 18 month implementation plan would result in completion after the second winter following approval (2022-2023). A 12 month implementation would only miss implementation for one winter (2021-2022).

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer	Yes
Document Name	
Comment	
NRG agrees with the 18 months. It will take much time to develop a plan, implement the plan and needed changes, then develop and train personnel on the site-specific plan for each site. The time issue becomes magnified in larger fleets with diverse generators in varying locations.	
Likes 0	
Dislikes 0	
Response	
Thank you for your support.	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	Yes
Document Name	
Comment	
MEC supports the MRO NSRF comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	

Comment	
The NAGF agrees with modifying the Implementation Plan to allow for eighteen (18) months to become compliant following the effective date.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Joshua Andersen - Salt River Project - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
SRP agrees that entities that do not already have the Cold weather plans and the associated training can benefit from the 18 month implementation period. SRP also feels that any imediate unit capabilities can be required through the existing TOP-003 and IRO-010 data requests.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
Comment	

AEPC has signed on to ACES comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to ACES.	
Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer	
Answer	Yes
Document Name	
Comment	
Evergy endorses the EEI comments submitted in this comment period.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to EEI.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
The 18 month implementation period provides sufficient time to become compliant.	

Likes	0
Dislikes	0
Response	
Thank you for your support.	
David Jendras - Ameren - Ameren Services - 3	
Answer	Yes
Document Name	
Comment	
Ameren agrees with the change to extend the implementation plan to 18 months	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
We agree with modifying the Implementation Plan to allow for eighteen (18) months to become compliant following the effective date and appreciate the extra time.	
Likes	0
Dislikes	0

Response	
Thank you for your support.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI supports the SDT's proposal to modify the Implementation Plan to 18 months.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
In regards to EOP-011, Capital Power agrees with 18 month timeline for the development of the plan; however, implementation and training may take longer. Capital Power recommends a phased in implementation plan – Phase 1) Development of Plan (18 monts) 2) Implementation & Training (24 months).	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT believes that a phased approach would not be as effective as a one-time implementation.	

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
<p>PJM understands additional resources and commitments may be required to develop and distribute revised data specifications and develop and implement cold weather preparedness plans. Nevertheless, PJM continues to urge the immediate implementation of the revised standards with a subsequent twelve-month period before auditable compliance is required. If the SDT rejects this request and requires implementation of the revised standard 18 months after the adoption of the standard, PJM requests that NERC clearly state in its submission of the standard to the NERC Board and FERC that NERC strongly encourages Responsible Entities to voluntarily implement the revised standard as soon as possible to enhance winter readiness at the earliest date practicable within the Responsible Entity's region.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SDT maintains that its proposed implementation period is reasonable, particularly for those entities that need to conduct engineering studies in order to identify their cold weather operating temperatures. However, the SDT agrees that entities should implement the standard on a voluntary basis as soon as possible to enhance winter readiness.</p>	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
<p>Exelon supports an 18 month Implementation Plan.</p> <p>Submitted on behalf of Exelon, Segments 1, 3, 5, 6</p>	

Likes	0
Dislikes	0
Response	
Thank you for your support.	
Gladys DeLaO - CPS Energy - 1	
Answer	Yes
Document Name	
Comment	
Yes, CPS Energy agrees.	
Likes	0
Dislikes	0
Response	
Thank you for your support.	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	
ERCOT agrees with this modification given the system changes that may be necessary in order to implement the revised Reliability Standards.	
Likes	0
Dislikes	0

Response	
Thank you for your support.	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
LaTroy Brumfield - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Daniela Atanasovski - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Paul Mehlhaff - Sunflower Electric Power Corporation - 1	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Erin Green - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jamie Johnson - California ISO - 2	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Babik - JEA - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
George Brown - Acciona Energy North America - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Glenn Pressler - CPS Energy - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	

Comment

Texas RE understands that the principal rationale for extending the implementation timeline was to provide additional timelines for generators to perform engineering studies of their resources. Texas RE does not agree modification to the implementation timeline is needed and instead believes the original 12-month timeline provides a sufficient window for generators to perform initial assessments based on design or minimum historical operating experience. Generators will then have the option to update that analysis with engineering information, but the interim operational information will enhance cold weather reliability during the period in which more detailed information is being developed.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT settled on 18 months for implementation, to allow time for entities to schedule/conduct an engineering analysis to determine current cold weather performance if they choose this option for cold weather data.

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI.

Neil Shockey - Edison International - Southern California Edison Company - 5

Answer

Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Romel Aquino - Edison International - Southern California Edison Company - 3	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	

4. The SDT has provided draft Implementation Guidance to address some issues identified by industry during the previous comment period. Recognizing that Implementation Guidance is not subject to ballot body approval, do you agree with the SDT proceeding with the development of the Implementation Guidance? If you do not agree, or have additional topics you would like the SDT to consider in the Implementation Guidance, please provide your explanation and suggested language.

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer No

Document Name

Comment

See Marty Hostler's comments.

Likes 0

Dislikes 0

Response

Please see the SDT's response to Marty Hostler.

Dennis Sismaet - Northern California Power Agency - 6

Answer No

Document Name

Comment

Conforming to/with Implementation guidance is not considered during audits.

Likes 0

Dislikes 0

Response

Thank you for your comment.

George Brown - Acciona Energy North America - 5

Answer No

Document Name

Comment

Acciona Energy USA Global, LLC (Acciona) does not believe additional guidance is necessary.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has developed the IG based on comments from industry. NERC will decide whether to endorse or not.

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer No

Document Name

Comment

If approved, entities will be held to requirements. Implementation Guidance is not binding on auditors when they review evidence for compliance. Requirements should be modified to address issues identified by industry during the previous comment period.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has developed the IG based on comments from industry where consensus could not be reached whether to include the information in the standards.	
Jamison Cawley - Nebraska Public Power District - 1	
Answer	No
Document Name	
Comment	
The information included in the Implementation Guidance should be included in the Standard, to ensure its consideration during compliance monitoring activities. For example, Requirement R7 includes vague requirements (freeze protection measures) that are open to interpretation. The clarification provided by the Implementation Guidance is helpful, but since it is not part of the Standard it may be disregarded. Request the information be included in the Standard rather than an additional document.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has developed the IG based on comments from industry where consensus could not be reached whether to include the information in the standards.	
Marty Hostler - Northern California Power Agency - 3,4,5,6	
Answer	No
Document Name	
Comment	
Conforming to/with Implementation guidance is not considered during audits.	
Likes	0
Dislikes	0

Response

Thank you for your comment. The SDT has developed the IG based on comments from industry where consensus could not be reached whether to include the information in the standards. NERC will decide whether to endorse or not.

Glen Farmer - Avista - Avista Corporation - 5

Answer No

Document Name

Comment

Need more time.

Likes 0

Dislikes 0

Response

Anthony Jablonski - ReliabilityFirst - 10

Answer No

Document Name

Comment

ReliabilityFirst supports providing guidance to the Registered Entities and developing Implementation Guidance. However, if the guidance is only intended to provide additional explanation and context of the requirements, ReliabilityFirst believes the SDT should rather focus on clarifying the actual Requirements, Measures etc. while the standard is still draft form. Requirements, Measures, etc. should be written to remove any ambiguity and should be written in a clear and concise manner. If the guidance is purely explaining examples on how a Registered Entity may go about meeting the requirements, this is potentially something for the SDT to consider.

Likes 0

Dislikes	0
Response	
Thank you for your comment. The SDT has developed the Implementation Guidance based on comments from industry and where consensus could not be reached whether to include the information in the standards and, in the opinion of the SDT, contains examples how an entity may go about meeting the requirements. NERC will decide whether to endorse or not.	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	
As a general rule, Implementation Guidance is a good thing. However, it doesn't override or provide enforceable requirements. As such, having the recommendation for 5 years of historical operating temperatures in the guidance document doesn't prevent an auditor from expecting (requiring) the history to go back to initial commercial operation. As such, this limitation must be included in EOP-011 Requirement 7.3.2.2 and not in a non-enforceable guidance document. It must also be included in IRO-010 Requirement 1.3.2.2 and TOP-003 Requirements 1.3.2.2 and 2.3.2.2 to keep RCs, BAs, and TOPs from requiring something more than 5 years.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT, based on comments from industry, did not come to consensus on establishing a time frame for historical data within the standards; however, the majority of industry does support including the recommendation in the Implementation Guidance.	
Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	

ERCOT supports the development of Implementation Guidance. ERCOT suggests information concerning how minimum operating temperature information would be utilized in connection with Operational Planning Analysis and Real-time Assessment be included in the Implementation Guidance.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT does not see the additional need for implementation guidance on how the minimum operating temperature and other related limitations data of the generating unit during cold weather would be utilized with OPA and RTA. The FERC\NERC report states: "The need for Balancing Authorities and Reliability Coordinators to be aware of specific generating units' limitations, such as ambient temperatures beyond which they cannot be expected to perform or lack of firm gas transportation, and take such limitations into account in their operating processes to determine contingency reserves, and in performing operational planning analyses, respectively." The SDT does not read the report to specifically state what should be done with the information. The team drafted the language leaving it up to each entity to determine how the information will be utilized for its operational planning processes.

Gladys DeLaO - CPS Energy - 1

Answer

Yes

Document Name

Comment

Yes, CPS Energy agrees.

Likes 0

Dislikes 0

Response

Thank you for your support.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer	Yes
Document Name	
Comment	
OPG supports NPCC RSC's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to NPCC RSC.	
Daniel Gacek - Exelon - 1	
Answer	Yes
Document Name	
Comment	
Exelon support EEI's comment:	
<ul style="list-style-type: none"> Among the areas where expanded guidance would provide greater clarity is the intent of Requirement R7, subpart 7.3. 	
Exelon support NAGF's comments:	
<ul style="list-style-type: none"> The Implementation Guidance document should reference existing cold weather best practice documents available from NERC and industry. 	
Submitted on behalf of Exelon, Segments 1, 3, 5, 6	
Likes 0	
Dislikes 0	

Response	
Please see the SDT's response to EEI.	
Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis	
Answer	Yes
Document Name	
Comment	
<p>PJM requests the SDT consider including the following in the development of the Implementation Guidance:</p> <ol style="list-style-type: none"> 1. Specific guidance for the Generator Owner to provide the host Regional Entity/RC/TOP upon request or on a periodic basis (annually, seasonally or some other periodicity) with the Generator Owner's cold weather preparedness plans and associated data that the Generator Owner uses to ensure the freeze protection measures are designed to be consistent with the geography and meteorology for the location of the unit. The requirement to have Generator Owners provide cold weather preparedness plans to the RC/TOP allows the RC/TOP to have increased visibility into the plans of the Generator Owners and to incorporate Generator Owner's cold weather preparedness plans into the RC's/TOP's operational assessments. 2. A specific requirement that a Generator Owner's document supporting source data as assurance that the preparedness plans are based on equipment limitations, historical performance, and other relevant data to ensure the effectiveness of the plans. To the extent that weather forecasts or historical weather information other than those prepared by NOAA are relied upon, the Generator Owners should be required to provide an explanation in the supporting materials explaining why such an alternative forecast or historic data was utilized. 3. A provision that authorizes periodic spot checks outside audit cycles conducted by the host Regional Entity and results coordinated with the host BA/TOP/RC. 4. A provision that clearly states that the Generator Owner cold weather preparedness plans be based on unit size, type, and fuel sources as appropriate. 5. Provisions that ensure there are standard requirements and increased transparency in each Generator Owner's cold weather preparedness plans that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a 	

particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer

Yes

Document Name

Comment

The IRC/SRC recommends the SDT considers the following in the development of the of additional guidance in the Implementation Guidance document:

The IRC/SRC recommends the Generator Owner’s cold weather preparedness plans to be based on unit size, type, and fuel sources as appropriate.

The IRC/SRC recommends the Generator Owner document supporting data as assurance that the preparedness plans are based on equipment limitations, historical performance and other relevant data to ensure the effectiveness of the plans.

The IRC/SRC recommends the Implementation Guidance ensures that there are basic requirements and more transparency that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.	
Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC	
Answer	Yes
Document Name	
Comment	
<p>Capital Power appreciates the flexibility in allowing entities to define cold weather. However, this flexibility may introduce the potential for subjectivity during an audit or guided self-certification. Capital Power would like to see additional guidance regarding a risk based approach to compliance with this standard which may include differences in defining and preparing for cold weather vs. extreme cold weather. In many instances it is within an entities standard operating procedure to operate in 'cold weather' and it is only extreme weather or abnormal weather (cold or hot) that may require an entity to make different / additional preparations. Regulating conditions that are within an entities standard operating procedure and present little risk to the grid is inconsistent with the principals of NERC's Risk Based Compliance Monitoring and Enforcement Plan.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
<p>EI supports plans to develop implementation guidance. Among the areas where expanded guidance would provide greater clarity is the intent of Requirement R7, subpart 7.3.</p>	
Likes	0

Dislikes	0
Response	
Thank you for your support.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion	
Answer	Yes
Document Name	
Comment	
<p>Requesting that the Guidance document contains examples of freeze protection measures that are existing.</p> <p>Please consider adding EOP-011-2 Implementation Guidance for Requirement R7.3 and its subparts involving Generating unit(s) cold weather data, in regard to cold weather preparedness plan(s). For example, does the plan simply involve the communication of data to the Reliability Coordinator, Transmission Operator, and Balancing Authority, or does it involve more than a plan to communicate the data that is required by IRO-010-4 and TOP-003-5? Please consider explaining why it is necessary to have the cold weather data within the cold weather preparedness plan(s). The reason for the data in the cold weather preparedness plan(s) could be subject to different interpretations.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	

DTEE supports the comments made by the NAGF.

Likes 0

Dislikes 0

Response

Please see the SDT's response to NAGF.

David Jendras - Ameren - Ameren Services - 3

Answer

Yes

Document Name

Comment

Ameren generally agrees with the SDT's course of action, but we think the development of the Implementation Guidance is being rushed through an aggressive schedule.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your comments onto NERC for further consideration.

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO would like to acknowledge the Standard Drafting Team (SDT) for seeking to incorporate its recommendation in part; i.e. to establish a national reference with geographic locational emphasis that can be used as a standard for consistency of application across the NERC

footprint. Page 1 of the **Implementation Guidance for Reliability Standard EOP-011-2** includes a suggestion for Generator Owners (GOs) to: *“utilize an additional resource to develop their definition of cold weather, such as one or more commonly used industry resources (e.g. the National Weather Service Climate Predictions Center maps sponsored by the National Oceanic and Atmospheric Administration which depicts average annual extreme minimum temperatures within the United States);”* however, stops short of dictating any specific definition for cold weather.

Likewise, the proposed standard, **EOP-011-2**, stops short of requiring GOs to use a national reference in establishing the level of winterization measures required to enable its facility to operate through extreme temperatures as recommended by MISO in its comments submitted on March 12, 2021.

Lack of a “cold weather” definition means we may not see much of a reliability benefit – In the absence of a “cold weather” definition, each individual GO/GOP is left to define “cold weather” for themselves. As the recommendation contained in the **Implementation Guidance for Reliability Standard EOP-011-2** is merely a suggestion, it does not compel the GO/GOP to use the National Weather Service Climate Predictions Center maps as a reference. This could result in a wide variation of generator interpretations and compliance applications across the footprint with no means for NERC to enforce a minimum application of performance.

Recommendation: MISO reiterates its recommendation for NERC to establish a national reference with geographic locational emphasis that can be used as a standard for consistency of application across the NERC footprint.

Likes	0
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Dislikes	0
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Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Jamie Johnson - California ISO - 2

Answer	Yes
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Document Name	
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Comment

The California ISO agrees with comments submitted by the ISO/RTO Counsel (IRC) Standards Review Committee.

Likes	0
Dislikes	0
Response	
Thank you for your support.	
Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer	
Answer	Yes
Document Name	
Comment	
If Requirement 7.3 is not addressed as requested / suggested above, I recommend the SDT take this up with Implementation Guidance.	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
Comment	
AEPC has signed on to ACES comments.	
Likes	0
Dislikes	0

Response	
Please see the SDT's response to ACES.	
Joshua Andersen - Salt River Project - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
SRP agrees that these guidance documents assist the industry in understanding the intent of the drafting team. However, as noted in the questions these guidance documents are not auditable or resources for entities to base compliance plans on.	
Likes	0
Dislikes	0
Response	
Thank you for your comment.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	Yes
Document Name	
Comment	
<p>The NAGF supports the development of Implementation Guidance to provide example approaches for achieving compliance with EOP-011-2. The NAGF provides the following comments for consideration:</p> <ul style="list-style-type: none"> • The Implementation Guidance document should reference existing cold weather best practice documents available from NERC and industry. • The draft Implementation Guidance document as written is very basic and should incorporate additional clarification for the items listed under Question #5. 	

Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.	
Wendy Center - U.S. Bureau of Reclamation - 5	
Answer	Yes
Document Name	
Comment	
<p>Reclamation supports the development of implementation guidance; however, the problem with the proposed cold weather modifications is the universal application of a compliance burden to solve a problem in a limited geographic area that is limited to certain types of generation facilities. Reclamation observes the lack of specificity in the proposed implementation guidance does little to guide the implementation of the new requirements. Lack of solid guidance almost certainly guarantees conflict between entities and auditors based on varying interpretations.</p> <p>The implementation guidance states that Generator Owners will determine their own definition of cold weather and identify any associated protection measures. By avoiding prescriptive requirements to address a very specific problem, the result is requirements that are simply administrative in nature and that do not significantly improve reliability. Reclamation observes that this approach is not dissimilar from the current industry approach, which purportedly led to the recent cold weather reliability problems; i.e., that market factors “could” encourage entities in warm climates to proactively prepare for cold weather but the reality that those entities were not adequately prepared.</p> <p>Reclamation recommends entities that are already adequately protected against cold weather do not need a reliability standard to require cold weather protections and entities that are not adequately protected against cold weather need clear, definitive requirements to meet NERC and FERC’s objectives of electric reliability during extreme cold weather. This is appropriately achieved by a regional reliability standard or by excluding certain geographic locations and/or certain types of generators. The fact that an entity can write its cold weather preparedness plan to be as little or as much detailed as it wants gives little support to genuinely improving reliability.</p>	
Likes	0

Dislikes	0
Response	
Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	Yes
Document Name	
Comment	
MEC supports the MRO NSRF comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	
ISO-NE recommends the SDT considers the following in the development of the of additional guidance in the Implementation Guidance document:	
ISO-NE recommends the Generator Owner's cold weather preparedness plans to be based on unit size, type, and fuel sources as appropriate.	

ISO-NE recommends the Generator Owner document supporting data as assurance that the preparedness plans are based on equipment limitations, historical performance and other relevant data to ensure the effectiveness of the plans.

ISO-NE recommends the Implementation Guidance ensures that there are basic requirements and more transparency that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen

Answer

Yes

Document Name

Comment

The IRC/SRC recommends the SDT considers the following in the development of the of additional guidance in the Implementation Guidance document:

The ISO-NE recommends the Generator Owner’s cold weather preparedness plans to be based on unit size, type, and fuel sources as appropriate.

The ISO-NE recommends the Generator Owner document supporting data as assurance that the preparedness plans are based on equipment limitations, historical performance and other relevant data to ensure the effectiveness of the plans.

The ISO-NE recommends the Implementation Guidance ensures that there are basic requirements and more transparency that allows comparability between such plans for equivalent generation types. Without more specifics in terms of the winterization contents and the

data used in its development, there will be little ability for reviewers and auditors to determine whether a particular plan was sufficient or insufficient relative to plans covering similar generation technology in the same or similar geographic area.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

Yes

Document Name

Comment

Implementation guidance for a new requiriement is always helpful.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer

Yes

Document Name

Comment

Southern Company supports the drafting of Implementation Guidance.

Likes 0

Dislikes	0
Response	
Thank you for your support.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
N/A.	
Likes	0
Dislikes	0
Response	
Donald Lock - Talen Generation, LLC - 5	
Answer	Yes
Document Name	
Comment	
<p>We agree that GOs should not have to retrofit existing generation units to meet cold weather criteria different from those for which plants were designed, but the statement, "Requirement R7 does not requires a Generator Owner to install any specific freeze protections measures on their generating unit(s)," appears to invite those building new facilities to ignore the subject and report for EOP-011 a freeze protection design temperature of 33 F. New units should be designed for at least the lowest historical ambient air temperature for their locations, plus a substantial wind speed.</p> <p>NERC should explain that the preparedness plans cited in R7 and R8 pertain solely to pre-winter equipment preparations, and do not address non-equipment issues (e.g. checking inventories of food, cots and blankets for operators, hiring a snowplowing contractor) and</p>	

actions taken during winter storms (e.g. criteria for calling-out extra personnel, expanded operator’s rounds, turning-on heaters at various temperature trigger-points, cold-weather lay-up practices following shutdown).

NERC should explain that the preparedness plan of R7 and R8 is to address all wintertime equipment protection measures, not just those related to the freezing of water, despite use of the term, “freeze protection measures,” in R7.1 and R7.2. Alternatively, replace, “freeze protection,” in the standard with, “winterization,” or, “cold weather.”

The Implementation Guidance document should provide recommended best practices for key winter storm survival issues supplemental to those addressed in the requirements of EOP-011, such as keeping CTG inlet air filters from becoming blocked by snow.

The Implementation Guidance document should educate readers as to why freeze prevention measures often fail to function as designed, in particular the fact that the IEEE-515 formula for piping represents an insulation-encapsulated system suspended in midair. Substantial additional heating is needed in places for heat lost through supports and clamps, and for bare surfaces on valves. Again recommended best practices should be discussed.

Likes	0
Dislikes	0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE

Answer	Yes
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Document Name	
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Comment

OKGE agrees with the creation of an Implementation Guidance. However, we suggest adding clarification on R8 regarding the periodicity of training required. Currently, the language is not clear and it is open to interpretation during an audit as to how often training is required.

Also, we are not certain if the proposed Implementation Guidance (IG) will be approved as part of the whole package when the project receives approval from the industry. Our understanding is that Implementation Guidance follows a separate process, different from the

standard development process. So, we want to emphasize that it is important for the IG to be endorsed by the ERO prior to the effective date of the three standards so that registered entities are able to use it to adequately plan and implement by the effective date.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer Yes

Document Name

Comment

Comments: *Guidance likely to be usefull*

Likes 0

Dislikes 0

Response

Thank you for your comment.

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer Yes

Document Name

Comment

The Implementation Guidance is helpful. The analysis to determine the “minimum historical operating temperature” still includes the 5 years of operational data which was removed from the standard. It also requires you to use the most recent extreme cold weather event

even if that was 10 years ago. For Registered Entities in the South cold weather is rare and there may not be data available from the Registered Entity for the most recent cold weather event.

Likes 0

Dislikes 0

Response

Thank you. The SDT has included multiple options to determine the operability and capability of the unit, of which the minimum historical operating temperature is just one.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Yes

Document Name

Comment

Seattle appreciates the efforts of the SDT to develop implementation guidance for EOP-011. However, we find the guidance provided to contradict itself. EOP-011 Implementation Guidance for R7 indicates “but the requirement does not dictate any specific definition for cold weather” whereas that provided for R8 states “The cold weather preparedness plan must contain, however, information on freeze protection measures currently in place...” By connecting freeze protection with cold weather in the guidance for R8, the SDT directly implies that freezing conditions must be included in any definition of cold weather. This directly contradicts the R7 guidance.

Seattle is concerned about this contradiction because we remain confused by the expectations of new EOP-011 for generation units located in naturally cold locations, designed for cold conditions, and with long histories of successful operation in winter. Some of our hydroelectric units are located high in mountains and have operated in all winter conditions over more than 100 years. The guidance for R7 directs that we would be able to define “cold weather” as “abnormally cold weather” and focus our preparation plans on such conditions. The guidance of R8, however, directs that we include all existing freeze protection measures in such plans, which implies that cold weather plans should accommodate all conditions below freezing.

Seattle finds this contradictory thinking to pervade all aspects of Project 2019-06 and asks that the SDT resolve in its mind which is meant: that entities may define cold weather for themselves and develop appropriate preparedness plans, or that cold weather is defined as

“below freezing” and entities must plan for and document how they address freezing conditions and below. Seattle strongly prefers the former interpretation.

Seattle also asks that the guidance clarify the flexibility in definitions and plans envisioned by the SDT. For example, is an entity is permitted to develop different definitions for cold weather for different units located in different areas with different cold weather conditions, or is each entity is expected to have a common definition for cold weather and a common preparedness plan. Is a summer-only unit, such as a hydroelectric unit powered by irrigation flows that does not operate during winter, required to document and train on a comprehensive cold weather operating plan?

Likes 1	Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 3, 1, 4, 5, 6; John Merre
Dislikes 0	

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

John Allen - City Utilities of Springfield, Missouri - 4

Answer	Yes
Document Name	

Comment

I fully support the SDT drafting Implementation Guidance to describe one or more ways to implement this standard. If it moves forward, then it will need more detail.

Likes 0	
Dislikes 0	

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Glenn Pressler - CPS Energy - 3

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Devon Tremont - Taunton Municipal Lighting Plant - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
John Babik - JEA - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
James Baldwin - Lower Colorado River Authority - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Teresa Krabe - Lower Colorado River Authority - 5	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dan Roethemeyer - Vistra Energy - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Meaghan Connell - Public Utility District No. 1 of Chelan County - 5, Group Name CHPD	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Aidan Gallegos - PNM Resources - Public Service Company of New Mexico - 1,3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Jun Hua - Austin Energy - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
W. Dwayne Preston - Austin Energy - 3	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Patricia Lynch - NRG - NRG Energy, Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Truong Le - Truong Le On Behalf of: David Owens, Gainesville Regional Utilities, 1, 5, 3; Neville Bowen, Ocala Utility Services, 3; - Truong Le	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Paul Mehlhaff - Sunflower Electric Power Corporation - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Daniela Atanasovski - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	

Comment	
Likes 0	
Dislikes 0	
Response	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Julie Hall - Entergy - 6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Brian Evans-Mongeon - Utility Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thomas Foltz - AEP - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
Response	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Donna Wood - Tri-State G and T Association, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
LaTroy Brumfield - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Laura Nelson - Laura Nelson	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Gul Khan - Gul Khan On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Gul Khan	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	
Document Name	
Comment	
BC Hydro supports the comments of Seattle City Light.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to Seattle City Light.	
Romel Aquino - Edison International - Southern California Edison Company - 3	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Neil Shockey - Edison International - Southern California Edison Company - 5	

Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	

Texas RE understands the purpose of implementation guidance is to include “examples or approaches to illustrate how registered entities could comply with a standard.” (Compliance Guidance Policy, page 3). This implementation guidance does not include any specific examples or approaches for complying with proposed EOP-011 Requirements R7 and R8. In general, it is preferable for the requirement language to set clear compliance expectations as is noted on page 5 of the Compliance Guidance Policy: “Compliance expectations should be made as clear as possible through the standards development process which should minimize the need for guidance after final ballot approval of a standard.”

Likes 1	OGE Energy - Oklahoma Gas and Electric Co., 6, Tay Sing
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Dislikes 0	
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Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

5. Please provide any additional comments for the SDT to consider, if desired.

John Allen - City Utilities of Springfield, Missouri - 4

Answer

Document Name

Comment

Overall, I believe the new requirements are not results-based and instead mostly administrative without a clear measurable reliability objective. This makes it unclear if any of the new requirements will actually benefit reliability. However, I will vote affirmative to move this project forward so the SDT can meet their mandate to the NERC BOT.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Matthew Nutsch - Seattle City Light - 1,3,4,5,6 - WECC

Answer

Document Name

Comment

Seattle appreciates the efforts of the SDT to address the many comments of industry while accommodating the mandates of FERC and NERC surrounding this project, especially in light of the recent cold weather event in the Texas area. It's a challenging effort.

Seattle does not believe that all changes have improved the proposed Standards. In particular, Seattle asks that the language of EOP-011 R1.2.6.2 be restored, such that the term "and other" remains to modify "extreme weather conditions." As currently written, R1.2.6.1 and R1.2.6.2 taken together imply that "cold weather" is an extreme weather condition. Which may be true in Texas and many southern states,

but is manifestly not true in northern parts of North America such as Minnesota or New York or Washington or Canada. Although restoring the modifier “and other” to R1.2.6.2 does not fully clarify what is meant by “cold weather,” it does suggest that the type of cold weather of concern for EOP-011 (and by extension IRO-010 and TOP-003) is the “extreme” variety, i.e., not those conditions that occur annually but rather those that occur once every 5 or 10 or 20 years, perhaps.

Seattle furthermore asks, as in our prior comments, that the SDT better clarify the intent regarding “cold weather conditions” for Project 2019-06 by replacing everywhere in EOP-011, IRO-010, and TOP-003 the term “cold weather” with “abnormally cold weather.” This change would make clear the intent and reach of these revised and new requirements, resolve confusion about how to apply these changes to the majority of North American generation units, and minimize purely administrative, trivial activities having no reliability benefit.

Seattle’s comments for item 4, above, also discuss clarification of what is meant by “cold weather,” in this case as exposed by a contradiction in the draft implementation guidance for EOP-011 R7 and R8. Clearing up the contradiction here would help clarify what is intended in the proposed changes to EOP-011 R1, R7, and R8, and by extension IRO-010 and TOP-003.

Thank you for your consideration.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT will forward your recommendations onto NERC for further consideration.

Kendra Buesgens - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Document Name

Comment

IRO-010-5, R1 Sub requirement numbering correction.

1.3.2. Generating unit(s):

- 2.3.2.1. minimum design temperature; or
- 2.3.2.2. minimum historical operating temperature; or
- 2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

These should be 1.3.2.1, 1.3.2.2 and 1.3.2.3 respectively.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has updated the requirement number accordingly.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

Regarding the Transmission Operator data specification requirements within TOP-003-5 R1.3:

1. For TOP-003-5 R1.3, suggest removal of the phrase “generating unit-specific design specification or minimum historical performance during cold weather” because this information is only valuable if the facility has a single cold weather design specification.

Regarding the Reliability Coordinator data specification requirements within IRO-010-4 R1.3:

1. The proposed change is made redundant by the proposed change in TOP-003 and existing coordination required between the RC, BA, and TOP in IRO-008-2 R2. Since the BAs and TOPs will be required to include cold weather considerations as part of their data specifications and into their Operational Planning Analyses, the RC will have to consider the potential cold weather impacts of the generators that have been accounted for in the Operating Plans of the respective BAs and TOPs. Suggest removal of R1.3 Reliability Coordinator data specification requirements.

Additionally, Duke Energy supports the following NAGF comments:

“The NAGF provides the following comments for consideration:

EOP-011-2:

1. The NAGF requests clarifying the term “extreme weather conditions” referenced in R1.2.6.2 and R2.2.9.2. For example, does the term address non-temperature related cold weather conditions (heavy snowfall, ice storms, freezing fog, etc.) and/or warm extreme weather conditions (tornados, hail storms, derecho, etc.)? Clarifying this term will help to confirm the conditions that the TOP and BA operating plans need to address as well as the data to be provided by the GO/GOPs.
2. The NAGF requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) cold weather data, to include”. We suggest that NERC specify that this requirement pertains only to known, measurable effects on capacity, start-up capability or operational reliability.
3. The NAGF requests clarification regarding the terms “capability and availability” referenced in R7.3.1.1.
4. The NAGF requests clarification regarding Requirement R7.3.1.2 “fuel supply and inventory concerns”. The data to be provided is not so much concerns but has to be actionable/usable for planning models and real-time operations. Generating facility NG pipeline pressure trip limit, % of contract firm gas supply, number of run hrs available on alternate/backup fuel, river flow with current/anticipated ice conditions, and available battery storage MW/Hrs are far more usefull than “concerns”.
5. The NAGF requests clarification regarding Requirement R7.3.2.2 “minimum historical operating temperature” with respect to wind speed and wet-bulb temperatures affecting the generator unit operation. Generator facilities may be able to operate at -1 deg F with little or no wind but could suffer a freeze-related forced outage at -1 deg F with sustained 20 mph winds (-23 deg F wind chill).”

Likes	0
Dislikes	0

Response

Thank you for your comments. The SDT responds to your questions with the following general comments: The FERC\NERC report recommended specific information be provided to the RC for use in its operational planning analysis, and the SDT believes the current proposal responds consistent with the recommendations. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	
Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	
Document Name	
Comment	
BPA believes this should be a regional standard. Many areas in the country experience extreme weather regularly and are prepared to maintain reliability during extreme weather. In those areas, the standard would be additional compliance burden without a reliability benefit.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The current proposed standards are based on a recommendation by the FERC\NERC report for a nationwide standard. The SDT recommends you forward your concern to the appropriate Regional Entity for further consideration.	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	

Document Name	
Comment	
Alliant Energy supports the comments submitted by the MRO NSRF.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to MRO NSRF.	
Kathleen Goodman - ISO New England, Inc. - 2 - NPCC	
Answer	
Document Name	
Comment	
EOP-11	
ISO-NE believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).	
Recommended language:	
R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: <i>[Violation Risk Factor:</i>	

High] [Time Horizon: Operations Planning and Real-Time Operations]

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors

such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze

protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

1) Within R7, add a new sub-bullet under “the cold weather preparedness plan shall include, at a minimum,” which states the following “an evaluation of the resource’s ability to operate the lowest recorded temperature in the previous 40 years at the generator’s physical location (or nearest location where temperature was recorded for which data exists)”.

2) In addition, “Extreme Weather” (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator’s physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.

3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing “cold weather” (not “extreme”) conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.

4) R7 As part of 7.3.1 recommend including a requirement that the GO’s cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)

5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since “fuel switching capabilities” is not a **limitation** (7.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).

6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an “environmental constraint”.

7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan

must be provided to “new” maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as “Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:”

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since “fuel switching capabilities” is not a **limitation** (1.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Thomas Foltz - AEP - 5

Answer

Document Name

Comment

EOP-011:
 The meaning of the phrase “provision to determine” in R’s 1.2.6 and 2.2.9 is unclear due to the subjectivity of the word “provision.” As

currently proposed, the obligation might be inconsistently interpreted among entities. AEP believes the original text “Reliability impacts of...” is far superior, and recommends the SDT refrain from changing it and retaining the original text as part of R’s 1.2.6 and 2.2.9.

Newly proposed R 1.2.6 and R 2.2.9 state that the Transmission Operator’s and Balancing Authority’s Operating Plans must include “provisions to determine” the reliability impacts of cold weather conditions and extreme weather conditions, however nothing is stated which requires action taken as a result of any determinations which might require them. The team might wish to consider whether or not a potential reliability gap exists as a result of not requiring that action be taken, for those determinations made which would require that action(s) be taken.

AEP believes that R 7.3.1 could be improved by making it clear that operations limitations in cold weather are dependent on the unit’s operating status. AEP suggests that R 7.3.1 be revised to state “7.3.1. Generating unit(s) operating limitations in cold weather (including units in-service and units out-of-service) to include...”

The terms “capability” and “availability” as proposed for 7.3.1.1 are of potential concern, as these terms are commercial in nature. The meaning of these terms within the commercial environment are obviously quite different than the meanings intended for this standard. As a result, the usage of these terms within this standard may result in confusion and would not provide the desired results. Rather than these terms, AEP recommends instead using “impact assessment” or perhaps “likelihood of availability.”

EOP-011 Violation Severity Levels for R8:

AEP is concerned by the reference to “personnel at a single generating unit” within the proposed Violation Severity Levels (VSLs). Personnel are typically assigned to a generating facility as opposed to a single generating unit. Therefore, AEP recommends changing “single generating unit” to “generating facility” across all VSLs.

In addition, AEP recommends SDT to consider the followings modifications to VSLs:

- 1) Revise the phrase of “5% or less of its total applicable personnel” in the Lower VSL to state “5% of its total applicable personnel”.
- 2) The VSL table should be revised to allow for a grace period to accommodate the scenarios where the identified applicable personnel may be returning from extended period of leave (e.g., sick, military service, etc.)
- 3) Add qualifiers to GO and GOP in each of the VSLs as in “The Generator Owner or Generator Operator that implemented the cold weather preparedness plan” failed to provide ...

EOP-011 Technical Rationale for R8:

AEP also recommends SDT to consider adding the following languages to the associated Technical Rationale to R8: "It is recommended that Generator Owner's and/or Generator Operator's cold weather preparedness plans address operator and maintenance training for all personnel specific to job functions outlined in these plans with roles including step-up employees and temporary roles that perform weatherization functions at the plant. In addition, it is recommended that Generator Owner and Generator Operator include the specific scenarios, in their training program, such as training requirements for maintenance and operations regional personnel who may travel to more than one site."

TOP-003:

As similarly stated for EOP-011, the terms "capability" and "availability" as proposed for 1.3.1.1 are of potential concern, as these terms are commercial in nature. The meaning of these terms within the commercial environment are obviously quite different than the meanings intended for this standard. As a result, the usage of these terms within this standard may result in confusion and would not provide the desired results. Rather than these terms, AEP recommends instead using "impact assessment" or perhaps "likelihood of availability."

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Document Name

Comment

IRO-010-5, R1 Sub requirement numbering correction.

1.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

These should be 1.3.2.1, 1.3.2.2 and 1.3.2.3 respectively.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT has corrected the respective numbering within the standard.

Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper

Answer

Document Name

Comment

R7.3.1.1 refers to cold weather data related to generating unit operating limitations in cold weather to include capability and availability. Specifically, what items should be addressed to meet this requirement?

The Technical Reference, under Rationale for Requirement R7 says, “The Generator Owner plans and procedures should include, but are not limited to, necessary and appropriate freeze protection measures, periodic maintenance and inspection of such measures, accurate ambient temperature design specifications, and generating unit limitations and expected performance in cold weather.” What is meant by accurate ambient temperature design specifications? The design ambient temperature was determined as part of the original design. Records for the design temperatures may not be available for older units. The basis of the design temperatures may also not be available. Recalculating these numbers based on current methods does not change the as built condition.

What is meant by Generating unit limitations and expected performance in cold weather? Does this mean that the Facility needs to be rated with respect to an expected net or gross output based on a range of temperatures?

The Technical Reference, under Rationale for Requirement R7, Paragraph 2 says, “The standard requires the cold weather preparedness plan to contain a generating-units operating limitations during cold weather and other availability and capability information, and an annual requirement to inspect with associated maintenance of the generating unit(s).

What does “other availability and capability information specifically refer to?

What does “an annual requirement to inspect with associated maintenance of the generating unit(s)” mean and specifically refer to?

If deficiencies are documented on the inspection, is there a time requirement related to correcting the deficiencies?

The Technical Reference, under Rationale for Requirement R7, Paragraph 3 says, “Additionally, Requirement R7 requires the Generator Owner to develop accurate data to include the generating unit(s)’ minimum design temperature (i.e., faceplate capability) during cold weather.”

What is an “accurate units design temperature”

When a temperature is cited on a combustion turbine nameplate along with a KW rating, it is for the purposes of determining if the turbine is performing as designed. The KW cited on a turbine nameplate is a mathematical conversion of horsepower. It does not necessarily refer to the unit’s electrical generating capability.

Likes 0

Dislikes 0

Response

Thank you for your comment. The DT took this into consideration when drafting the new Requirements, specifically that an entity may not have the unit’s original design temperature available or if they do have it, there may have been so many modifications to the unit over the years that the number (original design temp) no longer means anything. As such, entities have the option to also consider either providing a “minimum historical operating temperature” (our DT’s proxy for design temp) or a “minimum current cold weather performance temperature as determined by an engineering analysis”. The last option (engineering analysis) is really a revisit of the unit’s original design temp to determine what that minimum temp is now based on currently installed freeze protection measures and technologies, and any new limitations that may have been added as new equipment has been installed (such as environmental control equipment).

Joe O'Brien - NiSource - Northern Indiana Public Service Co. - 6

Answer	
Document Name	
Comment	
<i>The efforts of the SDT are appreciated</i>	
Likes 0	
Dislikes 0	
Response	
Thank you.	
Sing Tay - OGE Energy - Oklahoma Gas and Electric Co. - 6, Group Name OKGE	
Answer	
Document Name	
Comment	
<p>1) Technical Rationale and Justification for EOP-011-2:</p> <p>On page 1, under Rationale for Requirement R8, there are some spelling errors (highlighted in bold):</p> <p><i>See the Glossary terms for Generator Operator and Generator Owner.</i></p> <p>1. <i>Generator Operator – “The entitiy that operates generating Favility(ies) and performs the functions of supplying energy and Interconnected Opeartions Services.”</i></p> <p>2. <i>Geneartor Onwer – “Entity that owns and maintains generating Facility(ies).”</i></p> <p>2) OKGE recommends the SDT to expand the Technical Rationale to clarify the intent of the modifications to R7 and its subrequirements. Expanded technical rationale and Implementation Guidance will help prevent misinterpretations by both registered entities and auditors.</p>	

Likes	0
Dislikes	0
Response	
Thank you. The SDT will forward the standards to NERC for a quality review prior to final ballot.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE appreciates the development of a specific standard for training. As stated in response to Question 1, Texas RE notes that Requirement R8 does not include a periodicity for training as was recommended in the 2019 Cold Weather Report.</p> <p>Proposed EOP-011-2 Requirement Parts 1.2.6 and Part 2.2.9 require the TOP and BA to provide provisions to determine the reliability impacts of cold weather conditions in their Emergency Operating Plans. Texas RE recommends the TOP and BA also be required to include actions to address those reliability impacts in their Emergency Operating Plans.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT has forwarded your recommendation to NERC for further consideration.	
Ben Burnett - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE	
Answer	
Document Name	
Comment	
EOP-011-2:	

R1 and R2: CEHE appreciates the removal of the term “any other” from R1 and R2 of the first draft. However, the inclusion of the term “provisions to determine reliability impacts” seems vague. CEHE requests clarification from the SDT on the intent of this requirement, and would suggest using “methods” instead of “provisions”.

R8: The use of "or" between "maintenance" and "operations" in R8 leaves uncertainty as to which Registered Function is responsible for training which personnel. Both the Implementation Guidance and Technical Rationale use "and".

IRO-010-4:

R1.3.2: The R1.3.2 sub-requirements are miss-numbered. In the latest draft, the R1.3.2 sub-requirement numbers are currently 2.3.2.1, 2.3.2.2, and 2.3.2.3.

TOP-003-5:

CEHE questions the data specification requirements included in TOP-003 for all registered TOP functions. For those TOPs that do not own generation and only perform Real-time monitoring, the proposed data specification requirements would be an excessive administrative burden and only provide information for situational awareness. If the SDT determines that a TOP which performs Operational Planning Analyses and/or owns generation in its Transmission Operator Area has a reliability need for the data proposed in this modification, there should be a separate requirement with appropriate functional entity applicability. CEHE suggests the following modification:

R1. Each Transmission Operator that performs Real-time monitoring only shall maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

- 1.1. A list of data and information needed by the Transmission Operator to support its Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.
- 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
- 1.3. A periodicity for providing data.
- 1.4. The deadline by which the respondent is to provide the indicated data.

R2. Each Transmission Operator that performs Operational Planning Analyses, Real-time monitoring, and Real-time Assessments shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

2.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time Assessments, and Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

2.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

2.4. A periodicity for providing data.

2.5. The deadline by which the respondent is to provide the indicated data.

R3. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

3.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

3.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.

3.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

3.3.1. Operating limitations based on:

3.3.1.1. capability and availability;

3.3.1.2. fuel supply and inventory concerns;

3.3.1.3. fuel switching capabilities; and

3.3.1.4. environmental constraints.

3.3.2. Generating unit(s):

3.3.2.1. minimum design temperature; or

3.3.2.2. minimum historical operating temperature; or

3.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

3.4. A periodicity for providing data.

3.5. The deadline by which the respondent is to provide the indicated data.

R4. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Realtime monitoring, and Real-time Assessments. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

R5. Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

R6. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]

6.1. A mutually agreeable format

6.2. A mutually agreeable process for resolving data conflicts

6.3. A mutually agreeable security protocol

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects. In addition, the subparts numbering has been corrected. The team thanks you for that catch!

Leslie Hamby - Southern Indiana Gas and Electric Co. - 3,5,6 - RF, Group Name SIGE Project 2019-06

Answer

Document Name

Comment

EOP-011-2:

- R1 and R2: SIGE appreciates the removal of the term “any other” from R1 and R2 of the first draft. However, the inclusion of the term “provisions to determine reliability impacts” seems vague. SIGE requests clarification from the SDT on the intent of this requirement, and would suggest using “methods” instead of “provisions”.
- R8: The use of "or" between "maintenance" and "operations" in R8 leaves uncertainty as to which Registered Function is responsible for training which personnel. Both the Implementation Guidance and Technical Rationale use "and".

IRO-010-4:

R1.3.2: The R1.3.2 sub-requirements are miss-numbered. In the latest draft, the R1.3.2 sub-requirement numbers are currently 2.3.2.1, 2.3.2.2, and 2.3.2.3.

TOP-003-5:

SIGE questions the data specification requirements included in TOP-003 for all registered TOP functions. For those TOPs that do not own generation and only perform Real-time monitoring, the proposed data specification requirements would be an excessive administrative burden and only provide information for situational awareness. If the SDT determines that a TOP which performs Operational Planning Analyses and/or owns generation in its Transmission Operator Area has a reliability need for the data proposed in this modification, there should be a separate requirement with appropriate functional entity applicability. SIGE suggests the following modification:

R1. Each Transmission Operator that performs Real-time monitoring only shall maintain a documented specification for the data necessary for it to perform its Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

1.1. A list of data and information needed by the Transmission Operator to support its Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

1.3. A periodicity for providing data.

1.4. The deadline by which the respondent is to provide the indicated data.

R2. Each Transmission Operator that performs Operational Planning Analyses, Real-time monitoring, and Real-time Assessments shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

2.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time Assessments, and Real-time monitoring, including non-BES data and external network data as deemed necessary by the Transmission Operator.

2.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s):

2.3.2.1. minimum design temperature; or

2.3.2.2. minimum historical operating temperature; or

2.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

2.4. A periodicity for providing data.

2.5. The deadline by which the respondent is to provide the indicated data.

R3. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

3.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

3.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.

3.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

3.3.1. Operating limitations based on:

3.3.1.1. capability and availability;

3.3.1.2. fuel supply and inventory concerns;

3.3.1.3. fuel switching capabilities; and

3.3.1.4. environmental constraints.

3.3.2. Generating unit(s):

3.3.2.1. minimum design temperature; or

3.3.2.2. minimum historical operating temperature; or

3.3.2.3. engineering analysis to determine current minimum cold weather performance temperature.

3.4. A periodicity for providing data.

3.5. The deadline by which the respondent is to provide the indicated data.

R4. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Realtime monitoring, and Real-time Assessments. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

R5. Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]

R6. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]

6.1. A mutually agreeable format

6.2. A mutually agreeable process for resolving data conflicts

6.3. A mutually agreeable security protocol

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Donald Lock - Talen Generation, LLC - 5

Answer

Document Name

Comment

1. R1.2 of EOP-011-2 should be supplemented with, “Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components.” This verbiage is drawn from NERC’s Reliability Guideline Gas and Electrical

Operational Coordination Considerations (see p.4, https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf).

Blacking-out natural gas compression stations, thereby forcing NG-fueled generation units offline, was reportedly a major contributor to the Texas blackouts of February, 2021.

2. R1 should be supplemented by a plan to put additional generation units online in advance of severe winter storms, since keeping them running through extreme weather is far more reliable than waiting until temperatures have bottomed-out before requesting cold start-up. This is by far the best and easiest means of bolstering BES wintertime reliability, but for unknown reasons it is almost never used.

3. The phrase, “extreme weather conditions,” in Requirement 1.2.6.2 should be replaced by, “non-temperature-related winter challenges, e.g. heavy snowfall, ice storms and freezing fog.”

{4. Requirement 7.3.1 should be changed to, “Known generating unit(s) operating limitations in cold weather, to include....” Cold weather-related forced outages are caused principally by hidden vulnerabilities, e.g. mis-installed heat tracing, which cannot be detected in inspection and maintenance activities because it is covered by insulation. EOP-011-2 should not give the impression that GOs will be held responsible for knowing the unknowable.

5. R7.3.1.1 should be changed to, “capacity and start-up reliability.” The present references to “capability” and “availability” are excessively vague.

6. The qualifier, “real-time” should be added to R7.3.1.2. Inputs such as, “We’ll lose capacity if the NG pipeline pressure falls another 20 psi,” and, “Roads are closed, and we only have 10 hours of oil fuel left,” would be far more useful than, “MW output depends on fuel pressure,” and, “Need periodic oil truck deliveries.”

7. R7.3.2.1 should be changed to, “design ambient air temperature and wind speed for heat tracing/insulation systems.” This is the principal equipment of interest, and that plants can do something about. There can be many other items with design temperatures, such as lube oil reservoir heaters, fuel oil storage tank heaters, coal plant tripper floor roof heaters, oil gun ignitors, air preheat coils, ash handling systems, and aux boilers. Plants can consequently have a multitude of design temperatures, many of which are known only to the original equipment manufacturers and not to GOs.

8. R7.3.2.2 should be changed to, “minimum historical ambient dry bulb air temperature or (preferably) wind chill temperature.” Many plants have been able to ride-out weather dipping to, say, -5 F with little or no wind, only to later suffer a freeze-related forced outage at -1 F with sustained 20 mph winds (-23 F wind chill).
9. R7.3.2.3 should be deleted, because it gives the false impression that winter storm survivability can be determined solely via calculations. One needs accurate input data to obtain authoritative results, and it is often the case that:
- No one knows how the heat tracing beneath piping and instrument system insulation was installed, e.g. as regards using the specified spiral pitch or looping it for extra heat input at valves and supports
 - No one knows if or how bare surfaces on valves were accounted-for in the heat tracing design.
 - Numerous elements come into play for which information is sparse or nonexistent, ref. comment #5 above
 - Temperature is not the issue when outages are caused by heavy snowfall rates, high winds, ice storms and freezing fog.
10. The expressions, “implement and maintain,” in R7 and, “implemented and maintained,” in M7 should be shortened to just reference implementation. One maintains equipment, not plans, and this obligation is addressed in R7.2.

Likes	0
Dislikes	0
Response	
Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.	
Julie Hall - Entergy - 6, Group Name Entergy	
Answer	
Document Name	
Comment	

Entergy would like the Standard Drafting Team to take into consideration that cold weather design limit is not helpful information. It is the mitigation activities that drive the ability to reliably operate in cold weather. Water cooled condensers cannot operate with water below about 32 degrees and generally sites do not shut down at a prescribed temperature. Some sites have more design features (trip critical small lines in buildings or insulated with heat trace protection, circulating water discharge recirculating to intake structures, cooling fan deicing modes, and etc). Other sites rely more on temporary insulation, heaters and scaffolding tents.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Leonard Kula - Independent Electricity System Operator - 2

Answer

Document Name

Comment

N/A.

Likes 0

Dislikes 0

Response

Andy Fuhrman - Andy Fuhrman On Behalf of: Theresa Allard, Minnkota Power Cooperative Inc., 1; - Andy Fuhrman

Answer

Document Name

Comment

MPC supports MRO NERC Standards Review Forum comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	
Document Name	
Comment	
<p>To ensure all sub-parts are worded consistently, Southern Company recommends re-wording 7.3.2.3 in EOP-011 to "Minimum cold weather performance temperature determined by an engineering analysis". This is also applicable to 2.3.2.3 in both TOP-003 and IRO-010.</p> <p>Also, the team should consider shortening M8 in EOP-011, similar to the way that M7 was shortened. For example, "Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s)."</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT has revised the language similar to your suggestion.	
Martin Sidor - NRG - NRG Energy, Inc. - 6	
Answer	

Document Name	
Comment	
<p>For EOP-011-2, R7.3.2., NRG has concerns with the quality of the requested data and how it will be used. Generating units can be designed to operate down to a given temperature or have historical temperature information showing successful operation, but other weather factors can influence real-time operating performance. The addition of wind or precipitation to a unit operating at its defined cold temperature limit can have a significant impact on the unit's ability to perform. Any temperature limit data that is submitted to the TOP, BA, and RC should be considered a starting point for analysis and not an absolute.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The team took your comment into consideration when determining the next steps for our project.</p>	
Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	
Document Name	
Comment	
<p>In all versions of the latest IRO-010-4, the sub-steps under section 1.3.2 are numbered incorrectly, i.e. they start with a 2 rather than a 1.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The SDT corrected the respective numbering within the correct requirement.</p>	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	

Document Name	
Comment	
<p>General Comment – ReliabilityFirst believes all cold weather requirements should be located in a new standard specifically dedicated to cold weather preparedness. One standard will promote continuity of the cold weather preparedness process and the responsibilities of the associated functional entities. Placing cold weather requirements across three different standards only dilutes the importance of cold weather preparedness and may lead to confusion and possible gaps in responsibilities.</p> <p>Specific feedback for EOP-011-2 R7. The concerns and suggested rewording/changes are listed below:</p> <ul style="list-style-type: none"> • The wording, “minimal historical operating temperature”, in 7.3.2.2 could be interpreted that historical cold weather information is only applicable when the generator is typically running/operational. Suggest to reword so that 7.3.2.2 is focused on cold weather experienced over a period of time at a plant location like, “minimum demonstrated historical cold weather experienced in the previous 10 years”. The timeframe of 10 years aligns with the language in BAL-0502-RF-03 to review resource adequacy based on “one day in ten year” loss of Load expectation. Other Reliability Coordinators/Planning Coordinators also has various assessment test methods that are designed to review risks associated with a “one day in ten year” type of event. This change may better cover geographic areas that do not frequently experience cold weather events. • The language in 7.3.2.3, “engineering analysis to determine current minimum cold weather performance temperature”, may prove difficult to enforce and provides enough flexibility that historical cold weather information is only applicable when the generator is typically running/operational. It is recommended to remove 7.3.2.3. 	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.</p>	
Paul Mehlhaff - Sunflower Electric Power Corporation - 1	
Answer	
Document Name	

Comment

Sunflower agrees with the comments ACES provided for question 5 plus we have additional comments below.

Sunflower Additional Comments:

The requirement 7.3.1.1 obligates each generation owner to implement and maintain a cold weather preparedness plan for generating units that must include undefined “cold weather data” which must include cold weather capability and availability.

Capability and availability are undefined terms that are not described within the IEEE 762 methodology nor within current or planned revised SPP testing criteria to my knowledge.

This is no different than the point about the undefined term “maintenance” and how it might contribute to a future audit dispute.

It appears the terms were well-intentioned, but without clear definition, the draft language has the potential for causing a lot of confusion. Here is a simple example:

Generally speaking, I would presume that the term availability would be similarly referenced to the defined term availability factor. The availability factor for a unit over a given period is simply the available hours a unit was capable of operation or was actually in service during a given period divided by the period hours. Simple enough. But let’s apply some different scenarios.

- 1) If a unit is in service before ambient temperatures drop and if the unit is allowed to continuously operate over this cold period, the unit could easily achieve a 100% availability factor.
 - a. Available hours = Service hours
 - b. Service hours = Period hours
 - c. Available hours = Period hours resulting in 100% Availability Factor
- 2) Take the same unit and leave it out of service as ambient temperatures collapse; then, issue dispatch orders for the unit to enter service at the worst possible time coinciding with the lowest ambient temperatures. This sets up conditions likely resulting in a unit start failure

resulting in no service hours and some accumulation of forced outage hours which results in a lower calculated availability factor over the same period with the exact same ambient conditions.

- a. Available hours = Period hours – Forced Outage hours associated with start failure
 - b. Resulting Availability Factor < 100%
- 3) Or pass ill-advised compliance rules forcing the owner to take a conservative approach to managing regulatory risk, and force the owner to develop a plan where this same unit is considered unavailable any time ambient temperatures drop below freezing if the unit isn't already in service – which results in a calculated availability factor that is very low during the winter season.
- a. Available hours = all hours of the period where ambient temperature is >32F
 - b. Availability Factor <<<100%
- 4) In all three scenarios, identical unit exposed to identical ambient conditions with the same owner and same operator.

So what is that generation owner/operator supposed to put into their cold weather operating plan that must address, at a minimum, the expected generator's availability and capability?

Is availability the same thing as IEEE 762 availability factor? Or some new concept? If new, where is availability defined/described?

Capability is similarly a new concept not reflected clearly in the draft standard, IEEE 762, or SPP criteria. Even under conditions where a unit is already in service, I'm not aware of any uniform methodology to determine unit output as temperatures drop. There are methodologies that can be used as temperatures increase such as condenser backpressure correction curves. So, predicting unit output during high temperatures extremes is "a thing." However, I'm not aware of concepts that work similarly as temperatures continue to drop.

Thank you for your hard work on this project and thank you for the opportunity to provide feedback.

Likes	0
Dislikes	0
Response	

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Rich Hydzik - Rich Hydzik On Behalf of: Scott Kinney, Avista - Avista Corporation, 3, 5, 1; - Rich Hydzik

Answer

Document Name

Comment

No further comments.

Likes 0

Dislikes 0

Response

Kenya Streeter - Edison International - Southern California Edison Company - 1,3,5,6

Answer

Document Name

Comment

See comments submitted by Edison Electric Institute

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI.

Sean Bodkin - Dominion - Dominion Resources, Inc. - 6, Group Name Dominion

Answer	
Document Name	
Comment	
<p>It appears that the Registered Entities will define "cold weather". Will it be required for the definition of cold weather be the same across the entire fleet of generation or can it be specific to the generating units capabilities, design and/or fuel type? Many factors impact what what may be considered "cold weather" in the area of preparedness.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comment. The preparedness plan is based on the unit's geographical location, which provides flexibility for the GO to construct its plan appropriately.</p>	
<p>Keith Jonassen - Keith Jonassen On Behalf of: Michael Puscas, ISO New England, Inc., 2; - Keith Jonassen</p>	
Answer	
Document Name	
Comment	
<p>EOP-11</p> <p>The ISO-NE believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).</p> <p>Recommended language:</p>	

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

- 1) Within R7, add a new sub-bullet under “the cold weather preparedness plan shall include, at a minimum,” which states the following “an evaluation of the resource’s ability to operate the lowest recorded temperature in the previous 40 years at the generator’s physical location (or nearest location where temperature was recorded for which data exists)”.
- 2) In addition, “Extreme Weather” (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator’s physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.
- 3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing “cold weather” (not “extreme”) conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.
- 4) R7 As part of 7.3.1 recommend including a requirement that the GO’s cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)
- 5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since “fuel switching capabilities” is not a **limitation** (7.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).
- 6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an “environmental constraint”.
- 7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to “new” maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as “Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:”

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since “fuel switching capabilities” is not a **limitation** (1.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Patricia Lynch - NRG - NRG Energy, Inc. - 5

Answer

Document Name

Comment

For EOP-011-2, R7.3.2., NRG has concerns with the quality of the requested data and how it will be used. Generating units can be designed to operate down to a given temperature or have historical temperature information showing successful operation, but other weather factors can influence real-time operating performance. The addition of wind or precipitation to a unit operating at its defined cold temperature limit can have a significant impact on the unit’s ability to perform. Any temperature limit data that is submitted to the TOP, BA, and RC should be considered a starting point for analysis and not an absolute.

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Michael Courchesne - Michael Courchesne On Behalf of: Michael Puscas, ISO New England, Inc., 2; - ISO New England, Inc. - 2 - NPCC

Answer

Document Name

Comment

EOP-11

The ISO/RTO Council Standards Review Committee (IRC SRC) believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. **The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).**

Recommended language:

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) *An evaluation of each generating unit's capability to operate:*

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

- 7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;
- 7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze protection measures;
- 7.3. Generating unit(s) cold weather data, to include:
 - 7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:
 - 7.3.1.1. capability and availability;
 - 7.3.1.2. fuel supply and inventory concerns; and
 - 7.3.1.3. environmental constraints and air permitting limitations.
 - 7.3.2. Generating unit(s):
 - 7.3.2.1. minimum design temperature; or,
 - 7.3.2.2 minimum historical operating temperature; or
 - 7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature
 - 7.3.2.4. fuel switching capabilities; and
- 1) Within R7, add a new sub-bullet under “the cold weather preparedness plan shall include, at a minimum,” which states the following “an evaluation of the resource’s ability to operate the lowest recorded temperature in the previous 40 years at the generator’s physical location (or nearest location where temperature was recorded for which data exists)”.
- 2) In addition, “Extreme Weather” (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator’s physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.
- 3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing “cold weather” (not “extreme”) conditions. Consideration should be given to having

the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.

4) R7 As part of 7.3.1 recommend including a requirement that the GO's cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)

5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since "fuel switching capabilities" is not a **limitation** (7.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an "environmental constraint".

7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to "new" maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as "Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:"

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since "fuel switching capabilities" is not a **limitation** (1.3.1 is "Generating unit(s) operating limitations in cold weather to include:"). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be "limitations when operating on alternate fuels" (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

Likes 0

Dislikes	0
Response	
Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.	
Terry Harbour - Berkshire Hathaway Energy - MidAmerican Energy Co. - 1	
Answer	
Document Name	
Comment	
MEC supports the MRO NSRF comments.	
Likes	0
Dislikes	0
Response	
Please see the SDT's response to MRO NSRF.	
Neil Shockey - Edison International - Southern California Edison Company - 5	
Answer	
Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes	0
Dislikes	0
Response	

Please see the SDT's response to EEI.

Marty Hostler - Northern California Power Agency - 3,4,5,6

Answer

Document Name

Comment

NO.

a. Another unfair violation of NERC Market Interference Principles is the fact that BAs and regional RC RTOs will be able to use requested information in bid stack analysis for award Day Ahead and real-time dispatch. Non-GO/GOPs will not have to submit the same information used in Modeling evaluations of their competitive bids.

b. The STD refuses to make reliability enhancement requirements for BA and RC Winterization training, load forecasting improvements, and reserve increases which the FERC/NERC Report also discusses.

c. STD responses to the last round of Stakeholder comments states a new SAR would be required to include these concerns. A couple months ago, during the SC meeting discussing SAR approval, NERC and the STD chair advertised that the SAR the was written broadly to address stakeholder concerns. Now the STD is refuses to address these concerns.

Likes 0

Dislikes 0

Response

Thank you for your comment. As stated in previous comments, market structures and mitigations are outside the scope of the SAR and not within NERC's purview. The SAR is written broadly so that the SDT can address the recommendations contained in the FERC\NERC report, but the SDT disagrees that every stakeholder concern could be addressed under the SAR. The FERC\NERC report does not require reliability enhancement requirements for BA and RC winterization training, load forecasting improvements, and reserve increases. The standards do not require a min reserve requirement but this could be pursuant to another SAR. The SDT recommends that commenter develop and submit a SAR which contains the scoping requirements described in the comment.

Wendy Center - U.S. Bureau of Reclamation - 5	
Answer	
Document Name	
Comment	
Reclamation again recommends the cold weather modifications not apply to hydroelectric generators and/or to certain geographic locations. Reclamation supports the comments provided by NAGF in response to Question 5.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT has forwarded your comments to NERC for further consideration.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	
Document Name	
Comment	
The NAGF provides the following comments for consideration:	
EOP-011-2:	
<ol style="list-style-type: none"> The NAGF recommends that R1.2 of EOP-011-2 be supplemented with, "Identification of essential fuel supply infrastructure that shall not be subject to load shedding, including natural gas pipeline compressor stations, LNG storage plants, natural gas processing plants, natural gas field wellhead compressors and other critical gas system components." This verbiage is drawn from NERC's Reliability Guideline Gas and Electrical Operational Coordination Considerations (see p.4): 	

https://www.nerc.com/comm/OC_Reliability_Guidelines_DL/Gas_and_Electrical_Operational_Coordination_Considerations_20171213.pdf

2. The NAGF requests clarifying the term “extreme weather conditions” referenced in R1.2.6.2 and R2.2.9.2. For example, does the term address non-temperature related cold weather conditions (heavy snowfall, ice storms, freezing fog, etc.) and/or warm extreme weather conditions (tornados, hail storms, derecho, etc.)? Clarifying this term will help to confirm the conditions that the TOP and BA operating plans need to address as well as the data to be provided by the GO/GOPs.
3. The NAGF requests clarification regarding the Requirement 7.3.1 request for “Generating unit(s) cold weather data, to include”. We suggest that NERC specify that this requirement pertains only to known, measurable effects on capacity, start-up capability or operational reliability.
4. The NAGF requests clarification regarding the terms “capability and availability” referenced in R7.3.1.1.
5. The NAGF requests clarification regarding Requirement R7.3.1.2 “fuel supply and inventory concerns”. The data to be provided is not so much concerns but has to be actionable/usable for planning models and real-time operations. Generating facility NG pipeline pressure trip limit, % of contract firm gas supply, number of run hrs available on alternate/backup fuel, river flow with current/anticipated ice conditions, and available battery storage MW/Hrs are far more usefull than “concerns”.
6. The NAGF requests clarification regarding Requirement R7.3.2.2 “minimum historical operating temperature” with respect to wind speed and wet-bulb temperatures affecting the generator unit operation. Generator facilities may be able to operate at -1 deg F with little or no wind but could suffer a freeze-related forced outage at -1 deg F with sustained 20 mph winds (-23 deg F wind chill).

Likes 0

Dislikes 0

Response

Thank you. Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Romel Aquino - Edison International - Southern California Edison Company - 3

Answer

Document Name	
Comment	
See comments submitted by Edison Electric Institute.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Joshua Andersen - Salt River Project - 1,3,5,6 - WECC	
Answer	
Document Name	
Comment	
SRP urges the drafting team to review the verbiage used in TOP-003 and IRO-008. As the requirement is written the entities responding to the data request are required to provide the requested items and status changes during cold weather. SRP requests flexibility be given to those requesting the data to determine the granularity of data necessary rather than requiring every unit to provide the specific information. Units that are not severely impacted by local forecasted cold weather may not have to provide the same level of detail as those that are more adversely impacted.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The SDT has sought to implement the recommendations of the FERC\NERC report which calls for minimum reporting requirements. The SDT recommends the entity work with its RC/BA and TOP to determine periodicity of data specifications.	
Dan Roethemeyer - Vistra Energy - 5	

Answer	
Document Name	
Comment	
<p>EOP-011 R7 has been revised in the new draft to provide more specificity as requested by several commenters. However, the new wording still leaves unclear what data is required from the GO. Below are specific comments we provide for consideration.</p> <p>7.3.1 General Concern: As currently drafted, this provision could be read to require generating units to provide information regarding operating limitations that is not known to the generating units. For example, fuel supply and inventory concerns could arise from pipeline capacity limitations that generators would only be aware of if it were communicated by the pipeline. We believe that the intent of this provision is to require generators to only include such information that is known by the generating units. Thus, we propose the following revision to 7.3.1.</p> <p>7.3.1. Generating unit(s) operating limitations in cold weather to include, to the best of its/their knowledge,</p> <p style="padding-left: 40px;">7.3.1.1. capability and availability;</p> <p>7.3.1.2. fuel supply and inventory concerns;</p> <p>7.3.1.3. fuel switching capabilities; and</p> <p>7.3.1.4. environmental constraints.</p> <p>Additionally, we are highlighting specific comments regarding the subsections under 7.3.1 and 7.3.2.</p> <p><i>7.3.1.1 Capability and availability</i> – daily capability/availability numbers are routinely shared with the RC already; it’s not clear what is being asked for here</p> <p><i>7.3.1.2 Fuel supply and inventory concerns</i> – limitations on gas supply (i.e., compressor malfunction) depend on the gas supplier informing the GO</p>	

7.3.2.1 *Minimum design temperature* – it’s not clear if the Standard is asking for a single temperature for the entire generating unit. A generating unit has many components and auxiliary systems required to support generation, each with its own design criteria.

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Scott Berry - Scott Berry On Behalf of: Jack Alvey, Indiana Municipal Power Agency, 1, 4; - Scott Berry

Answer

Document Name

Comment

In Requirement R7, IMPA agrees with the use of “implementing” a cold weather preparedness plan but not the use of “maintain”. Even if the other previous requirements include this word it does not mean that this requirement should not be corrected since it is a new requirement. To maintain a plan is a pure administrative action and the focus should be on results based actions.

IMPA understands the priority of getting this standard approved and implemented, but we also believe in doing the standard in the correct fashion to prevent issues which will require additional time to fix.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer

Document Name

Comment

AEPC encourages the SDT to define the term “cold weather,” which is broadly used in each of these standards and may create confusion, discrepancies, and a compliance burden due the potentially numerous definitions, conditions, and parameters that entities across the NERC footprint could use.

We are also concerned about EOP-011 requirement 7.2 that requires entites to perform “annual inspection and maintenance.” As written it makes performing annual maintenance a requirement when there may not be any maintenance actually required. We recommend rephrasing and adding language to state that maintenance is only required when identified by the inspection i.e. “Annual inspection of generating unit(s) freeze protection measures and any maintenance identified during inspection.”

Thank you for the opportunity to provide feedback on this project.

AEPC has signed on to ACES comments.

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects. The SDT reviewed the issue with inspection and maintenance and determined that the language provides reasonable expectation that maintenance is dependent on the outcome of the inspection; so the team opted to not include additional language.

Jennifer Flandermeyer - Jennifer Flandermeyer On Behalf of: Allen Klassen, Evergy, 6, 1, 3, 5; Derek Brown, Evergy, 6, 1, 3, 5; Marcus Moor, Evergy, 6, 1, 3, 5; Thomas ROBBEN, Evergy, 6, 1, 3, 5; - Jennifer Flandermeyer

Answer

Document Name

Comment

Evergy endorses the EEI comments submitted in this comment period.

Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to EEI.	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	
Document Name	
Comment	
Additional clarification could be added to EOP-011 to differentiate between minimum operating temperatures and minimum starting temperatures.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comments. The SDT team will forward your recommendations to NERC for further consideration in the Implementation Guidance.	
Jamie Johnson - California ISO - 2	
Answer	
Document Name	
Comment	
The California ISO requests the SDT consider that data being requested in TOP-003-4 R1.3.2 and R2.3.2 is not appropriately requested "during local forecasted cold weather" as stated in R1.3 and R2.3. The same comment relates to IRO-010-3 R1.3.2 for R1.3	
Likes 0	

Dislikes	0
Response	
Thank you for your comment.	
Jamison Cawley - Nebraska Public Power District - 1	
Answer	
Document Name	
Comment	
<p>Numerous entities already provide adequate cold weather measures due to being exposed regularly to freezing temperatures. Mandating compliance requirements for all registered entities overly applies compliance with a broad brush and does not properly address the specific risk to the BES of entities that are not exposed regularly to freezing temperatures. Recommend implementing an alternative approach by each State to allow States not experiencing these risks to be exempt and possibly removing Canadian entities completely from the requirements due to their current cold weather preparations. The proposed requirements are vague to allow flexibility, but more specific requirements for entities not regularly exposed to freezing temperatures will better address the risk. With an active investigation currently being conducted on the February 2021 Cold Weather Event, a sound approach would be to wait for the recommendations from that event before voting on new NERC Reliability requirements today. Also, proposed EOP-011 Requirement R1.2.6. includes provisions for impacts of both cold weather conditions and extreme weather conditions. Cold weather conditions should be considered when evaluating extreme weather conditions, and the requirement is therefore redundant. Suggest deletion of the cold weather sub-part of R1.2.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Given the NERC Board of Trustees deadline for this project, the SDT will forward your suggestions onto NERC for further consideration in future projects.	
Bobbi Welch - Midcontinent ISO, Inc. - 2	
Answer	
Document Name	

Comment

MISO supports comments submitted by the ISO/RTO Council Standards Review Subcommittee (IRC SRC). In addition, we are submitting additional comments on behalf of MISO as an individual entity.

Lack of a requirement to install freeze protection measures means we may not see much of a reliability benefit. Without a mandate to install relevant freeze protection measures; i.e. heat trace equipment, wind breaks, insulation, etc., no additional operational output will be realized. Notifications alone will merely serve to provide the RC and BA with a means to forecast impending emergencies with incremental advance notice.

Recommendation: Winterization must be addressed. Although we support the intent of the proposed requirements in EOP-011, IRO-010 and TOP-003 as they seek to move industry forward in the right direction, we don't think the proposed requirements are sufficient without clear, measurable objectives, i.e. a "cold weather" definition and performance requirements tied to that definition, the proposed standards may not achieve their intended outcome or provide a measurable reliability benefit. MISO offers some proposed language below; that language is offered consistent with the current scope of this drafting effort with its focus on the 2018 recommendations. MISO notes that the events of February 2021 will generate more lessons learned which may require additional modifications to this standard.

Recommended language:

R7. Each **Generator Owner** shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]

7.1. Generating unit(s) freeze protection measures based on geographical location and plant configuration **that are adequate to operate through extreme temperatures and weather. The methodology used to establish extreme temperatures for each solely and joint owned unit shall be one or more industry standards to include temperature, wind, precipitation and other relevant factors for the geography.**

Likes	0	
Dislikes	0	

Response

Thank you for your comment. Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 6

Answer

Document Name

Comment

EOP-011-2 Comments:

Changes to requirements 1 and 2 single out cold weather conditions from other extreme weather events. This creates additional effort, tracking, and training for Balancing Authorities and Transmission Operators without providing benefit since determining reliability concerns and impacts provide reliability benefit only to the extent conditions, cold weather or otherwise, are beyond those normally or routinely encountered. Similarly, adding requirement 7 for GOs should relate to extreme weather conditions, of which cold weather is one aspect to be considered. Data sharing requirements of R7 appear useful, but should include generator equipment that may be affected by all applicable extreme weather events not just cold weather.

As presently worded, changed requirements cause entities that already deal with ongoing cold weather conditions to produce plans, tracking processes, training, etc. for routine and/or annual events rather than focusing on consequences of extreme events.

TOP-003-5 comments:

The added sub-requirements single out cold weather conditions only rather than making cold weather one of several possible extreme weather events, which could benefit by providing Balancing Authorities and Transmission Operators with additional information. Similarly, IRO-010 changes have the same affect related to Reliability Coordinators.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro	
Answer	
Document Name	
Comment	
<p>On EOP-011-2: BC Hydro believes further clarification is required for the intent of the term “cold weather”. Provisions should be made to clarify whether “cold weather” is intended to capture normal seasonal preparations that many utilities take, or should be focusing only on extremes of cold weather when temperatures are outside of normal seasonal ranges. To include existing cold weather preparations (i.e. normal seasonal cold and freeze protection measures taken by many northern utilities seems excessive and not contributing to improving BES reliability). BC Hydro supports Seattle City Light’s comments on further defining ‘abnormally cold weather’ to ensure the focus is on the extreme cold issues.</p> <p>On IRO-010-5: BC Hydro is supportive of the comments made by Duke Energy to remove IRO-010 R1.3 as redundant to the TOP-003 requirements.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	
Document Name	
Comment	
DTEE supports the extensive comments made by the NAGF.	
Likes	0

Dislikes	0
Response	
Please see the SDT's response to NAGF.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC Regional Standards Committee No Dominion	
Answer	
Document Name	
Comment	
<p>In IRO-010-4 Evidence Retention (1.2), why are there 3 separate retention periods listed? It should be as same for all. "since the last compliance audit."</p> <p>The Reliability Coordinator (BA, GO, GOP, TOP, TO, & DP for R3, M3) shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, R2, R3 Measure M1, M2 & M3 as well as any documents in force since the last compliance audit.</p> <p>In TOP-003-5, why does the BA, GO, GOP, TOP, TO, & DP receiving data only have a 90-day retention period. It should be three calendar years to be consistent with the rest of the data retention period.</p> <p>Provide clarification in Section 7.2 that this is for equipment that is permanent. Provide clarification of what the definition of freeze protection "measures" is in relation to procedures and plans. Section 7.2 could be interpreted that the plans have to be maintained annually.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comments. The SDT team will forward your recommendations to NERC for further consideration.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	

Document Name	
Comment	
<p>In addition to expanding the current Implementation Guidance, the Technical Rationale should also be expanded to clarify the intent of the modifications to all parts and subparts of Requirement R7. Expanded technical rationale and Implementation Guidance will help prevent misinterpretations by both entities and auditors.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. The SDT team will forward your recommendations to NERC for further consideration.</p>	
George Brown - Acciona Energy North America - 5	
Answer	
Document Name	
Comment	
<p>Acciona Energy USA Global, LLC (Acciona) would like to thank the SDT on its hard work in the expedited time frame and understand that the priority is to have an enforceable standard regarding generator preparation for cold weather that can be further refined in future versions. Acciona does have the following question and suggestion:</p> <p>1: How has the SDT addressed the uniqueness of dispersed power producing resources identified through Inclusion I4 of the Bulk Electric System definition, such as wind generation Facilities, where each individual wind turbine generator could have a dozen or more possible freeze protections installed, as it relates to proposed EOP-011, Requirement 7.2. “annual inspection & maintenance of freeze protection measures”, especially considering that an outage of an individual generating unit (single wind turbine generator) would not cause adverse effects to the BES and the precedent set by Project 2014-01 Standards Applicability for Dispersed Generation Resources SDT?</p>	

2: In regards to EOP-011, Requirement R7.2 please consider adding the language “,as applicable based on the inspection,” after “and maintenance”. As currently written, the requirement requires a generator owner to perform maintenance on its freeze protection regardless of the results of the inspection.

Likes 0

Dislikes 0

Response

Thank you for your comments. The SDT structured the standards to be applicable to all BES generation units but did not directly address type but allows the GO to structure its plan based on its unit’s unique characteristics and geographical locations. Additionally, the SDT reviewed the issue with inspection and maintenance and determined that the language provides reasonable expectation that maintenance is dependent on the outcome of the inspection; so the team opted to not include additional language.

Shannon Ferdinand - Capital Power Corporation - 5 - MRO,WECC,Texas RE,SERC

Answer

Document Name

Comment

Capital Power appreciates the opportunity to participate in NERC’s stakeholder consultation process. We recognize the risk that severe weather can have on the grid and appreciate the desire to implement a regulation to mitigate the risk. However, Capital Power believes that EOP-011 R7, as it is currently written, does not set out a clear or measurable path for entities to meet the reliability objective.

1. Capital Power would like to see the incorporation of NERC’s risk based approach to grid reliability within Project 2019-06. Specifically, Capital Power believed that the integration of language related to abnormal / unusual / extreme weather vs. cold weather would:
 - **Focus resources on areas of highest risk:** Operating in cold weather conditions is standard / normal operating procedure for many entities and the inclusion of language specifically directed at extreme / abnormal / unusual weather may help ensure appropriate focus is placed on areas of highest risk.
 - **Clarity:** Although the current version of the standard allows entities to define ‘cold weather’, this flexibility creates ambiguity which may increase the likelihood of subjectivity during the audit process. The inclusion of language related to extreme / abnormal / unusual weather offers more clarity to the entities in forming their definition of ‘extreme weather’, and to auditors in assessing compliance.

- **Consistency:** Capital Power believes that the inclusion of more direct / clear language is consistent with NERC’s risk based approach to compliance as well as language in the 2019 FERC and NERC Staff Report: The South-Central United States Cold Weather BES Event of January 17, 2018:
- “A mandatory Reliability Standard would require Generator Owner/Operators to properly prepare for extreme cold weather, and would help RCs and BAs identify units which may not be able to perform during an extreme weather event”^[1]
- 2. Capital Power requests clarification on R7.2 – This requirement requires the annual inspection and maintenance of generating units freeze protection measures, but if the entity does not have any freeze protection measures they will have nothing to implement. Capital Power recommends the inclusion of ‘as applicable’ in R7.2 to offset the ‘at a minimum’ language in R7
- 3. Capital Power requests clarification on M7 – and the auditability of ‘implementation’. Based on the minimum requirements of the entities [Extreme] Cold Weather Preparedness plan (R7.1-7.3) the only element that can be ‘implemented’ (if applicable) is R7.2, the annual inspection and maintenance of generating unit(s). The rest of the ‘at a minimum’ requirements outlined in this requirement are essentially data related to the existing facility/ operational capability with nothing to actively implement.

^[1] https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf

Likes 0

Dislikes 0

Response

Thank you for your comment. The GO preparedness plan must contain provisions to include the data specifications to be provided to the RC/BA and TOP. The SDT team reviewed the language about inspection and maintenance and opted to retain the language as is, and include consideration in the Implementation Guidance.

Gregory Campoli - New York Independent System Operator - 2, Group Name ISO/RTO Standards Review Committee

Answer

Document Name

Comment

EOP-11

The ISO/RTO Council Standards Review Committee (IRC SRC) believes weatherization must be addressed. We support the inclusion of preparedness requirements in EOP-011; however, we think that the proposed language in requirement R7 does not go far enough. Without a

clear, measurable objective, the requirement may not achieve its intended outcome or provide a measurable reliability benefit. **The proposed draft of EOP-011 R7 shown below illustrates how the SDT might incorporate comments #1-6 (shown below recommended language).**

Recommended language:

R7. Each Generator Owner shall develop, implement and maintain, and implement one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*

7.X (new) An evaluation of each generating unit's capability to operate:

7.X.1 (new) At the lowest temperature in the previous 40 years as recorded at the generator's physical location (or nearest physical location for which temperature data exists); and

7.X.2 (new) during extreme weather conditions as recorded at the generator's physical location (or nearest physical location for which temperature data exists) which includes temperatures and other meteorological conditions (e.g. wind, precipitation, icing, flooding) which exceed the most severe conditions on record

7.1. Generating unit(s) freeze protection measures based on unique factors such as geographical location and plant configuration;

7.2. Annual maintenance and inspection and maintenance of generating unit(s) freeze protection measures;

7.3. Generating unit(s) cold weather data, to include:

7.3.1. Generating unit(s) operating limitations in cold weather (including impacts of precipitation) to include:

7.3.1.1. capability and availability;

7.3.1.2. fuel supply and inventory concerns; and

7.3.1.3. environmental constraints and air permitting limitations.

7.3.2. Generating unit(s):

7.3.2.1. minimum design temperature; or,

7.3.2.2 minimum historical operating temperature; or

7.3.2.3 engineering analysis to determine current minimum cold weather performance temperature

7.3.2.4. fuel switching capabilities; and

- 1) Within R7, add a new sub-bullet under “the cold weather preparedness plan shall include, at a minimum,” which states the following “an evaluation of the resource’s ability to operate the lowest recorded temperature in the previous 40 years at the generator’s physical location (or nearest location where temperature was recorded for which data exists)”.
- 2) In addition, “Extreme Weather” (if added based on our other comments below) should be clearly defined as temperatures exceeding the lowest (or highest) recorded temperature at the generator’s physical location (or nearest location where temperature was recorded for which data exists) for a sustained period greater than or equal to one day.
- 3) R1 1.2.6.2 requires the TO to have Operating Plans that mitigate operating Emergencies and these Operating Plans must include provisions to determine the reliability impacts of **extreme weather** conditions, while the GO requirement for having a cold weather plan, as prescribed within R7, only requires a cold weather plan addressing “cold weather” (not “extreme”) conditions. Consideration should be given to having the GO requirement under R7 include the identification of limitations in more extreme weather conditions (including impacts of temperature, wind, precipitation, icing, flooding) similar to those experienced in ERCOT earlier this year.
- 4) R7 As part of 7.3.1 recommend including a requirement that the GO’s cold weather preparedness plan includes data related to the impacts of precipitation (e.g. icing, snowpack)
- 5) R7 Recommend moving 7.3.1.3 to under 7.3.2 since “fuel switching capabilities” is not a **limitation** (7.3.1 is “Generating unit(s) operating limitations in cold weather to include:”). Alternatively, clarify that, as written, this 7.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).
- 6) R7 As part of 7.3.1.4 or as another item, recommend including air permitting constraints. The reason for this is that some generators cannot utilize alternate fuels unless RC/BA declares specific abnormal/emergency conditions and these limitations might not be captured as an “environmental constraint”.
- 7) R8 Recommend including an annual periodicity requirement for the cold weather preparedness plan training – as written, this requirement could be interpreted as being a one time requirement. Also recommend clarifying that the training on the cold weather preparedness plan must be provided to “new” maintenance and operations personnel prior to the first winter in which each individual has assumed responsibility for maintenance or operation of the plant.

IRO-010

1.3 Suggest rewording as “Provisions for notification of BES generating unit(s) operating limitations during cold and extreme weather conditions to include:”

1.3.1 Recommend moving 1.3.1.3 to under 1.3.2 since “fuel switching capabilities” is not a **limitation** (1.3.1 is “Generating unit(s) operating

limitations in cold weather to include:”). Alternatively, clarify that, as written, this 1.3.1.3 is meant to be “limitations when operating on alternate fuels” (not sure that is the intent though).

TOP-003

Same comments as those listed above for IRO-010. Comments apply to R1 (TO) and R2 (BA).

** CAISO and SPP did not join this group response. **

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Standard Collaborations

Answer

Document Name

Comment

ACES encourages the SDT to define the term “cold weather,” which is broadly used in each of these standards and may create confusion, discrepancies, and a compliance burden due the potentially numerous definitions, conditions, and parameters that entities across the NERC footprint could use. ACES also encourages the SDT to define “capability and availability” as used in EOP-011 R7.3.1.1. Additionally, we are concerned about EOP-011 requirement 7.2 that requires entites to perform “annual inspection and maintenance.” As written it makes performing annual maintenance a requirement when there may not be any maintenance actually required. We recommend rephrasing and adding language to state that maintenance is only required when identified by the inspection i.e. “Annual inspection of generating unit(s) freeze protection measures and any maintenance identified during inspection.”

Thank you for the opportunity to provide feedback on this project.

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects. The SDT reviewed the issue with inspection and maintenance and determined that the language provides reasonable expectation that maintenance is dependent on the outcome of the inspection; so the team opted to not include additional language.

Elizabeth Davis - Elizabeth Davis On Behalf of: Tom Foster, PJM Interconnection, L.L.C., 2; - Elizabeth Davis

Answer

Document Name

Comment

In addition to supporting the IRC SRC comments, PJM requests consideration of the following:

PJM requests the SDT to add EOP-011 Requirement for GOs to include the following additional items:

1. A specific requirement for the Generator Owner to provide the host Regional Entity/RC/TOP upon request or on a periodic basis (annually, seasonally or some other periodicity) with the Generator Owner’s cold weather preparedness plans and associated data that the Generator Owner uses to ensure the freeze protection measures are designed to be consistent with the geography and meteorology for the location of the unit. The requirement to have Generator Owners provide cold weather preparedness plans to the RC/TOP allows the RC/TOP to have increased visibility into the plans of the Generator Owners and to incorporate Generator Owner’s cold weather preparedness plans into the RC’s/TOP’s operational assessments.
2. A specific requirement that a Generator Owner’s document supporting source data as assurance that the preparedness plans are based on equipment limitations, historical performance, and other relevant data to ensure the effectiveness of the plans. To the extent that weather forecasts or historical weather information other than those prepared by NOAA are relied upon, the Generator Owners should be required to provide an explanation in the supporting materials explaining why such an alternative forecast or historic data was utilized.
3. A provision that authorizes periodic spot checks outside audit cycles conducted by the host Regional Entity and results coordinated with the host BA/TOP/RC.

4. A provision that clearly states that the Generator Owner cold weather preparedness plans be based on unit size, type, and fuel sources as appropriate.

Likes 0

Dislikes 0

Response

Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.

Daniel Gacek - Exelon - 1

Answer

Document Name

Comment

Exelon supports EEI's comment:

- In addition to expanding the current Implementation Guidance, the Technical Rationale should also be expanded to clarify the intent of the modifications to all parts and subparts of Requirement R7. Expanded technical rationale and Implementation Guidance will help prevent misinterpretations by both entities and auditors.

Submitted on behalf of Exelon, Segments 1, 3, 5, 6

Likes 0

Dislikes 0

Response

Please see the SDT's response to EEI.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Document Name	
Comment	
OPG supports NPCC RSC's comments.	
Likes 0	
Dislikes 0	
Response	
Please see the SDT's response to NPCC RSC.	
Dennis Sismaet - Northern California Power Agency - 6	
Answer	
Document Name	
Comment	
<ol style="list-style-type: none"> 1. Another unfair violation of NERC Market Interference Principles is the fact that BAs and regional RC RTOs will be able to use requested information in bid stack analysis for awarded Day Ahead and real-time dispatch. Non-GO/GOPs will not have to submit the same information used in Modeling evaluations of their competitive bids. 2. The STD refuses to make reliability enhancement requirements for BA and RC Winterization training, load forecasting improvements, and reserve increases which the FERC/NERC Report also discusses. 3. STD responses to the last round of Stakeholder comments states a new SAR would be required to include these concerns. A couple months ago, during the SC meeting discussing SAR approval, NERC and the STD chair advertised that the SAR was written broadly to address stakeholder concerns. Now the STD is refusing to address these concerns. 	
Likes 0	
Dislikes 0	
Response	

See response to Marty Hostler.

Gladys DeLaO - CPS Energy - 1

Answer

Document Name

Comment

N/A, CPS Energy has no additional comment.

Likes 0

Dislikes 0

Response

Michael Whitney - Northern California Power Agency - 3, Group Name NCPA

Answer

Document Name

Comment

See Marty Hostler's comments.

Likes 0

Dislikes 0

Response

See response to Marty Hostler.

Brandon Gleason - Electric Reliability Council of Texas, Inc. - 2

Answer

Document Name	
Comment	
<p>ERCOT also proposes to revise IRO-010, Requirement R1, Parts 1.3.1 and 1.3.1.1, to switch “operating limitations” with “capability and availability” in order to be consistent with the changes suggested by ERCOT in response to Questions 1 and 2. ERCOT also suggests revising Part 1.3.2, to be consistent with the revisions proposed for TOP-003, Requirement R1, Part 1.3.2 in response to Question 2.</p> <p>ERCOT is supportive of the cold weather preparedness plan requirements. However, ERCOT continues to believe that a GOP requirement to communicate generator capability and availability due to cold weather would be more straightforward than a data specification requirement, and could be included as a new requirement in EOP-011, if the proposed R7 for GOs is adopted. The language of the new requirement could read as follows:</p> <p>R__. Each Generator Operator shall notify each impacted Balancing Authority and Transmission Operator of the capability and availability of each of its generating units based on any operating limitations or unit-specific design specifications during actual or anticipated cold weather conditions. [Violation Risk Factor: High] [Time Horizon: Operations Planning, Same Day Operations, and Real-Time Operations]</p> <p>If not included now, ERCOT suggests including this requirement in the future.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comments. Based on the ballot results, the SDT team decided to forward all substantive recommendations to NERC for further consideration in future projects.</p>	

End of Report

REMINDER

Standards Announcement

Project 2019-06 Cold Weather

Additional Ballots and Non-binding Polls Open through April 26, 2021

Now Available

Additional ballots and associated Violation Risk Factors and Violation Severity Levels non-binding polls are open through **8 p.m. Eastern, Monday, April 26, 2021** for:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

The standard drafting team's considerations of the responses received from the previous comment period are reflected in these drafts of the standards.

Balloting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit votes.

Note: Votes cast in the previous ballots will not carry over to the additional ballots. It is the responsibility of the registered voter in the ballot pool(s) to vote again.

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The ballot results will be announced and posted on the project page. The drafting team will review all responses received during the comment period and determine the next steps of the project.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589. [Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists"

from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box.

North American Electric Reliability Corporation
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404-446-2560 | www.nerc.com

Standards Announcement

Project 2019-06 Cold Weather

Formal Comment Period Open through April 26, 2021

[Now Available](#)

A **25-day** formal comment period is open through **8 p.m. Eastern, Monday, April 26, 2021** for the following:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

The standard drafting team's considerations of the responses received from the previous comment period are reflected in these drafts of the standards.

Commenting

Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments. An unofficial Word version of the comment form is posted on the [project page](#).

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS is **not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

Additional ballots for the standards and non-binding polls of the associated Violation Risk Factors and Violation Severity Levels will be conducted **April 16-26, 2021**.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

[Subscribe to this project's observer mailing list](#) by selecting "NERC Email Distribution Lists" from the "Service" drop-down menu and specify "Project 2019-06 Cold Weather Observer List" in the Description Box. For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589.

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[NERC Balloting Tool \(/\)](#)[Dashboard \(/\)](#)[Users](#)[Ballots](#)[Comment Forms](#)[Login \(/Users/Login\) / Register \(/Users/Register\)](#)

BALLOT RESULTS

Comment: [View Comment Results \(/CommentResults/Index/220\)](#)**Ballot Name:** 2019-06 Cold Weather EOP-011-2 AB 2 ST**Voting Start Date:** 4/16/2021 12:01:00 AM**Voting End Date:** 4/26/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** AB**Ballot Series:** 2**Total # Votes:** 272**Total Ballot Pool:** 310**Quorum:** 87.74**Quorum Established Date:** 4/26/2021 3:42:55 PM**Weighted Segment Value:** 77.1

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	57	0.781	16	0.219	0	2	10
Segment: 2	7	0.6	5	0.5	1	0.1	0	0	1
Segment: 3	70	1	43	0.741	15	0.259	1	3	8
Segment: 4	18	1	12	0.75	4	0.25	1	0	1
Segment: 5	74	1	44	0.71	18	0.29	0	2	10
Segment: 6	47	1	25	0.676	12	0.324	0	3	7
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	6	0.6	0	0	0	1	0
Totals:	310	6.3	193	4.858	66	1.442	2	11	38

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	Comments Submitted
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		Affirmative	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		Negative	Comments Submitted
1	Dairyland Power Cooperative	Renee Leidel		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	Comments Submitted
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Gainesville Regional Utilities	David Owens	Truong Le	Negative	Comments Submitted
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	None	N/A
1	JEA	Joe McClung		Affirmative	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Josh Johnson		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Comments Submitted
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer	Gul Khan	Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	Comments Submitted
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	Comments Submitted
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Comments Submitted
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Negative	Comments Submitted
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Donna Wood		Negative	Comments Submitted
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Keith Jonassen	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Negative	Comments Submitted
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		None	N/A
3	Glenn Corporation	Maurice Paulk		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Negative	No Comment Submitted
3	Colorado Springs Utilities	Hillary Dobson		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		None	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Comments Submitted
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	Comments Submitted
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Negative	Comments Submitted
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Negative	Third-Party Comments
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	Comments Submitted
3	Santee Cooper	James Poston		Negative	Comments Submitted
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Third-Party Comments
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Negative	Comments Submitted
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Negative	Comments Submitted
3	TECO - Tampa Electric	Ronald Donahey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Tennessee Valley Authority	Ian Grant		Negative	Comments Submitted
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebel		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Negative	No Comment Submitted
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	Comments Submitted
4	LaGen	Wayne Messina		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Oklahoma Municipal Power Authority	Ashley Stringer		None	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Third-Party Comments
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Negative	Comments Submitted
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Affirmative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	Comments Submitted
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Third-Party Comments
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		None	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	Comments Submitted
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		None	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Affirmative	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	Comments Submitted
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	OTP - Otter Tail Power Company	Brett Jacobs		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Negative	Third-Party Comments
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Third-Party Comments
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Trena Haynes		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Negative	Comments Submitted
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Negative	Comments Submitted
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	Comments Submitted
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Clarice Zellmer		None	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		None	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Negative	Comments Submitted
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Negative	Comments Submitted
6	Salt River Project	Bobby Olsen		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Santee Cooper	Marty Watson		Negative	Comments Submitted
6	Seattle City Light	Brian Belger		None	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Negative	Comments Submitted
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Negative	Comments Submitted
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	Comments Submitted
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Abstain	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 310 of 310 entries

[Previous](#)

1

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BALLOT RESULTS

Comment: [View Comment Results \(/CommentResults/Index/220\)](#)**Ballot Name:** 2019-06 Cold Weather IRO-010-4 AB 2 ST**Voting Start Date:** 4/16/2021 12:01:00 AM**Voting End Date:** 4/26/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** AB**Ballot Series:** 2**Total # Votes:** 271**Total Ballot Pool:** 313**Quorum:** 86.58**Quorum Established Date:** 4/26/2021 4:10:33 PM**Weighted Segment Value:** 85.42

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	61	0.859	10	0.141	0	3	11
Segment: 2	7	0.6	5	0.5	1	0.1	0	0	1
Segment: 3	70	1	48	0.842	9	0.158	0	4	9
Segment: 4	19	1	14	0.875	2	0.125	0	1	2
Segment: 5	76	1	49	0.79	13	0.21	0	3	11
Segment: 6	47	1	28	0.8	7	0.2	0	5	7
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.7	7	0.7	0	0	0	0	0
Totals:	313	6.4	213	5.467	42	0.933	0	16	42

BALLOT POOL MEMBERS

Show entries

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Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		Affirmative	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		Negative	Comments Submitted
1	Dairyland Power Cooperative	Renee Leidel		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	Comments Submitted
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	Comments Submitted
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	None	N/A
1	JEA	Joe McClung		Affirmative	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Comments Submitted
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	Comments Submitted
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	Comments Submitted
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Donna Wood		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Negative	Comments Submitted
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		None	N/A
3	Glenn Corporation	Maurice Paulk		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		None	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Comments Submitted
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Affirmative	N/A
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	Comments Submitted
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	Comments Submitted
3	Santee Cooper	James Poston		Negative	Comments Submitted
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Third-Party Comments
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric	Ronald Donahey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Tennessee Valley Authority	Ian Grant		Negative	Comments Submitted
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebel		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Abstain	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Oklahoma Municipal Power Authority	Ashley Stringer		None	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Third-Party Comments
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Affirmative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	Comments Submitted
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Third-Party Comments
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	California Department of Water Resources	ASM Mostafa		None	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		None	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	Comments Submitted
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Qu?bec Production	Carl Pineault		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Lakeland Electric	Becky Rinier		None	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	Comments Submitted
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	OTP - Otter Tail Power Company	Brett Jacobs		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Third-Party Comments
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Trena Haynes		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	Comments Submitted
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Clarice Zellmer		None	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		None	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Abstain	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	Comments Submitted
6	Seattle City Light	Brian Belger		None	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	Comments Submitted
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 313 of 313 entries

Previous

1

Next

NERC Balloting Tool (/)

Dashboard (/)

Users

Ballots

Comment Forms

Login (/Users/Login) / Register (/Users/Register)

BALLOT RESULTS

Comment: View Comment Results (/CommentResults/Index/220)

Ballot Name: 2019-06 Cold Weather TOP-003-5 AB 2 ST**Voting Start Date:** 4/16/2021 12:01:00 AM**Voting End Date:** 4/26/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** AB**Ballot Series:** 2**Total # Votes:** 270**Total Ballot Pool:** 313**Quorum:** 86.26**Quorum Established Date:** 4/26/2021 4:16:34 PM**Weighted Segment Value:** 85.2

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	62	0.861	10	0.139	0	2	11
Segment: 2	7	0.6	5	0.5	1	0.1	0	0	1
Segment: 3	70	1	50	0.847	9	0.153	0	3	8
Segment: 4	19	1	13	0.867	2	0.133	0	1	3
Segment: 5	76	1	50	0.794	13	0.206	0	1	12
Segment: 6	47	1	29	0.784	8	0.216	0	3	7
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.7	7	0.7	0	0	0	0	0
Totals:	313	6.4	217	5.453	43	0.947	0	10	43

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		Affirmative	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		Negative	Comments Submitted
1	Dairyland Power Cooperative	Renee Leidel		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	Comments Submitted
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	Comments Submitted
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	None	N/A
1	JEA	Joe McClung		Affirmative	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Josh Johnson		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	Comments Submitted
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Third-Party Comments

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	Comments Submitted
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	Comments Submitted
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Negative	Comments Submitted
1	Tri-State G and T Association, Inc.	Donna Wood		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Negative	Comments Submitted
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Negative	Comments Submitted
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		None	N/A
3	Glenn Corporation	Maurice Paulk		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		None	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	Comments Submitted
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Affirmative	N/A
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	Comments Submitted
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	Comments Submitted
3	Santee Cooper	James Poston		Negative	Comments Submitted
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Third-Party Comments
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric	Ronald Donahey		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Tennessee Valley Authority	Ian Grant		Negative	Comments Submitted
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebel		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Abstain	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		None	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Oklahoma Municipal Power Authority	Ashley Stringer		None	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Third-Party Comments
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Affirmative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	Comments Submitted
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Third-Party Comments
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	California Department of Water Resources	ASM Mostafa		None	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		None	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	Comments Submitted
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Qu?bec Production	Carl Pineault		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Lakeland Electric	Becky Rinier		None	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Affirmative	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	Comments Submitted
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	OTP - Otter Tail Power Company	Brett Jacobs		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Third-Party Comments
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	Comments Submitted
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Trena Haynes		None	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	Third-Party Comments
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Clarice Zellmer		None	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		None	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirchak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Negative	Comments Submitted
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	Comments Submitted
6	Seattle City Light	Brian Belger		None	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	Comments Submitted
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 313 of 313 entries

Previous

1

Next

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BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather EOP-011-2 | Non-binding Poll AB 2 NB**Voting Start Date:** 4/16/2021 12:01:00 AM**Voting End Date:** 4/26/2021 8:00:00 PM**Ballot Type:** NB**Ballot Activity:** AB**Ballot Series:** 2**Total # Votes:** 243**Total Ballot Pool:** 289**Quorum:** 84.08**Quorum Established Date:** 4/26/2021 4:30:11 PM**Weighted Segment Value:** 72.54

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes	Negative Fraction	Abstain	No Vote
Segment: 1	77	1	36	0.735	13	0.265	12	16
Segment: 2	7	0.6	6	0.6	0	0	0	1
Segment: 3	69	1	32	0.727	12	0.273	15	10
Segment: 4	15	1	8	0.615	5	0.385	2	0
Segment: 5	70	1	34	0.708	14	0.292	10	12
Segment: 6	42	1	18	0.667	9	0.333	9	6
Segment: 7	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0
Segment: 10	7	0.5	5	0.5	0	0	2	0
Total	289	3.0	140	0.752	53	1.548	50	46

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Negative	Comments Submitted
1	Ameren - Ameren Services	Tamara Evey		Abstain	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	Comments Submitted
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Abstain	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Abstain	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		None	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Steve Ritscher		None	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	Comments Submitted
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Negative	Comments Submitted
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Negative	Comments Submitted
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	None	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		Negative	Comments Submitted
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	Comments Submitted
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	Portland General Electric Co.	Brooke Jockin		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Comments Submitted
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Negative	Comments Submitted
1	Santee Cooper	Chris Wagner		Abstain	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Abstain	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Abstain	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	Comments Submitted
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Negative	Comments Submitted
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Abstain	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	Western Area Power Administration	sean erickson		Negative	Comments Submitted
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas	Keith Jonassen	Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Kent Feliks		Negative	Comments Submitted
3	Ameren - Ameren Services	David Jendras		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Abstain	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	Comments Submitted
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		None	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Negative	Comments Submitted
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		None	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	Comments Submitted
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	Comments Submitted
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Negative	Comments Submitted
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Abstain	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Abstain	N/A
3	Portland General Electric Co.	Dan Zollner		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		None	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	Comments Submitted
3	San Joaquin	Vanessa Wilson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Abstain	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jarrod Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Comments Submitted
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Negative	Comments Submitted
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Negative	Comments Submitted
3	TECO - Tampa Electric Co.	Ronald Donahey		Abstain	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Abstain	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Negative	Comments Submitted
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	LaGen	Wayne Messina		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Comments Submitted
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Negative	Comments Submitted
4	Utility Services, Inc.	Brian Evans-Mongeon		Negative	Comments Submitted
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Abstain	N/A
5	AEP	Thomas Foltz		Negative	Comments Submitted
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Comments Submitted
5	Bonneville Power Administration	Scott Winner		Negative	Comments Submitted
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	Comments Submitted
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		None	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Abstain	N/A
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	Comments Submitted
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	Portland General Electric Co.	Ryan Olson		Abstain	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Comments Submitted
5	Puget Sound Energy, Inc.	Lynn Murphy		Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	San Miguel Electric Cooperative, Inc.	Lana Smith		None	N/A
5	Santee Cooper	Tommy Curtis		Abstain	N/A
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Trena Haynes		None	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Abstain	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Negative	Comments Submitted
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Negative	Comments Submitted
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		None	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
6	AEP	JT Kuehne		Negative	Comments Submitted
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		None	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	Comments Submitted
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	Comments Submitted
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Abstain	N/A
6	Portland General Electric Co.	Daniel Mason		Abstain	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Okla. County	Glen Pruitt		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Negative	Comments Submitted
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Abstain	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Negative	Comments Submitted
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Abstain	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Abstain	N/A

Showing 1 to 289 of 289 entries

Previous

1

Next

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BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather IRO-010-4 | Non-binding Poll AB 2 NB**Voting Start Date:** 4/16/2021 12:01:00 AM**Voting End Date:** 4/26/2021 8:00:00 PM**Ballot Type:** NB**Ballot Activity:** AB**Ballot Series:** 2**Total # Votes:** 243**Total Ballot Pool:** 289**Quorum:** 84.08**Quorum Established Date:** 4/26/2021 4:35:41 PM**Weighted Segment Value:** 84.66

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes	Negative Fraction	Abstain	No Vote
Segment: 1	77	1	41	0.854	7	0.146	13	16
Segment: 2	7	0.6	6	0.6	0	0	0	1
Segment: 3	69	1	38	0.884	5	0.116	16	10
Segment: 4	15	1	10	0.769	3	0.231	2	0
Segment: 5	70	1	38	0.809	9	0.191	11	12
Segment: 6	42	1	20	0.8	5	0.2	11	6
Segment: 7	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0
Segment: 10	7	0.6	6	0.6	0	0	1	0
Total	289	3.0	150	0.884	29	0.884	54	46

BALLOT POOL MEMBERS

Show entries

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Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Abstain	N/A
1	Ameren - Ameren Services	Tamara Evey		Abstain	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Abstain	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Abstain	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		None	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Steve Ritscher		None	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	Comments Submitted
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	Comments Submitted
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Negative	Comments Submitted
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	None	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		Negative	Comments Submitted
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	Portland General Electric Co.	Brooke Jockin		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Comments Submitted
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Negative	Comments Submitted
1	Santee Cooper	Chris Wagner		Abstain	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Abstain	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Abstain	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Abstain	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Kent Feliks		Abstain	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service	Jessica Lopez		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Abstain	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		None	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		None	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Affirmative	N/A
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Northern California Power Agency	Michael Whitney		Negative	Comments Submitted
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Abstain	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Abstain	N/A
3	Portland General Electric Co.	Dan Zollner		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		None	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	Comments Submitted
3	Santee Cooper	James Poston		Abstain	N/A
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jarrold Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Comments Submitted
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Abstain	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Abstain	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Negative	Comments Submitted
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Abstain	N/A
5	AEP	Thomas Foltz		Abstain	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Comments Submitted
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	Comments Submitted
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Quebec Production	Carl Pineault		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		None	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Abstain	N/A
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	Portland General Electric Co.	Ryan Olson		Abstain	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Comments Submitted
5	Puget Sound Energy, Inc.	Lynn Murphy		Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	San Miguel Electric Cooperative, Inc.	Lana Smith		None	N/A
5	Santee Cooper	Tommy Curtis		Abstain	N/A
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Trena Haynes		None	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Abstain	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tennessee Valley Authority	M Lee Thomas		None	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
6	AEP	JT Kuehne		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		None	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Negative	Comments Submitted
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Abstain	N/A
6	Portland General Electric Co.	Daniel Mason		Abstain	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Abstain	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santa Clara County Water	Verbs Watson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Abstain	N/A

Showing 1 to 289 of 289 entries

Previous

1

Next

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BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather TOP-003-5 | Non-binding Poll AB 2 NB**Voting Start Date:** 4/16/2021 12:01:00 AM**Voting End Date:** 4/26/2021 8:00:00 PM**Ballot Type:** NB**Ballot Activity:** AB**Ballot Series:** 2**Total # Votes:** 243**Total Ballot Pool:** 288**Quorum:** 84.38**Quorum Established Date:** 4/26/2021 4:38:41 PM**Weighted Segment Value:** 84.21

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes	Negative Fraction	Abstain	No Vote
Segment: 1	77	1	41	0.854	7	0.146	13	16
Segment: 2	7	0.6	6	0.6	0	0	0	1
Segment: 3	69	1	38	0.884	5	0.116	16	10
Segment: 4	15	1	10	0.769	3	0.231	2	0
Segment: 5	69	1	38	0.809	9	0.191	11	11
Segment: 6	42	1	20	0.769	6	0.231	10	6
Segment: 7	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0
Segment: 10	7	0.6	6	0.6	0	0	1	0
Total	288	3.0	150	0.915	30	0.915	53	45

BALLOT POOL MEMBERS

Show entries

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Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Abstain	N/A
1	Ameren - Ameren Services	Tamara Evey		Abstain	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Abstain	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Abstain	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		None	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		None	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		None	N/A
1	Dairyland Power Cooperative	Steve Ritscher		None	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	Comments Submitted
1	Duke Energy	Laura Lee		Negative	Comments Submitted
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	Comments Submitted
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro-Quebec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Negative	Comments Submitted
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	None	N/A
1	JEA	Joe McClung		None	N/A
1	Lakeland Electric	Larry Watt		Negative	Comments Submitted
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Abstain	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	Portland General Electric Co.	Brooke Jockin		Abstain	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	Comments Submitted
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Negative	Comments Submitted
1	Santee Cooper	Chris Wagner		Abstain	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Abstain	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Abstain	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Abstain	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		None	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		None	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Kent Feliks		Abstain	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service	Jessica Lopez		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Abstain	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		None	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Negative	Comments Submitted
3	Dominion - Dominion Resources, Inc.	Connie Lowe		None	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	Comments Submitted
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		None	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Abstain	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Affirmative	N/A
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Northern California Power Agency	Michael Whitney		Negative	Comments Submitted
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Abstain	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Abstain	N/A
3	Portland General Electric Co.	Dan Zollner		Abstain	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		None	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	Comments Submitted
3	Santee Cooper	James Poston		Abstain	N/A
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Abstain	N/A
3	Sho-Me Power Electric Cooperative	Jarrold Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	Comments Submitted
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Abstain	N/A
3	Tennessee Valley Authority	Ian Grant		Abstain	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Abstain	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	Comments Submitted

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	Comments Submitted
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Abstain	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Negative	Comments Submitted
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Abstain	N/A
5	AEP	Thomas Foltz		Abstain	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	Comments Submitted
5	BC Hydro and Power Authority	Helen Hamilton Harding		Abstain	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	Comments Submitted
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	Comments Submitted
5	Duke Energy	Dale Goodwine		Negative	Comments Submitted
5	Edison International - Southern California Edison Company	Neil Shockey		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Quebec Production	Carl Pineault		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		None	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Abstain	N/A
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	Comments Submitted
5	NovaSource Power Services	Kristina Marriott		None	N/A
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Abstain	N/A
5	Portland General Electric Co.	Ryan Olson		Abstain	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		None	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	Comments Submitted
5	Puget Sound Energy, Inc.	Lynn Murphy		Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	San Miguel Electric Cooperative, Inc.	Lana Smith		None	N/A
5	Santee Cooper	Tommy Curtis		Abstain	N/A
5	Seattle City Light	Faz Kasraie		Negative	Comments Submitted
5	Seminole Electric Cooperative, Inc.	Trena Haynes		None	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Abstain	N/A
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Tennessee Valley Authority	M Lee Thomas		None	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	Comments Submitted
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
6	AEP	JT Kuehne		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		None	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	Comments Submitted
6	Duke Energy	Greg Cecil		Negative	Comments Submitted
6	Entergy	Julie Hall		Negative	Comments Submitted
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	Comments Submitted
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Abstain	N/A
6	Portland General Electric Co.	Daniel Mason		Abstain	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		None	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Negative	Comments Submitted
6	Salt River Project	Bobby Olsen		None	N/A
6	Santa Clara Valley Water	Verbs Watson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Snohomish County PUD No. 1	John Liang		Negative	Comments Submitted
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Abstain	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Abstain	N/A

Showing 1 to 288 of 288 entries

Previous

1

Next

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021
10-day final ballot	May 2021

Anticipated Actions	Date
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title:** Emergency Preparedness and Operations
2. **Number:** EOP-011-2
3. **Purpose:** To address the effects of operating emergencies by ensuring each Transmission Operator, Balancing Authority, and Generator Owner has developed plan(s) to mitigate operating Emergencies and that those plans are implemented and coordinated within the Reliability Coordinator Area as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;
 - 1.2.3. Transmission system reconfiguration;
 - 1.2.4. Redispatch of generation request;
 - 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

1.2.6. Provisions to determine reliability impacts of:

1.2.6.1. cold weather conditions; and

1.2.6.2. extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

2.1. Roles and responsibilities for activating the Operating Plan(s);

2.2. Processes to prepare for and mitigate Emergencies including:

2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;

2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;

2.2.3. Managing generating resources in its Balancing Authority Area to address:

2.2.3.1. capability and availability;

2.2.3.2. fuel supply and inventory concerns;

2.2.3.3. fuel switching capabilities; and

2.2.3.4. environmental constraints.

2.2.4. Public appeals for voluntary Load reductions;

2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;

2.2.6. Reduction of internal utility energy use;

2.2.7. Use of Interruptible Load, curtailable Load and demand response;

2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

2.2.9. Provisions to determine reliability impacts of:

- 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. extreme weather conditions.
- M2. Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3. The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1. Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1. Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2. Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3. Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3. The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4. Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4. The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5. Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and

neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*

- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*
 - 7.1.** Generating unit(s) freeze protection measures based on geographical location and plant configuration;
 - 7.2.** Annual inspection and maintenance of generating unit(s) freeze protection measures;
 - 7.3.** Generating unit(s) cold weather data, to include:
 - 7.3.1.** Generating unit(s) operating limitations in cold weather to include:
 - 7.3.1.1.** capability and availability;
 - 7.3.1.2.** fuel supply and inventory concerns;
 - 7.3.1.3.** fuel switching capabilities; and
 - 7.3.1.4.** environmental constraints.
 - 7.3.2.** Generating unit(s) minimum:
 - 7.3.2.1.** design temperature; or
 - 7.3.2.2.** historical operating temperature; or

7.3.1.3. current cold weather performance temperature determined by an engineering analysis.

- M7.** Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.
- R8.** Each Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*
- M8.** Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.

- 1.3. The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever timeframe is greater, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8. **Compliance Monitoring and Enforcement Program:**

As defined in the NERC Rules of Procedure; “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.
R2	Real-time Operations, Operations	High	N/A	The Balancing Authority developed a Reliability Coordinator-	The Balancing Authority developed an Operating Plan(s) to mitigate operating	The Balancing Authority failed to develop an

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
	Planning, Long-term Planning			reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					Operator within 30 calendar days.	
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority did not notify neighboring Reliability Coordinators, Balancing Authorities	The Reliability Coordinator that received an Emergency notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.
R7	Operations Planning and Real-time Operations	High	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner’s cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it. OR	The Generator Owner does not have a cold weather preparedness plan. OR The Generator Owner has a cold

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					The Generator Owner’s cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.	weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.
R8	Operations Planning and Real-time Operations	Medium	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
2	TBD	Adopted by the Board of Trustees	Revised under Project 2019-06

Attachment 1-EOP-011-2 Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021
<u>10-day final ballot</u>	<u>May 2021</u>

Anticipated Actions	Date
10-day final ballot	May 2021
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title:** Emergency Preparedness and Operations
2. **Number:** EOP-011-2
3. **Purpose:** To address the effects of operating emergencies by ensuring each Transmission Operator, Balancing Authority, and Generator Owner has developed plan(s) to mitigate operating Emergencies and that those plans are implemented and coordinated within the Reliability Coordinator Area as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:
 - 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
 - 1.2.2. Cancellation or recall of Transmission and generation outages;
 - 1.2.3. Transmission system reconfiguration;
 - 1.2.4. Redispatch of generation request;
 - 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

1.2.6. Provisions to determine reliability impacts of:

1.2.6.1. cold weather conditions; and

1.2.6.2. extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

2.1. Roles and responsibilities for activating the Operating Plan(s);

2.2. Processes to prepare for and mitigate Emergencies including:

2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;

2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;

2.2.3. Managing generating resources in its Balancing Authority Area to address:

2.2.3.1. capability and availability;

2.2.3.2. fuel supply and inventory concerns;

2.2.3.3. fuel switching capabilities; and

2.2.3.4. environmental constraints.

2.2.4. Public appeals for voluntary Load reductions;

2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;

2.2.6. Reduction of internal utility energy use;

2.2.7. Use of Interruptible Load, curtailable Load and demand response;

2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and

2.2.9. Provisions to determine reliability impacts of:

- 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. extreme weather conditions.
- M2. Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3. The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1. Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1. Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2. Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3. Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3. The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4. Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*
- M4. The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5. Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and

neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*

- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: *[Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]*
 - 7.1.** Generating unit(s) freeze protection measures based on geographical location and plant configuration;
 - 7.2.** Annual inspection and maintenance of generating unit(s) freeze protection measures;
 - 7.3.** Generating unit(s) cold weather data, to include:
 - 7.3.1.** Generating unit(s) operating limitations in cold weather to include:
 - 7.3.1.1.** capability and availability;
 - 7.3.1.2.** fuel supply and inventory concerns;
 - 7.3.1.3.** fuel switching capabilities; and
 - 7.3.1.4.** environmental constraints.
 - 7.3.2.** Generating unit(s) minimum:
 - 7.3.2.1.** ~~minimum~~ design temperature; or
 - 7.3.2.2.** ~~minimum~~ historical operating temperature; or

7.3.1.3. current cold weather performance temperature determined by an engineering analysis, to determine current minimum cold weather performance temperature

- M7.** Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.
- R8.** Each ~~Generator Operator or~~ Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*
- M8.** Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

“Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.
- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.

- 1.3. The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever timeframe is greater, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8. **Compliance Monitoring and Enforcement Program:**

As defined in the NERC Rules of Procedure; “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be

used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	The Balancing Authority developed an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	The Balancing Authority failed to develop an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency	The Reliability Coordinator that received an Emergency

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					notification from a Transmission Operator or Balancing Authority did notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R7	Operations Planning and Real-time Operations	High	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it. OR The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.	The Generator Owner does not have a cold weather preparedness plan. OR The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.
R8	Operations Planning and Real-time Operations	Medium	The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in	The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in	The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in	The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Requirement R8 to the greater of: <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	Requirement R8 to the greater of: <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	Requirement R8 to the greater of: <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	Requirement R8 to the greater of: <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
2	TBD	Adopted by the Board of Trustees	Revised under Project 2019-06

Attachment 1-EOP-011-2 Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>
<u>10-day final ballot</u>	<u>May 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Emergency Preparedness and Operations—
2. **Number:** EOP-011-~~12~~
3. **Purpose:** To address the effects of operating ~~Emergencies~~emergencies by ensuring each Transmission Operator ~~and~~, Balancing Authority, and Generator Owner has developed ~~Operating Plan~~plan(s) to mitigate operating Emergencies, and that those plans are implemented and coordinated within ~~the~~ Reliability Coordinator Area, as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:**

See Implementation Plan for ~~EOP 011 1~~Project 2019-06.

~~2.~~ **Background:**

~~EOP 011 1 consolidates requirements from three standards: EOP 001 2.1b, EOP 002 3.1, and EOP 003 2.~~

~~The standard streamlines the requirements for Emergency operations for the Bulk Electric System into a clear and concise standard that is organized by Functional Entity. In addition, the revisions clarify the critical requirements for Emergency Operations, while ensuring strong communication and coordination across the Functional Entities.~~

~~E.B.~~ **Requirements and Measures**

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:

- 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
- 1.2.2. Cancellation or recall of Transmission and generation outages;
- 1.2.3. Transmission system reconfiguration;
- 1.2.4. Redispatch of generation request;
- 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 1.2.6. Reliability Provisions to determine reliability impacts of:
 - 1.2.6.1. cold weather conditions; and
 - ~~1.2.5.1.~~ 1.2.6.2. extreme weather conditions.

- M1.** Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.
- R2.** Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 2.1. Roles and responsibilities for activating the Operating Plan(s);
 - 2.2. Processes to prepare for and mitigate Emergencies including:
 - 2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;
 - 2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;
 - 2.2.3. Managing generating resources in its Balancing Authority Area to address:
 - 2.2.3.1. capability and availability;
 - 2.2.3.2. fuel supply and inventory concerns;
 - 2.2.3.3. fuel switching capabilities; and
 - 2.2.3.4. environmental constraints.
 - 2.2.4. Public appeals for voluntary Load reductions;

- 2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;
- 2.2.6. Reduction of internal utility energy use;
- 2.2.7. Use of Interruptible Load, curtailable Load and demand response;
- 2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 2.2.9. Reliability Provisions to determine reliability impacts of:
 - 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. extreme weather conditions.

- M2.** Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3.** The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1.** Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1.** Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2.** Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3.** Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3.** The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4.** Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*

- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]
- 7.1. Generating unit(s) freeze protection measures based on geographical location and plant configuration;
- 7.2. Annual inspection and maintenance of generating unit(s) freeze protection measures;
- 7.3. Generating unit(s) cold weather data, to include:
- 7.3.1. Generating unit(s) operating limitations in cold weather to include:
- 7.3.1.1. capability and availability;
- 7.3.1.2. fuel supply and inventory concerns;

7.3.1.3. fuel switching capabilities; and

7.3.1.4. environmental constraints.

7.3.2. Generating unit(s) minimum:

7.3.2.1. design temperature; or

7.3.2.2. historical operating temperature; or

7.3.2.3 current cold weather performance temperature determined by an engineering analysis.

M7. Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.

R8. Each Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*

M8. Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

F.C. **Compliance**

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~As defined in the NERC Rules of Procedure,~~ “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

~~The Balancing Authority, Reliability Coordinator, and Transmission Operator shall keep data or following evidence to show compliance, as identified below, unless directed by its Compliance Enforcement Authority (CEA) retention period(s) identify the period of time an entity is required to retain specific evidence for a longer period of time as part of an investigation to demonstrate compliance.~~ For instances where the evidence retention period specified below is shorter than the time since the last audit, the ~~CEA~~Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and ~~R4~~R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.

~~If a Balancing Authority, Reliability Coordinator or Transmission Operator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.
- The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever

~~timeframe is greater, unless directed by its~~ Compliance Enforcement Authority ~~shall keep the last audit records and all requested and submitted subsequent audit records.~~ to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8.

1.4.1.3. Compliance Monitoring Assessment Processes: Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure; “~~Compliance Monitoring and Assessment Processes~~Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated ~~reliability standard~~Reliability Standard.

2.0. Additional Compliance Information

None

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	<u>N/A</u>	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	The Balancing Authority developed an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	The Balancing Authority failed to develop an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency	The Reliability Coordinator that received an Emergency

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					notification from a Transmission Operator or Balancing Authority did notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
<u>R7</u>	<u>Operations Planning and Real-time Operations</u>	<u>High</u>	<u>The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.</u>	<u>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</u> <u>OR</u> <u>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner does not have a cold weather preparedness plan.</u> <u>OR</u> <u>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</u>
<u>R8</u>	<u>Operations Planning and Real-time Operations</u>	<u>Medium</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>one applicable personnel at a single generating unit; or</u> • <u>5% or less of its total applicable personnel.</u> 	<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>two applicable personnel at a single generating unit; or</u> • <u>more than 5% or less than or equal to 10% of its total applicable personnel.</u> 	<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>three applicable personnel at a single generating unit; or</u> • <u>more than 10% or less than or equal to 15% of its total applicable personnel.</u> 	<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>four applicable personnel at a single generating unit; or</u> • <u>more than 15% of its total applicable personnel.</u>

G.D. Regional Variances

None.

H.E. Interpretations

None.

I.F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
<u>2</u>	<u>TBD</u>	<u>Adopted by the Board of Trustees</u>	<u>Revised under Project 2019-06</u>

Attachment 1-EOP-011-~~12~~ Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for R1:

~~The EOP SDT examined the recommendation of the EOP Five-Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.~~

~~To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.~~

Rationale for R2:

To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.

The Operating Plan(s) can be one plan, or it can be multiple plans.

An Operating Plan(s) is implemented by carrying out its stated actions.

If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).

The EOP SDT retained the statement “Operator controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.

With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.

The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.

Rationale for R3:

The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.

Rationale for Requirement R4:

Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.

Rationale for R5

The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.

Rationale for Introduction

~~LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.~~

~~EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB-WEQ-E tag Specification v1811-R3.6.1.3, this has been modified and now the TSP has the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.~~

Rationale for (2) Notification

The EOP SDT deleted the language, “*The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended*” as duplicative to proposed IRO-014-3 Requirement R1:

~~R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following:~~

~~1.1 Communications and notifications, and the process to follow in making those notifications.~~

~~1.2 Energy and capacity shortages.~~

~~1.3 Control of voltage, including the coordination of reactive resources.~~

~~Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.~~

~~1.5 Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.~~

~~1.6 Provisions for weekly conference calls.~~

Rationale for EEA 2:

The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.

Rationale for EEA 3:

This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.

The previous language in EOP 002 3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.

Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very close to shedding Load (“imminent or in progress”). The drafting team felt that this warrants categorization at the highest level of EEA.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal a 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR) for posting	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day initial formal comment period with ballot	April 2 – April 27, 2021
10-day final ballot	May 18 – 27, 2021

Anticipated Actions	Date
NERC Board (Board) adoption	June 11, 2021

A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-4
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
 - 4.1. Reliability Coordinator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Operator
 - 4.6. Transmission Owner
 - 4.7. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements

- R1. The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: *(Violation Risk Factor: Low) (Time Horizon: Operations Planning)*
 - 1.1. A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data, as deemed necessary by the Reliability Coordinator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1 Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints

1.3.2. Generating unit(s) minimum:

1.3.2.1. design temperature; or

1.3.2.2. historical operating temperature; or

1.3.2.3. current cold weather performance temperature determined by an engineering analysis.

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: Low*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R3.** Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: (*Violation Risk Factor: Medium*) (*Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations*)
- 3.1.** A mutually agreeable format
- 3.2.** A mutually agreeable process for resolving data conflicts
- 3.3.** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include but is not limited to electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

- 1.1. Compliance Enforcement Authority:** “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the mandatory and enforceable Reliability Standards in their respective jurisdictions.
- 1.2. Evidence Retention:** The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

- 1.3. Compliance Monitoring and Enforcement Program:**
As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Real-time Assessments.	Real-time Assessments.	Real-time Assessments.
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06 Cold Weather
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

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 - 1.3.1.4. environmental constraints

1.3.2. Generating unit(s) minimum:

~~12.3.2.1. minimum~~ design temperature; or

~~12.3.2.2. minimum~~ historical operating temperature; or

~~12.3.2.3. current cold weather performance temperature determined by an engineering analysis. to determine current minimum cold weather performance temperature.~~

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
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The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

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- 1.3. Compliance Monitoring and Enforcement Program:**
As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	Low	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						monitoring, and Real-time Assessments.
<p>For the Requirement R2 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R2	Operations Planning	Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, and Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is greater, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
				Real-time Assessments.	Real-time Assessments.	Real-time Assessments.
R3	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in Parts 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval	
2	April 2014	Revisions pursuant to Project 2014-03	
2	November 13, 2014	Adopted by NERC Board of Trustees	Revisions under Project 2014-03
2	November 19, 2015	FERC approved IRO-010-2. Docket No. RM15-16-000	
3	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06 Cold Weather
3	October 30, 2020	FERC approved IRO-010-2. Docket No. RD20-4-000	
4	TBD	Adopted by NERC Board of Trustees	Revisions under Project 2019-06

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of the proposed standard for a formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>
<u>10-day final ballot</u>	<u>May 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Emergency Preparedness and Operations—
2. **Number:** EOP-011-~~12~~
3. **Purpose:** To address the effects of operating ~~Emergencies~~emergencies by ensuring each Transmission Operator ~~and~~, Balancing Authority, and Generator Owner has developed ~~Operating Plan~~plan(s) to mitigate operating Emergencies, and that those plans are implemented and coordinated within ~~the~~ Reliability Coordinator Area, as specified within the requirements.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1 Balancing Authority
 - 4.1.2 Reliability Coordinator
 - 4.1.3 Transmission Operator
 - 3.1.4 Generator Owner
 - 3.1.5 Generator Operator
 - 4.2. **Facilities**
 - 4.2.1 For the purpose of this standard, the term “generating unit” means all Bulk Electric System generators.
5. **Effective Date:**

See Implementation Plan for ~~EOP 011 1~~Project 2019-06.

~~2.~~ **Background:**

~~EOP 011 1 consolidates requirements from three standards: EOP 001 2.1b, EOP 002 3.1, and EOP 003 2.~~

~~The standard streamlines the requirements for Emergency operations for the Bulk Electric System into a clear and concise standard that is organized by Functional Entity. In addition, the revisions clarify the critical requirements for Emergency Operations, while ensuring strong communication and coordination across the Functional Entities.~~

~~E.B.~~ **Requirements and Measures**

- R1. Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*
 - 1.1. Roles and responsibilities for activating the Operating Plan(s);
 - 1.2. Processes to prepare for and mitigate Emergencies including:

- 1.2.1. Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency;
- 1.2.2. Cancellation or recall of Transmission and generation outages;
- 1.2.3. Transmission system reconfiguration;
- 1.2.4. Redispatch of generation request;
- 1.2.5. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 1.2.6. Reliability Provisions to determine reliability impacts of:
 - 1.2.6.1. cold weather conditions; and
 - ~~1.2.5.1.~~ 1.2.6.2. extreme weather conditions.

M1. Each Transmission Operator will have a dated Operating Plan(s) developed in accordance with Requirement R1 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R1.

R2. Each Balancing Authority shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate Capacity Emergencies and Energy Emergencies within its Balancing Authority Area. The Operating Plan(s) shall include the following, as applicable: *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations, Operations Planning, Long-term Planning]*

- 2.1. Roles and responsibilities for activating the Operating Plan(s);
- 2.2. Processes to prepare for and mitigate Emergencies including:
 - 2.2.1. Notification to its Reliability Coordinator, to include current and projected conditions when experiencing a Capacity Emergency or Energy Emergency;
 - 2.2.2. Requesting an Energy Emergency Alert, per Attachment 1;
 - 2.2.3. Managing generating resources in its Balancing Authority Area to address:
 - 2.2.3.1. capability and availability;
 - 2.2.3.2. fuel supply and inventory concerns;
 - 2.2.3.3. fuel switching capabilities; and
 - 2.2.3.4. environmental constraints.
 - 2.2.4. Public appeals for voluntary Load reductions;

- 2.2.5. Requests to government agencies to implement their programs to achieve necessary energy reductions;
- 2.2.6. Reduction of internal utility energy use;
- 2.2.7. Use of Interruptible Load, curtailable Load and demand response;
- 2.2.8. Provisions for operator-controlled manual Load shedding that minimizes the overlap with automatic Load shedding and are capable of being implemented in a timeframe adequate for mitigating the Emergency; and
- 2.2.9. Reliability Provisions to determine reliability impacts of-:
 - 2.2.9.1. cold weather conditions; and
 - 2.2.9.2. extreme weather conditions.

- M2.** Each Balancing Authority will have a dated Operating Plan(s) developed in accordance with Requirement R2 and reviewed by its Reliability Coordinator; evidence such as a review or revision history to indicate that the Operating Plan(s) has been maintained; and will have as evidence, such as operator logs or other operating documentation, voice recordings, or other communication documentation to show that its Operating Plan(s) was implemented for times when an Emergency has occurred, in accordance with Requirement R2.
- R3.** The Reliability Coordinator shall review the Operating Plan(s) to mitigate operating Emergencies submitted by a Transmission Operator or a Balancing Authority regarding any reliability risks that are identified between Operating Plans. *[Violation Risk Factor: High] [Time Horizon: Operations Planning]*
 - 3.1.** Within 30 calendar days of receipt, the Reliability Coordinator shall:
 - 3.1.1.** Review each submitted Operating Plan(s) on the basis of compatibility and inter-dependency with other Balancing Authorities' and Transmission Operators' Operating Plans;
 - 3.1.2.** Review each submitted Operating Plan(s) for coordination to avoid risk to Wide Area reliability; and
 - 3.1.3.** Notify each Balancing Authority and Transmission Operator of the results of its review, specifying any time frame for resubmittal of its Operating Plan(s) if revisions are identified.
- M3.** The Reliability Coordinator will have documentation, such as dated e-mails or other correspondences that it reviewed Transmission Operator and Balancing Authority Operating Plans within 30 calendar days of submittal in accordance with Requirement R3.
- R4.** Each Transmission Operator and Balancing Authority shall address any reliability risks identified by its Reliability Coordinator pursuant to Requirement R3 and resubmit its Operating Plan(s) to its Reliability Coordinator within a time period specified by its Reliability Coordinator. *[Violation Risk Factor: High] [Time Horizon: Operation Planning]*

- M4.** The Transmission Operator and Balancing Authority will have documentation, such as dated emails or other correspondence, with an Operating Plan(s) version history showing that it responded and updated the Operating Plan(s) within the timeframe identified by its Reliability Coordinator in accordance with Requirement R4.
- R5.** Each Reliability Coordinator that receives an Emergency notification from a Transmission Operator or Balancing Authority within its Reliability Coordinator Area shall notify, within 30 minutes from the time of receiving notification, other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M5.** Each Reliability Coordinator that receives an Emergency notification from a Balancing Authority or Transmission Operator within its Reliability Coordinator Area will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that will be used to determine if the Reliability Coordinator communicated, in accordance with Requirement R5, with other Balancing Authorities and Transmission Operators in its Reliability Coordinator Area, and neighboring Reliability Coordinators .
- R6.** Each Reliability Coordinator that has a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area shall declare an Energy Emergency Alert, as detailed in Attachment 1. *[Violation Risk Factor: High] [Time Horizon: Real-Time Operations]*
- M6.** Each Reliability Coordinator, with a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area, will have, and provide upon request, evidence that could include, but is not limited to, operator logs, voice recordings or transcripts of voice recordings, electronic communications, or equivalent evidence that it declared an Energy Emergency Alert, as detailed in Attachment 1, in accordance with Requirement R6.
- R7.** Each Generator Owner shall implement and maintain one or more cold weather preparedness plan(s) for its generating units. The cold weather preparedness plan(s) shall include the following, at a minimum: [Violation Risk Factor: High] [Time Horizon: Operations Planning and Real-Time Operations]
- 7.1. Generating unit(s) freeze protection measures based on geographical location and plant configuration;
- 7.2. Annual inspection and maintenance of generating unit(s) freeze protection measures;
- 7.3. Generating unit(s) cold weather data, to include:
- 7.3.1. Generating unit(s) operating limitations in cold weather to include:
- 7.3.1.1. capability and availability;
- 7.3.1.2. fuel supply and inventory concerns;

7.3.1.3. fuel switching capabilities; and

7.3.1.4. environmental constraints.

7.3.2. Generating unit(s) minimum:

7.3.2.1. design temperature; or

7.3.2.2. historical operating temperature; or

7.3.2.3 current cold weather performance temperature determined by an engineering analysis.

M7. Each Generator Owner will have evidence documenting that its cold weather preparedness plan(s) was implemented and maintained in accordance with Requirement R7.

R8. Each Generator Owner in conjunction with its Generator Operator shall identify the entity responsible for providing the generating unit-specific training, and that identified entity shall provide the training to its maintenance or operations personnel responsible for implementing cold weather preparedness plan(s) developed pursuant to Requirement R7. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning, Operations Planning]*

M8. Each Generator Operator or Generator Owner will have documented evidence that the applicable personnel completed training of the Generator Owner's cold weather preparedness plan(s). This evidence may include, but is not limited to, documents such as personnel training records, training materials, date of training, agendas or learning objectives, attendance at pre-work briefings, review of work order tasks, tailboards, attendance logs for classroom training, and completion records for computer-based training in fulfillment of Requirement R8.

F.C. **Compliance**

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

~~As defined in the NERC Rules of Procedure,~~ “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention

~~The Balancing Authority, Reliability Coordinator, and Transmission Operator shall keep data or following evidence to show compliance, as identified below, unless directed by its Compliance Enforcement Authority (CEA) retention period(s) identify the period of time an entity is required to retain specific evidence for a longer period of time as part of an investigation to demonstrate compliance.~~ For instances where the evidence retention period specified below is shorter than the time since the last audit, the ~~CEA~~Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- The Transmission Operator shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R1 and ~~R4~~R4 and Measures M1 and M4.
- The Balancing Authority shall retain the current Operating Plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirements R2 and R4, and Measures M2 and M4.
- The Reliability Coordinator shall maintain evidence of compliance since the last audit for Requirements R3, R5, and R6 and Measures M3, M5, and M6.

~~If a Balancing Authority, Reliability Coordinator or Transmission Operator is found non-compliant, it shall keep information related to the non-compliance until found compliant.~~

- The Generator Owner shall retain the cold weather preparedness plan(s), evidence of review or revision history plus each version issued since the last audit and evidence of compliance since the last audit for Requirement R7 and Measure M7.
- The Generator Owner or Generator Operator shall keep data or evidence to show compliance for three years or since its last compliance audit, whichever

~~timeframe is greater, unless directed by its~~ Compliance Enforcement Authority ~~shall keep the last audit records and all requested and submitted subsequent audit records.~~ to retain specific evidence for a longer period of time as part of an investigation, for Requirement R8 and Measure M8.

1.4.1.3. Compliance Monitoring Assessment Processes: Compliance Monitoring and Enforcement Program:

As defined in the NERC Rules of Procedure; “~~Compliance Monitoring and Assessment Processes~~Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated ~~reliability standard~~Reliability Standard.

2.0. Additional Compliance Information

None

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Real-time Operations, Operations Planning, Long-term Planning	High	<u>N/A</u>	The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to maintain it.	The Transmission Operator developed an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to have it reviewed by its Reliability Coordinator.	The Transmission Operator failed to develop an Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. OR The Transmission Operator developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Real-time Operations, Operations Planning, Long-term Planning	High	N/A	The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to maintain it.	The Balancing Authority developed an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to have it reviewed by its Reliability Coordinator.	The Balancing Authority failed to develop an Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area. OR The Balancing Authority developed a Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies within its Balancing Authority Area but failed to implement it.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	Operations Planning	High	N/A	N/A	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator within 30 calendar days.	The Reliability Coordinator identified a reliability risk but failed to notify the Balancing Authority or Transmission Operator.
R4	Operations Planning	High	N/A	N/A	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator within the timeframe specified by its Reliability Coordinator.	The Transmission Operator or Balancing Authority failed to update and resubmit its Operating Plan(s) to its Reliability Coordinator.
R5	Real-time Operations	High	N/A	N/A	The Reliability Coordinator that received an Emergency	The Reliability Coordinator that received an Emergency

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					notification from a Transmission Operator or Balancing Authority did notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators but failed to notify within 30 minutes from the time of receiving notification.	notification from a Transmission Operator or Balancing Authority failed to notify neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.
R6	Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator that had a Balancing Authority experiencing a potential or actual Energy Emergency within its Reliability Coordinator Area failed to declare an Energy Emergency Alert.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
<u>R7</u>	<u>Operations Planning and Real-time Operations</u>	<u>High</u>	<u>The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.</u>	<u>The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</u> <u>OR</u> <u>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</u>	<u>The Generator Owner does not have a cold weather preparedness plan.</u> <u>OR</u> <u>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</u>
<u>R8</u>	<u>Operations Planning and Real-time Operations</u>	<u>Medium</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>	<u>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in</u>

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>one applicable personnel at a single generating unit; or</u> • <u>5% or less of its total applicable personnel.</u> 	<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>two applicable personnel at a single generating unit; or</u> • <u>more than 5% or less than or equal to 10% of its total applicable personnel.</u> 	<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>three applicable personnel at a single generating unit; or</u> • <u>more than 10% or less than or equal to 15% of its total applicable personnel.</u> 	<u>Requirement R8 to the greater of:</u> <ul style="list-style-type: none"> • <u>four applicable personnel at a single generating unit; or</u> • <u>more than 15% of its total applicable personnel.</u>

G.D. Regional Variances

None.

H.E. Interpretations

None.

I.F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	November 13, 2014	Adopted by Board of Trustees	Merged EOP-001-2.1b, EOP-002-3.1 and EOP-003-2.
1	November 19, 2015	FERC approved EOP-011-1. Docket Nos. RM15-7-000, RM15-12-000, and RM15-13-000. Order No. 818	
<u>2</u>	<u>TBD</u>	<u>Adopted by the Board of Trustees</u>	<u>Revised under Project 2019-06</u>

Attachment 1-EOP-011-~~12~~ Energy Emergency Alerts

Introduction

This Attachment provides the process and descriptions of the levels used by the Reliability Coordinator in which it communicates the condition of a Balancing Authority which is experiencing an Energy Emergency.

A. General Responsibilities

- 1. Initiation by Reliability Coordinator.** An Energy Emergency Alert (EEA) may be initiated only by a Reliability Coordinator at 1) the Reliability Coordinator's own request, or 2) upon the request of an energy deficient Balancing Authority.
- 2. Notification.** A Reliability Coordinator who declares an EEA shall notify all Balancing Authorities and Transmission Operators in its Reliability Coordinator Area. The Reliability Coordinator shall also notify all neighboring Reliability Coordinators.

B. EEA Levels

Introduction

To ensure that all Reliability Coordinators clearly understand potential and actual Energy Emergencies in the Interconnection, NERC has established three levels of EEAs. The Reliability Coordinators will use these terms when communicating Energy Emergencies to each other. An EEA is an Emergency procedure, not a daily operating practice, and is not intended as an alternative to compliance with NERC Reliability Standards.

The Reliability Coordinator may declare whatever alert level is necessary, and need not proceed through the alerts sequentially.

1. EEA 1 — All available generation resources in use.

Circumstances:

- The Balancing Authority is experiencing conditions where all available generation resources are committed to meet firm Load, firm transactions, and reserve commitments, and is concerned about sustaining its required Contingency Reserves.
- Non-firm wholesale energy sales (other than those that are recallable to meet reserve requirements) have been curtailed.

2. EEA 2 — Load management procedures in effect.

Circumstances:

- The Balancing Authority is no longer able to provide its expected energy requirements and is an energy deficient Balancing Authority.
- An energy deficient Balancing Authority has implemented its Operating Plan(s) to mitigate Emergencies.

- An energy deficient Balancing Authority is still able to maintain minimum Contingency Reserve requirements.

During EEA 2, Reliability Coordinators and energy deficient Balancing Authorities have the following responsibilities:

2.1 Notifying other Balancing Authorities and market participants. The energy deficient Balancing Authority shall communicate its needs to other Balancing Authorities and market participants. Upon request from the energy deficient Balancing Authority, the respective Reliability Coordinator shall post the declaration of the alert level, along with the name of the energy deficient Balancing Authority on the RCIS website.

2.2 Declaration period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 2 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities and Transmission Operators.

2.3 Sharing information on resource availability. Other Reliability Coordinators of Balancing Authorities with available resources shall coordinate, as appropriate, with the Reliability Coordinator that has an energy deficient Balancing Authority.

2.4 Evaluating and mitigating Transmission limitations. The Reliability Coordinator shall review Transmission outages and work with the Transmission Operator(s) to see if it's possible to return to service any Transmission Elements that may relieve the loading on System Operating Limits (SOLs) or Interconnection Reliability Operating Limits (IROLs).

2.5 Requesting Balancing Authority actions. Before requesting an EEA 3, the energy deficient Balancing Authority must make use of all available resources; this includes, but is not limited to:

2.5.1 All available generation units are on line. All generation capable of being on line in the time frame of the Emergency is on line.

2.5.2 Demand-Side Management. Activate Demand-Side Management within provisions of any applicable agreements.

3. EEA 3 — Firm Load interruption is imminent or in progress.

Circumstances:

- The energy deficient Balancing Authority is unable to meet minimum Contingency Reserve requirements.

During EEA 3, Reliability Coordinators and Balancing Authorities have the following responsibilities:

3.1 Continue actions from EEA 2. The Reliability Coordinators and the energy deficient Balancing Authority shall continue to take all actions initiated during EEA 2.

3.2 Declaration Period. The energy deficient Balancing Authority shall update its Reliability Coordinator of the situation at a minimum of every hour until the EEA 3 is terminated. The Reliability Coordinator shall update the energy deficiency information posted on the RCIS website as changes occur and pass this information on to the neighboring Reliability Coordinators, Balancing Authorities, and Transmission Operators.

3.3 Reevaluating and revising SOLs and IROLs. The Reliability Coordinator shall evaluate the risks of revising SOLs and IROLs for the possibility of delivery of energy to the energy deficient Balancing Authority. Reevaluation of SOLs and IROLs shall be coordinated with other Reliability Coordinators and only with the agreement of the Transmission Operator whose Transmission Owner (TO) equipment would be affected. SOLs and IROLs shall only be revised as long as an EEA 3 condition exists, or as allowed by the Transmission Owner whose equipment is at risk. The following are minimum requirements that must be met before SOLs or IROLs are revised:

3.3.1 Energy deficient Balancing Authority obligations. The energy deficient Balancing Authority, upon notification from its Reliability Coordinator of the situation, it will immediately take whatever actions are necessary to mitigate any undue risk to the Interconnection. These actions may include Load shedding.

3.4 Returning to pre-Emergency conditions. Whenever energy is made available to an energy deficient Balancing Authority such that the Systems can be returned to its pre-Emergency SOLs or IROLs condition, the energy deficient Balancing Authority shall request the Reliability Coordinator to downgrade the alert level.

3.4.1 Notification of other parties. Upon notification from the energy deficient Balancing Authority that an alert has been downgraded, the Reliability Coordinator shall notify the neighboring Reliability Coordinators (via the RCIS), Balancing Authorities and Transmission Operators that its Systems can be returned to its normal limits.

Alert 0 - Termination. When the energy deficient Balancing Authority is able to meet its Load and Operating Reserve requirements, it shall request its Reliability Coordinator to terminate the EEA.

3.4.2 Notification. The Reliability Coordinator shall notify all other Reliability Coordinators via the RCIS of the termination. The Reliability Coordinator shall also notify the neighboring Balancing Authorities and Transmission Operators.

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for R1:

~~The EOP SDT examined the recommendation of the EOP Five-Year Review Team (FYRT) and FERC directive to provide guidance on applicable entity responsibility that was included in EOP-001-2.1b. The EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. This also establishes a separate requirement for the Transmission Operator to create an Operating Plan(s) for mitigating operating Emergencies in its Transmission Operator Area.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~“Notification to its Reliability Coordinator, to include current and projected conditions, when experiencing an operating Emergency” was retained. This is a process in the plan(s) that determines when the Transmission Operator must notify its Reliability Coordinator.~~

~~To meet the associated measure, an entity would likely provide evidence that such an evaluation was conducted along with an explanation of why any overlap of Loads between manual and automatic load shedding was unavoidable or reasonable.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R1 are not applicable, the Transmission Operator should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shed schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R1 Part 1.2.5. is to minimize, as much as possible, the use of manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If any entity manually sheds a Load which was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review their automatic Load shedding schemes and coordinate their manual processes so that any overlapping use of Loads is avoided to the extent reasonably possible.~~

Rationale for R2:

~~To address the recommendation of the FYRT and the FERC directive to provide guidance on applicable entity responsibility in EOP-001-2.1b, Attachment 1, the EOP SDT removed EOP-001-2.1b, Attachment 1, and incorporated it into this standard under the applicable requirements. EOP-011-1 also establishes a separate requirement for the Balancing Authority to create its Operating Plan(s) to address Capacity and Energy Emergencies.~~

~~The Operating Plan(s) can be one plan, or it can be multiple plans.~~

~~An Operating Plan(s) is implemented by carrying out its stated actions.~~

~~If any Parts of Requirement R2 are not applicable, the Balancing Authority should note “not applicable” in the Operating Plan(s). The EOP SDT recognizes that across the regions, Operating Plan(s) may not include all the elements listed in this requirement due to restrictions, other methods of managing situations, and documents that may already exist that speak to a process that already exists. Therefore, the entity must provide in the plan(s) that the element is not applicable and detail why it is not applicable for the plan(s).~~

~~The EOP SDT retained the statement “Operator controlled manual Load shedding,” as it was in the current EOP-003-2 and is consistent with the intent of the EOP SDT.~~

~~With respect to automatic Load shedding schemes that include both UVLS and UFLS, the EOP SDT’s intent is to keep manual and automatic Load shedding schemes as separate as possible, but realizes that sometimes, due to system design, there will be overlap. The intent in Requirement R2 Part 2.2.8. is to minimize as much as possible the use manual Load shedding which is already armed for automatic Load shedding. The automatic Load shedding schemes are the important backstops against Cascading outages or System collapse. If an entity manually sheds a Load that was included in an automatic scheme, it reduces the effectiveness of that automatic scheme. Each entity should review its automatic Load shedding schemes and coordinate its manual processes so that any overlapping use of Loads is avoided to the extent possible.~~

~~The EOP SDT retained Requirement R8 from EOP-002-3.1 and added it to the Parts in Requirement R2.~~

Rationale for R3:

~~The SDT agreed with industry comments that the Reliability Coordinator does not need to approve BA and TOP plan(s). The SDT has changed this requirement to remove the approval but still require the RC to review each entity’s plan(s), looking specifically for reliability risks. This is consistent with the Reliability Coordinator’s role within the Functional Model and meets the FERC directive regarding the RC’s involvement in Operating Plan(s) for mitigating Emergencies.~~

Rationale for Requirement R4:

~~Requirement R4 supports the coordination of Operating Plans within a Reliability Coordinator Area in order to identify and correct any Wide Area reliability risks. The EOP SDT expects the Reliability Coordinator to make a reasonable request for response time. The time period requested by the Reliability Coordinator to the Transmission Operator and Balancing Authority to update the Operating Plan(s) will depend on the scope and urgency of the requested change.~~

Rationale for R5

The EOP SDT used the existing requirement in EOP-002-3.1 for the Balancing Authority and added the words “within 30 minutes from the time of receiving notification” to the requirement to communicate the intent that timeliness is important, while balancing the concern that in an Emergency there may be a need to alleviate excessive notifications on Balancing Authorities and Transmission Operators. By adding this time limitation, a measurable standard is set for when the Reliability Coordinator must complete these notifications.

Rationale for Introduction

~~LSEs were removed from Attachment 1, as an LSE has no Real-time reliability functionality with respect to EEAs.~~

~~EOP-002-3.1 Requirement R9 was in place to allow for a Transmission Service Provider to change the priority of a service request, as permitted in its transmission tariff, informing the Reliability Coordinator so that the service would not be curtailed by a TLR; and since the Tagging Specs did not allow profiles to be changed, this was the only method to accomplish it. Under NAESB-WEQ-E tag Specification v1811-R3.6.1.3, this has been modified and now the TSP has the ability to change the Transmission priority which, in turn, is reflected in the IDC. This technology change allows for the deletion of Requirement R9 in its entirety. Requirement R9 meets with Criterion A of Paragraph 81 and should be retired.~~

Rationale for (2) Notification

The EOP SDT deleted the language, “*The Reliability Coordinator shall also notify all other Reliability Coordinators of the situation via the Reliability Coordinator Information System (RCIS). Additionally, conference calls between RCs shall be held as necessary to communicate system conditions. The RC shall also notify the other RCs when the alert has ended*” as duplicative to proposed IRO-014-3 Requirement R1:

~~R1. Each Reliability Coordinator shall have and implement Operating Procedures, Operating Processes, or Operating Plans, for activities that require notification or coordination of actions that may impact adjacent Reliability Coordinator Areas, to support Interconnection reliability. These Operating Procedures, Operating Processes, or Operating Plans shall include, but are not limited to, the following:~~

~~1.1 Communications and notifications, and the process to follow in making those notifications.~~

~~1.2 Energy and capacity shortages.~~

~~1.3 Control of voltage, including the coordination of reactive resources.~~

~~Exchange of information including planned and unplanned outage information to support its Operational Planning Analyses and Real-time Assessments.~~

~~1.5 Authority to act to prevent and mitigate system conditions which could adversely impact other Reliability Coordinator Areas.~~

~~1.6 Provisions for weekly conference calls.~~

Rationale for EEA 2:

The EOP SDT modified the “Circumstances” for EEA 2 to show that an entity will be in this level when it has implemented its Operating Plan(s) to mitigate Emergencies but is still able to maintain Contingency Reserves.

Rationale for EEA 3:

This rationale was added at the request of stakeholders asking for justification for moving a lack of Contingency Reserves into the EEA3 category.

The previous language in EOP 002 3.1, EEA 2 used “Operating Reserve,” which is an all-inclusive term, including all reserves (including Contingency Reserves). Many Operating Reserves are used continuously, every hour of every day. Total Operating Reserve requirements are kind of nebulous since they do not have a specific hard minimum value. Contingency Reserves are used far less frequently. Because of the confusion over this issue, evidenced by the comments received, the drafting team thought that using minimum Contingency Reserve in the language would eliminate some of the confusion. This is a different approach but the drafting team believes this is a good approach and was supported by several commenters.

Using Contingency Reserves (which is a subset of Operating Reserves) puts a BA closer to the operating edge. The drafting team felt that the point where a BA can no longer maintain this important Contingency Reserves margin is a most serious condition and puts the BA into a position where they are very close to shedding Load (“imminent or in progress”). The drafting team felt that this warrants categorization at the highest level of EEA.

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

Completed Actions	Date
Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
SAR posted for comment	February 19 – March 19, 2020
SAR posted for comment	April 22 – May 21, 2020
45-day initial formal comment period with ballot	January 27 – March 12, 2021
25-day formal comment period with ballot	April 2 – 27, 2021
10-day final ballot	May 18 – 27, 2021

Anticipated Actions	Date
NERC Board (Board) adoption	June 2021

A. Introduction

1. **Title: Operational Reliability Data**
2. **Number: TOP-003-5**
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s) minimum:
 - 1.3.2.1. design temperature; or

- 1.3.2.2. historical operating temperature; or
 - 1.3.2.3. current cold weather performance temperature determined by an engineering analysis.
 - 1.4. A periodicity for providing data.
 - 1.5. The deadline by which the respondent is to provide the indicated data.
- M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.
- R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
 - 2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.
 - 2.2. Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.
 - 2.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:
 - 2.3.1. Operating limitations based on:
 - 2.3.1.1. capability and availability;
 - 2.3.1.2. fuel supply and inventory concerns;
 - 2.3.1.3. fuel switching capabilities; and
 - 2.3.1.4. environmental constraints.
 - 2.3.2. Generating unit(s) minimum:
 - 2.3.2.1. design temperature; or
 - 2.3.2.2. historical operating temperature; or
 - 2.3.2.3. current cold weather performance temperature determined by an engineering analysis.
 - 2.4. A periodicity for providing data.
 - 2.5. The deadline by which the respondent is to provide the indicated data.
- M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.
- R3. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

- 1.3. Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Lower	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

TOP-003-5 — Operational Reliability Data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

TOP-003-5 — Operational Reliability Data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Standard Development Timeline

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Description of Current Draft

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Standards Committee approved Standards Authorization Request (SAR)	July 22, 2020
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Anticipated Actions	Date
10-day final ballot	May 2021
NERC Board (Board) adoption	June 2021

A. Introduction

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 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
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 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
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 - 1.3.2. Generating unit(s) minimum:
 - 1.3.2.1. ~~minimum~~-design temperature; or

1.3.2.2. ~~minimum~~-historical operating temperature; or

1.3.2.3. current cold weather performance temperature determined by an engineering analysis, ~~to determine current minimum cold weather performance temperature.~~

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.

R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

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2.3.2.1. ~~minimum~~-design temperature; or

2.3.2.2. ~~minimum~~-historical operating temperature; or

2.3.2.3. current cold weather performance temperature determined by an engineering analysis, ~~to determine current minimum cold weather performance temperature. A periodicity for providing data.~~

2.4. A periodicity for providing data.

2.5. The deadline by which the respondent is to provide the indicated data.

M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.

- R3.** Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
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- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
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Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

- 1.3. **Compliance Monitoring and Enforcement Program:** As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Lower	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Lower	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Lower	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring.

TOP-003-5 — Operational Reliability Data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed "Proposed" from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Description of Current Draft

This is the first draft of proposed standard for formal 45-day comment period.

<u>Completed Actions</u>	<u>Date</u>
<u>Standards Committee approved Standards Authorization Request (SAR)</u>	<u>July 22, 2020</u>
<u>SAR posted for comment</u>	<u>February 19 – March 19, 2020</u>
<u>SAR posted for comment</u>	<u>April 22 – May 21, 2020</u>
<u>45-day initial formal comment period with ballot</u>	<u>January 27 – March 12, 2021</u>
<u>25-day formal comment period with ballot</u>	<u>April 2 – 27, 2021</u>
<u>10-day final ballot</u>	<u>May 18, 2021</u>

<u>Anticipated Actions</u>	<u>Date</u>
<u>NERC Board (Board) adoption</u>	<u>June 2021</u>

A. Introduction

1. **Title:** Operational Reliability Data
2. **Number:** TOP-003-45
3. **Purpose:** To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.
4. **Applicability:**
 - 4.1. Transmission Operator
 - 4.2. Balancing Authority
 - 4.3. Generator Owner
 - 4.4. Generator Operator
 - 4.5. Transmission Owner
 - 4.6. Distribution Provider
5. **Effective Date:** See Implementation Plan for Project 2019-06.

B. Requirements and Measures

- R1. Each Transmission Operator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include, but not be limited to: *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*
 - 1.1. A list of data and information needed by the Transmission Operator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including non-BES data and external network data as deemed necessary by the Transmission Operator.
 - 1.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme (RAS) status or degradation that impacts System reliability.
 - 1.3. Provisions for notification of BES generating unit(s) during local forecasted cold weather to include:
 - 1.3.1. Operating limitations based on:
 - 1.3.1.1. capability and availability;
 - 1.3.1.2. fuel supply and inventory concerns;
 - 1.3.1.3. fuel switching capabilities; and
 - 1.3.1.4. environmental constraints
 - 1.3.2. Generating unit(s) minimum:
 - 1.3.2.1 design temperature; or

1.3.2.2. historical operating temperature; or

1.3.2.3 current cold weather performance temperature determined by an engineering analysis.

1.4. A periodicity for providing data.

1.5. The deadline by which the respondent is to provide the indicated data.

M1. Each Transmission Operator shall make available its dated, current, in force documented specification for data.

R2. Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [*Violation Risk Factor: ~~Low~~Lower*] [*Time Horizon: Operations Planning*]

2.1. A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.

2.2. Provisions for notification of current Protection System and ~~Special Protection System~~ Remedial Action Scheme status or degradation that impacts System reliability.

2.3. Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:

2.3.1. Operating limitations based on:

2.3.1.1. capability and availability;

2.3.1.2. fuel supply and inventory concerns;

2.3.1.3. fuel switching capabilities; and

2.3.1.4. environmental constraints.

2.3.2. Generating unit(s) minimum:

2.3.2.1 design temperature; or

2.3.2.2. historical operating temperature; or

2.3.2.3 current cold weather performance temperature determined by an engineering analysis.

~~2.2.2.4.~~ 2.3.2.4. A periodicity for providing data.

~~2.3.2.5.~~ 2.3.2.5. The deadline by which the respondent is to provide the indicated data.

M2. Each Balancing Authority shall make available its dated, current, in force documented specification for data.

R3. Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-

time monitoring, and Real-time Assessments. *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*

- M3.** Each Transmission Operator shall make available evidence that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.
- R4.** Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. *[Violation Risk Factor: ~~Low~~Lower] [Time Horizon: Operations Planning]*
- M4.** Each Balancing Authority shall make available evidence that it has distributed its data specification to entities that have data required by the Balancing Authority’s analysis functions and Real-time monitoring. Such evidence could include but is not limited to web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, or e-mail records.
- R5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using: *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations]*
- 5.1.** A mutually agreeable format
 - 5.2.** A mutually agreeable process for resolving data conflicts
 - 5.3.** A mutually agreeable security protocol
- M5.** Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall make available evidence that it has satisfied the obligations of the documented specifications. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance ~~Monitoring Process~~ Enforcement Authority:

~~As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with the NERC mandatory and enforceable Reliability Standards in their respective jurisdictions.~~

~~1.1. Compliance Monitoring and Assessment Processes~~

~~As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.~~

1.2. ~~Data~~Evidence Retention:

The following evidence retention ~~periods~~period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each responsible entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

Each Transmission Operator shall retain its dated, current, in force, documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R1 and Measurement M1 as well as any documents in force since the last compliance audit.

Each Balancing Authority shall retain its dated, current, in force, documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring in accordance with Requirement R2 and Measurement M2 as well as any documents in force since the last compliance audit.

Each Transmission Operator shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the Transmission Operator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments in accordance with Requirement R3 and Measurement M3.

Each Balancing Authority shall retain evidence for three calendar years that it has distributed its data specification to entities that have data required by the

Balancing Authority's analysis functions and Real-time monitoring in accordance with Requirement R4 and Measurement M4.

Each Balancing Authority, Generator Owner, Generator Operator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R5 and Measurement M5.

~~If a responsible entity is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved or the time period specified above, whichever is longer.~~

~~The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.~~

~~**1.2. Additional Compliance Information**~~

~~None.~~

1.3. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, "Compliance Monitoring and Enforcement Program" refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

Table of Compliance Elements

Violation Severity Levels

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Low <u>Low</u> er	The Transmission Operator did not include one <u>two or fewer</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include two <u>three</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three <u>four</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four <u>any</u> of the parts (Part 1.1 through Part 1.45) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R2	Operations Planning	Low Low er	The Balancing Authority did not include one two or fewer of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include two three of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three four of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four any of the parts (Part 2.1 through Part 2.45) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.
<p>For the Requirement R3 and R4 VSLs only, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</p>						
R3	Operations Planning	Low Low er	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data	The Transmission Operator did not distribute its data

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is greater, that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	specification to four or more entities, or more than 15% of the entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
R4	Operations Planning	Low <u>Low</u> er	The Balancing Authority did not distribute its data specification to one entity, or 5% or less of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to two entities, or more than 5% and less than or equal to 10% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to three entities, or more than 10% and less than or equal to 15% of the entities, whichever is greater, that have data required by the Balancing Authority's analysis functions and Real-time monitoring.	The Balancing Authority did not distribute its data specification to four or more entities, or more than 15% of the entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

R #	Time Horizon	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet one of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet two of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 satisfied the obligations in the data specification but did not meet three of the criteria shown in Requirement R5 (Parts 5.1 – 5.3).	The responsible entity receiving a data specification in Requirement R3 or R4 did not satisfy the obligations of the documented specifications for data.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata
1		Modified R1.2 Modified M1 Replaced Levels of Non-compliance with the Feb 28, BOT approved Violation Severity Levels (VSLs)	Revised
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving TOP-003-1 (approval effective 5/23/11)	
2	May 6, 2012	Revised under Project 2007-03	Revised
2	May 9, 2012	Adopted by Board of Trustees	Revised
3	April 2014	Changes pursuant to Project 2014-03	Revised
3	November 13, 2014	Adopted by Board of Trustees	Revisions under Project 2014-03
3	November 19, 2015	FERC approved TOP-003-3. Docket No. RM15-16-000, Order No. 817	
4	February 6, 2020	Adopted by NERC Board of Trustees	Revisions under Project 2017-07

Guidelines and Technical Basis

Rationale:

~~During development of this standard, text boxes were embedded within the standard to explain the rationale for various parts of the standard. Upon BOT approval, the text from the rationale text boxes was moved to this section.~~

Rationale for Definitions:

~~Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.~~

Rationale for R1:

~~Changes to proposed Requirement R1, Part 1.1 are in response to issues raised in NOPR paragraph 67 on the need for obtaining non-BES and external network data necessary for the Transmission Operator to fulfill its responsibilities.~~

~~Proposed Requirement R1, Part 1.2 is in response to NOPR paragraph 78 on relay data. The language has been moved from approved PRC-001-1.~~

~~Corresponding changes have been made to Requirement R2 for the Balancing Authority and to proposed IRO-010-2, Requirement R1 for the Reliability Coordinator.~~

Rationale for R5:

~~Proposed Requirement R5, Part 5.3 is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.~~

Implementation Plan

Project 2019-06 Cold Weather

Applicable Standard(s)

- EOP-011-2 – Emergency Preparedness and Operations
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Requested Retirement(s)

- EOP-011-1 – Emergency Operations
- IRO-010-3 – Reliability Coordinator Data Specification and Collection
- TOP-003-4 – Operational Reliability Data

Applicable Entities

- See subject Reliability Standards.

Background

In July 2019, FERC and NERC staff released a joint report titled *The South Central United States Cold Weather Bulk Electronic System Event of January 17, 2018*.¹ Following the publication of the report, a Standard Authorization Request² was submitted to review and address the recommendations in the report, including:

1. Generator Owner or Generator Operator develops and implements cold weather preparedness plans, procedures, and awareness training based on factors such as geographical location and plant configurations, which may include:
 - a. The need for accurate cold weather temperature design specifications or historical demonstrated performance and operating limitations during cold weather;
 - b. Implementing freeze protection measures; and
 - c. Performing periodic maintenance and inspection of freeze protection measures.
2. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in its data specifications that the Generator Owner or Generator Operator will provide its BES generating unit's associated design specification or historical demonstrated performance and operating limitations during cold weather.

¹ Link to report: https://www.nerc.com/pa/rrm/ea/Documents/South_Central_Cold_Weather_Event_FERC-NERC-Report_20190718.pdf

² Link to SAR: https://www.nerc.com/pa/Stand/Project%20201906%20Cold%20Weather%20DL/2019-06_Cold_Weather_SAR_Clean_02192020.pdf

3. Balancing Authority, Reliability Coordinators, or Transmission Operators, as applicable will include in their data specifications that the Generator Owner or Generator Operator will provide a notification when local forecasted cold weather conditions are expected to limit BES generating unit capability or availability.
4. Reliability Coordinators, Balancing Authorities, and Transmission Operator incorporates the data, as communicated in deliverable #2 and #3 above, to perform their respective Operational Planning Analysis, develop their Operating Plans, or determine the expected availability of contingency reserves for the appropriate next day operating horizon.

The Reliability Standard revisions proposed by this project will help enhance the reliability of the Bulk Power System during cold weather events, and mitigate the potential for generating unit unavailability due to lack of preparation for cold weather periods by providing increased visibility of cold weather related data to the Reliability Coordinators, Balancing Authorities, and Transmission Operators, and by requiring a baseline level of cold weather planning and preparation by Generator Owners.

General Considerations

This implementation plan provides that entities shall have eighteen months to become compliant with the revised Reliability Standards. This implementation plan reflects consideration that entities will need time to develop, implement, and maintain cold weather preparedness plan(s) for its generating site(s). In addition, entities may need time identifying cold weather operating temperatures through engineering studies as permitted under Reliability Standard EOP-011-2. This implementation plan also reflects consideration that entities will need time to develop, and distribute revised data specifications to affected entities, and for receiving entities to develop the necessary capabilities in order to comply with revised data specifications.

Effective Dates

Reliability Standard EOP-011-2

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard IRO-010-4

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Reliability Standard TOP-003-5

Where approval by an applicable governmental authority is required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the effective date of the applicable governmental authority's order approving the Reliability Standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the Reliability Standard shall become effective on the first day of the first calendar quarter that is eighteen (18) months after the date the Reliability Standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Dates

Reliability Standard EOP-011-1

Reliability Standard EOP-011-1 shall be retired immediately prior to the effective date of Reliability Standard EOP-011-2 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard IRO-010-3

Reliability Standard IRO-010-3 shall be retired immediately prior to the effective date of Reliability Standard IRO-010-4 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Reliability Standard TOP-003-4

Reliability Standard TOP-003-4 shall be retired immediately prior to the effective date of Reliability Standard TOP-003-5 in the particular jurisdiction in which the revised Reliability Standard is becoming effective.

Initial Performance of Periodic Requirements

Responsible Entities shall develop, maintain, and implement the Operating Plan(s) required by Reliability Standard EOP-011-2 by the effective date of the Reliability Standard. For the cold weather preparedness plan(s) for generating unit(s) required under Requirement R7, the Responsible Entity shall perform annual inspection and maintenance of generating unit freeze protection measures under Requirement R7 Part 7.2 and conduct generating unit specific training for its maintenance and operations personnel under Requirement R8 by the effective date of the Reliability Standard.

Violation Risk Factor and Violation Severity Level Justification

Project 2019-06 Cold Weather

This document provides the standard drafting team's (SDT's) justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in Reliability Standards EOP-011-2, IRO-010-4, and TOP-003-5. Each requirement is assigned a VRF and a VSL. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the Electric Reliability Organizations (ERO) Sanction Guidelines. The SDT applied the following NERC criteria and FERC Guidelines when developing the VRFs and VSLs for the requirements.

NERC Criteria for Violation Risk Factors

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to Bulk Electric System (BES) instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to BES instability, separation, or a cascading sequence of failures, or could place the BES at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the BES, or the ability to effectively monitor and control the BES. However, violation of a medium risk requirement is unlikely to lead to BES instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to BES instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor and control the BES; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the BES, or the ability to effectively monitor, control, or restore the BES.

FERC Guidelines for Violation Risk Factors

Guideline (1) – Consistency with the Conclusions of the Final Blackout Report

FERC seeks to ensure that VRFs assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System. In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief.

Guideline (2) – Consistency within a Reliability Standard

FERC expects a rational connection between the sub-Requirement VRF assignments and the main Requirement VRF assignment.

Guideline (3) – Consistency among Reliability Standards

FERC expects the assignment of VRFs corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

Guideline (4) – Consistency with NERC’s Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular VRF level conforms to NERC’s definition of that risk level.

Guideline (5) – Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

NERC Criteria for Violation Severity Levels

VSLs define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one, two, or three VSLs.

VSLs should be based on NERC’s overarching criteria shown in the table below:

Lower VSL	Moderate VSL	High VSL	Severe VSL
The performance or product measured almost meets the full intent of the requirement.	The performance or product measured meets the majority of the intent of the requirement.	The performance or product measured does not meet the majority of the intent of the requirement, but does meet some of the intent.	The performance or product measured does not substantively meet the intent of the requirement.

FERC Order of Violation Severity Levels

The FERC VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in the standard meet the FERC Guidelines for assessing VSLs:

Guideline (1) – Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline (2) – Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline (3) – Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline (4) – Violation Severity Level Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations

Unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties on a per violation per day basis is the “default” for penalty calculations.

EOP-011-2

VRF Justification for EOP-011-2, Requirement R1

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R1

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R2

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R2

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R3

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R3

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R4

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R4

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R5

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R5

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R6

The VRF did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VSL Justification for EOP-011-2, Requirement R6

The VSL did not change from the previously FERC approved EOP-011-1 Reliability Standard.

VRF Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R7

The justification for this new requirement is provided on the following page.

VRF Justification for EOP-011-2, Requirement R8

The justification for this new requirement is provided on the following page.

VSL Justification for EOP-011-2, Requirement R8

The justification for this new requirement is provided on the following page.

R#	VRF for EOP-011-2, Requirement R7	Justifications
R7	High	<ol style="list-style-type: none"> 1. Generator Owners must implement and maintain one or more cold weather preparedness plans for its generating facilities during cold weather conditions to avoid unnecessary trips, derates or failures to start 2. FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R7				
R#	Lower	Moderate	High	Severe
R7	The Generator Owner implemented a cold weather preparedness plan(s) but failed to maintain it.	The Generator Owner's cold weather preparedness plan failed to include one of the applicable requirement Parts within Requirement R7.	<p>The Generator Owner had and maintained a cold weather preparedness plan(s) but failed to fully implement it.</p> <p>OR</p> <p>The Generator Owner's cold weather preparedness plan failed to include two of the applicable requirement Parts within Requirement R7.</p>	<p>The Generator Owner does not have a cold weather preparedness plan.</p> <p>OR</p> <p>The Generator Owner has a cold weather preparedness plan, but failed to include any of the applicable requirement Parts within Requirement R7.</p>

VSL Justification for EOP-011-2 Requirement R7

<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R7 is a new requirement and there were no prior levels of non-compliance. Requirement R7 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent</p> <p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner’s responsibility to develop, maintain and implement a cold weather preparedness plan. Each VSL considers what or how many conditions or Parts of R7 have been met by the Generator Owner related to the cold weather preparedness plan.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R7.</p>

R#	VRF for EOP-011-2, Requirement R8	Justifications
R8	Medium	<ol style="list-style-type: none"> 1. Generator Owners or Generator Operator must provide generating unit-specific training to its maintenance and operations personnel. 2. FERC Guideline 2 - Consistency within Reliability Standard EOP-011.

VSLs for EOP-011-2, Requirement R8				
R#	Lower	Moderate	High	Severe
R8	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • one applicable personnel at a single generating unit; or • 5% or less of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • two applicable personnel at a single generating unit; or • more than 5% or less than or equal to 10% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • three applicable personnel at a single generating unit; or • more than 10% or less than or equal to 15% of its total applicable personnel. 	<p>The Generator Owner or Generator Operator failed to provide generating unit-specific training as described in Requirement R8 to the greater of:</p> <ul style="list-style-type: none"> • four applicable personnel at a single generating unit; or • more than 15% of its total applicable personnel.

VSL Justification for EOP-011-2 Requirement R8	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R8 is a new requirement and there were no prior levels of non-compliance. Requirement R8 includes four levels of non-compliance performance.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Generator Owner or Generator Operator's responsibility to provide generating unit-specific training to its maintenance and operations personnel. Each VSL considers what or how many personnel or percentage of personnel training has been completed in R8.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R8 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operating Plans and not cold weather preparedness plans per R8.</p>

IRO-010-4

VRF Justification for IRO-010-4, Requirement R1

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R1

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for IRO-010-4, Requirement R2

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R2

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VRF Justification for IRO-010-4, Requirement R3

The VRF did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSL Justification for IRO-010-4, Requirement R3

The VSL did not change from the previously FERC approved IRO-010-3 Reliability Standard.

VSLs for IRO-010-4, Requirement R1				
R#	Lower	Moderate	High	Severe
R1	The Reliability Coordinator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSLs for IRO-010-4, Requirement R1

R#	Lower	Moderate	High	Severe
				OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSL Justification for IRO-010-4 Requirement R1

FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Requirement R1 is an existing requirement with a new subpart developed, which Reliability Coordinator maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent	The VSL assignments describe the Reliability Coordinator responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers what or how many conditions or Parts of R1 have been met by the Reliability Coordinator related to the cold weather preparedness plan.

VSL Justification for IRO-010-4 Requirement R1

<p>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>Failure of the Generator Owner to include certain conditions or Parts of R7 warrant VSLs that are less severe than the Generator Owner failing to develop any type of plan or not including all conditions or Parts of R7.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for R7 will result in a single violation of this requirement that is independent of all other requirements of EOP-011-2 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

TOP-003-5

VRF Justification for TOP-003-5, Requirement R1

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R1

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for TOP-003-05 Requirement R2

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R2

The VSLs were revised to reflect the addition of a new subpart.

VRF Justification for TOP-003-5 Requirement R3

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R3

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VRF Justification for TOP-003-5 Requirement R4

The VRF did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSL Justification for TOP-003-5, Requirement R4

The VSL did not change from the previously FERC approved TOP-003-4 Reliability Standard.

VSLs for TOP-003-5, Requirement R1				
R#	Lower	Moderate	High	Severe
R1	The Transmission Operator did not include two or fewer of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include three of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include four of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Transmission Operator did not include any of the parts (Part 1.1 through Part 1.5) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Transmission Operator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.

VSL Justification for TOP-003-5 Requirement R1	
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>Requirement R1 is an existing requirement with a new subpart developed, which the Transmission Operator maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.</p>
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The VSL assignments describe the Transmission Operator responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers subparts based on completion.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for Requirement R1 will result in a single violation of this requirement that is independent of all other requirements of TOP-003-5 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

VSLs for TOP-003-5, Requirement R2				
R#	Lower	Moderate	High	Severe
R2	The Balancing Authority did not include two or fewer of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include three of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include four of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.	The Balancing Authority did not include any of the parts (Part 2.1 through Part 2.5) of the documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. OR, The Balancing Authority did not have a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring.

VSL Justification for TOP-003-5 Requirement R2	
FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Requirement R2 is an existing requirement with a new subpart developed, which the Balancing Authority maintains a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather.
FERC VSL G2 Violation Severity Level Assignments Should Ensure	The VSL assignments describe the Balancing Authority responsibility to maintain a document specification for provisions for notifications of BES generating unit(s) during local forecasted cold weather. Each VSL considers subparts based on completion.

VSL Justification for TOP-003-5 Requirement R2

<p>Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the corresponding requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL assignments for Requirement R1 will result in a single violation of this requirement that is independent of all other requirements of TOP-003-5 which are related to Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.</p>

Standards Announcement

Project 2019-06 Cold Weather

Final Ballots Open through May 27, 2021

[Now Available](#)

Final ballots are open through **8 p.m. Eastern, Thursday, May 27, 2021** for the following:

- EOP-011-2 – Emergency Preparedness
- IRO-010-4 – Reliability Coordinator Data Specification and Collection
- TOP-003-5 – Operational Reliability Data

Balloting

In the final ballot, votes are counted by exception. Votes from the previous ballot are automatically carried over in the final ballot. Only members of the applicable ballot pools can cast a vote. Ballot pool members who previously voted have the option to change their vote(s) in the final ballot. Ballot pool members who did not cast a vote during the previous ballot can vote in the final ballot.

Members of the ballot pool(s) associated with this project can log into the Standards Balloting and Commenting System (SBS) and submit votes [here](#).

- *Contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern) for problems regarding accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out.*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The voting results will be posted and announced after the ballots close. If approved, the standards will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

Standards Development Process

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Jordan Mallory](#) (via email) or at (404) 446-2589.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
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Atlanta, GA 30326
404-446-2560 | www.nerc.com

[NERC Balloting Tool \(/\)](#)[Dashboard \(/\)](#)[Users](#)[Ballots](#)[Comment Forms](#)[Login \(/Users/Login\) / Register \(/Users/Register\)](#)

BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather EOP-011-2 FN 3 ST**Voting Start Date:** 5/18/2021 11:29:04 AM**Voting End Date:** 5/27/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** FN**Ballot Series:** 3**Total # Votes:** 281**Total Ballot Pool:** 310**Quorum:** 90.65**Quorum Established Date:** 5/18/2021 1:25:35 PM**Weighted Segment Value:** 78.26

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	58	0.773	17	0.227	0	2	8
Segment: 2	7	0.7	6	0.6	1	0.1	0	0	0
Segment: 3	70	1	47	0.758	15	0.242	0	3	5
Segment: 4	18	1	12	0.706	5	0.294	0	0	1
Segment: 5	74	1	47	0.734	17	0.266	0	2	8
Segment: 6	47	1	28	0.737	10	0.263	0	3	6
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0	0
Segment: 10	7	0.6	6	0.6	0	0	0	1	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Totals:	310	6.4	205	5.008	65	1.392	0	11	29

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Negative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Negative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		Affirmative	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		Negative	N/A
1	Dairyland Power Cooperative	Steve Ritscher		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	N/A
1	Duke Energy	Laura Lee		Negative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Evergy	Allen Klassen		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Negative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Mike Marshall		Affirmative	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Gail Elliott	Affirmative	N/A
1	JEA	Joe McClung		Affirmative	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Josh Johnson		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Nebraska Public Power District	Jamison Cawley		Negative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Negative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer	Gul Khan	Affirmative	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	N/A
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santa Clara Electric	Chris Wagner		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	SaskPower	Wayne Guttormson		Abstain	N/A
1	Seattle City Light	Michael Jang		Negative	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Negative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Negative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Negative	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		Negative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England Inc	Michael Pincas	Keith Jonassen	Affirmative	N/A
2	Midcontinent Independent System Operator	Michael Pincas	Keith Jonassen	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
2	Midcontinent ISO, Inc.	Bobbi Welch		Negative	N/A
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Negative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Negative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Negative	N/A
3	Colorado Springs Utilities	Hillary Dobson		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Negative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Negative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor		Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		Affirmative	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Steven Taddeucci		Negative	N/A
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Negative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Negative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	N/A
3	Santee Cooper	James Poston		Negative	N/A
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrold Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Negative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebel		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Negative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Negative	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Oklahoma Municipal Power Authority	Ashley Stringer		None	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	N/A
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	N/A
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Negative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Affirmative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Avista - Avista Corporation	Glen Farmer		Negative	N/A
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	N/A
5	Bonneville Power Administration	Scott Winner		Negative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		None	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	N/A
5	Duke Energy	Dale Goodwine		Negative	N/A
5	Edison International - Southern California Edison Company	Selene Willis		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy	Gail Golden		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Evergy	Derek Brown		Affirmative	N/A
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Affirmative	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	N/A
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Negative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	N/A
5	NovaSource Power Services	Kristina Marriott		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	OTP - Otter Tail Power Company	Brett Jacobs		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Negative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	N/A
5	Salt River Project	Kevin Nielsen		Negative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	N/A
5	Seattle City Light	Faz Kasraie		Negative	N/A
5	Seminole Electric Cooperative, Inc.	Trena Haynes		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Negative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	N/A
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Clarice Zellmer		None	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Negative	N/A
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	N/A
6	Duke Energy	Greg Cecil		Negative	N/A
6	Entergy	Julie Hall		Affirmative	N/A
6	Evergy	Thomas ROBBEN		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Negative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	N/A
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Negative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	N/A
6	Seattle City Light	Brian Belger		None	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	N/A
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Negative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability	ALAN ADAMSON		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Abstain	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 310 of 310 entries

Previous 1 Next

BALLOT RESULTS**Ballot Name:** 2019-06 Cold Weather IRO-010-4 FN 3 ST**Voting Start Date:** 5/18/2021 11:32:12 AM**Voting End Date:** 5/27/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** FN**Ballot Series:** 3**Total # Votes:** 280**Total Ballot Pool:** 313**Quorum:** 89.46**Quorum Established Date:** 5/18/2021 1:25:54 PM**Weighted Segment Value:** 87.3

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	61	0.847	11	0.153	0	4	9
Segment: 2	7	0.7	7	0.7	0	0	0	0	0
Segment: 3	70	1	51	0.85	9	0.15	0	4	6
Segment: 4	19	1	14	0.875	2	0.125	0	1	2
Segment: 5	76	1	51	0.797	13	0.203	0	3	9
Segment: 6	47	1	29	0.806	7	0.194	0	5	6
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0	0
Segment: 10	7	0.7	7	0.7	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Totals:	313	6.5	221	5.675	42	0.825	0	17	33

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		Affirmative	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		Negative	N/A
1	Dairyland Power Cooperative	Steve Ritscher		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	N/A
1	Duke Energy	Laura Lee		Negative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	N/A
1	Evergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Mike Marshall		Affirmative	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Gail Elliott	Affirmative	N/A
1	JEA	Joe McClung		Affirmative	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Josh Johnson		Abstain	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Abstain	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	N/A
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Seattle City Light	Michael Jang		Negative	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Negative	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Negative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		None	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Negative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Duke Energy	Lee Schuster		Negative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		Affirmative	N/A
3	Lincoln Electric System	Jason Fortik		Abstain	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co	Steven Taddeucci		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	N/A
3	Santa Clara Electric	James Brown		Negative	N/A
3	Santa Clara Electric	James Brown		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrold Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebe		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Abstain	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Oklahoma Municipal Power Authority	Ashley Stringer		None	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	N/A
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	N/A
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Affirmative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	N/A
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	N/A
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	California Department of Water Resources	ASM Mostafa		None	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		None	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	N/A
5	Duke Energy	Dale Goodwine		Negative	N/A
5	Edison International - Southern California Edison Company	Selene Willis		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Quebec Production	Carl Pineault		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Abstain	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	N/A
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	N/A
5	NovaSource Power Services	Kristina Marriott		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	OTP - Otter Tail Power Company	Brett Jacobs		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	N/A
5	Salt River Project	Kevin Nielsen		Negative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	N/A
5	Seattle City Light	Faz Kasraie		Negative	N/A
5	Seminole Electric Cooperative, Inc.	Trena Haynes		Abstain	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	N/A
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Clarice Zellmer		None	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Duke Energy	Greg Cecil		Negative	N/A
6	Entergy	Julie Hall		Negative	N/A
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Abstain	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	N/A
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Abstain	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	N/A
6	Seattle City Light	Brian Belger		None	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	N/A
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 313 of 313 entries

Previous

1

Next

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BALLOT RESULTS

Ballot Name: 2019-06 Cold Weather TOP-003-5 FN 3 ST**Voting Start Date:** 5/18/2021 11:33:57 AM**Voting End Date:** 5/27/2021 8:00:00 PM**Ballot Type:** ST**Ballot Activity:** FN**Ballot Series:** 3**Total # Votes:** 279**Total Ballot Pool:** 313**Quorum:** 89.14**Quorum Established Date:** 5/18/2021 1:26:05 PM**Weighted Segment Value:** 87.52

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	85	1	63	0.851	11	0.149	0	2	9
Segment: 2	7	0.7	7	0.7	0	0	0	0	0
Segment: 3	70	1	53	0.855	9	0.145	0	3	5
Segment: 4	19	1	13	0.867	2	0.133	0	1	3
Segment: 5	76	1	52	0.8	13	0.2	0	1	10
Segment: 6	47	1	31	0.816	7	0.184	0	3	6
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.1	1	0.1	0	0	0	0	1
Segment: 9	0	0	0	0	0	0	0	0	0
Segment: 10	7	0.7	7	0.7	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Totals:	313	6.5	227	5.689	42	0.811	0	10	34

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Affirmative	N/A
1	Ameren - Ameren Services	Tamara Evey		Affirmative	N/A
1	American Transmission Company, LLC	LaTroy Brumfield		Affirmative	N/A
1	APS - Arizona Public Service Co.	Daniela Atanasovski		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	Jennifer Bray		Affirmative	N/A
1	Austin Energy	Thomas Standifur		Affirmative	N/A
1	Avista - Avista Corporation	Mike Magruder		None	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	Basin Electric Power Cooperative	David Rudolph		None	N/A
1	BC Hydro and Power Authority	Adrian Andreoiu		Negative	N/A
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Seth Nelson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Electric Power Cooperative (Missouri)	Michael Bax		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	City Utilities of Springfield, Missouri	Michael Bowman		Affirmative	N/A
1	Cleco Corporation	John Lindsey		Affirmative	N/A
1	Colorado Springs Utilities	Mike Braunstein		Affirmative	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	CPS Energy	Gladys DeLaO		Negative	N/A
1	Dairyland Power Cooperative	Steve Ritscher		Affirmative	N/A
1	Dominion - Dominion Virginia Power	Candace Marshall		Negative	N/A
1	Duke Energy	Laura Lee		Negative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Negative	N/A
1	Eergy	Allen Klassen	Jennifer Flandermeyer	Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Daniel Gacek		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Julie Severino		Affirmative	N/A
1	Gainesville Regional Utilities	David Owens	Truong Le	Affirmative	N/A
1	Georgia Transmission Corporation	Greg Davis		Affirmative	N/A
1	Glencoe Light and Power Commission	Terry Volkmann		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Great River Energy	Gordon Pietsch		Affirmative	N/A
1	Hydro One Networks, Inc.	Payam Farahbakhsh		Affirmative	N/A
1	Hydro-Québec TransEnergie	Nicolas Turcotte		Affirmative	N/A
1	IDACORP - Idaho Power Company	Mike Marshall		Affirmative	N/A
1	Imperial Irrigation District	Jesus Sammy Alcaraz	Denise Sanchez	Abstain	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Gail Elliott	Affirmative	N/A
1	JEA	Joe McClung		Affirmative	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Josh Johnson		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		None	N/A
1	Lower Colorado River Authority	James Baldwin		Affirmative	N/A
1	M and A Electric Power Cooperative	William Price		Affirmative	N/A
1	Manitoba Hydro	Bruce Reimer		Affirmative	N/A
1	MEAG Power	David Weekley	Scott Miller	None	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard	Andy Fuhrman	Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	N.W. Electric Power Cooperative, Inc.	Mark Ramsey		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	NB Power Corporation	Nurul Abser		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NextEra Energy - Florida Power and Light Co.	Mike O'Neil		None	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	Northeast Missouri Electric Power Cooperative	Kevin White		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		Affirmative	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A
1	Orlando Utilities Commission	Aaron Staley		None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Portland General Electric Co.	Brooke Jockin		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Randhir Singh		None	N/A
1	Public Utility District No. 1 of Chelan County	Ginette Lacasse		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Alyssia Rhoads		Negative	N/A
1	Puget Sound Energy, Inc.	Chelsey Neil		Affirmative	N/A
1	Sacramento Municipal Utility District	Wei Shao	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Chris Hofmann		Affirmative	N/A
1	Santee Cooper	Chris Wagner		Negative	N/A
1	SaskPower	Wayne Guttormson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Seattle City Light	Michael Jang		Negative	N/A
1	Seminole Electric Cooperative, Inc.	Bret Galbraith		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Sho-Me Power Electric Cooperative	Peter Dawson		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Matt Carden		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell	Jennie Wike	Affirmative	N/A
1	Tallahassee Electric (City of Tallahassee, FL)	Scott Langston		Affirmative	N/A
1	Taunton Municipal Lighting Plant	Devon Tremont		Affirmative	N/A
1	Tennessee Valley Authority	Gabe Kurtz		Negative	N/A
1	Tri-State G and T Association, Inc.	Donna Wood		Affirmative	N/A
1	U.S. Bureau of Reclamation	Richard Jackson		Negative	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
1	Xcel Energy, Inc.	Dean Schiro		Affirmative	N/A
2	California ISO	Jamie Johnson		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	ISO New England, Inc.	Michael Puscas		Affirmative	N/A
2	Midcontinent ISO, Inc.	Bobbi Welch		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
2	PJM Interconnection, L.L.C.	Tom Foster	Elizabeth Davis	Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		Affirmative	N/A
3	AEP	Kent Feliks		Affirmative	N/A
3	Ameren - Ameren Services	David Jendras		Affirmative	N/A
3	APS - Arizona Public Service Co.	Jessica Lopez		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		Affirmative	N/A
3	Austin Energy	W. Dwayne Preston		Affirmative	N/A
3	Avista - Avista Corporation	Scott Kinney	Rich Hydzik	Negative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Darnez Gresham		Affirmative	N/A
3	Black Hills Corporation	Don Stahl		Affirmative	N/A
3	Bonneville Power Administration	Ken Lanehome		Affirmative	N/A
3	Central Electric Power Cooperative (Missouri)	Adam Weber		Affirmative	N/A
3	City Utilities of Springfield, Missouri	Duan Gavel		Affirmative	N/A
3	Cleco Corporation	Maurice Paulk		Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Colorado Springs Utilities	Hillary Dobson		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	CPS Energy	Glenn Pressler		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Negative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Duke Energy	Lee Schuster		Negative	N/A
3	Edison International - Southern California Edison Company	Romel Aquino		Affirmative	N/A
3	Evergy	Marcus Moor	Jennifer Flandermeyer	Affirmative	N/A
3	Eversource Energy	Christopher McKinnon		Affirmative	N/A
3	Exelon	Kinte Whitehead		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great River Energy	Michael Brytowski		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski		Affirmative	N/A
3	Imperial Irrigation District	Glen Allegranza	Denise Sanchez	Abstain	N/A
3	KAMO Electric Cooperative	Tony Gott		Affirmative	N/A
3	Lakeland Electric	Steve Marshall		Affirmative	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A
3	Los Angeles Department of Water and Power	Tony Skourtas		None	N/A
3	M and A Electric Power Cooperative	Stephen Pogue		Affirmative	N/A
3	MEAG Power	Roger Brand	Scott Miller	None	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Negative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co	Steven Taddeucci		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	North Carolina Electric Membership Corporation	Chris DiMisa	Scott Brame	Affirmative	N/A
3	Northeast Missouri Electric Power Cooperative	Skyler Wiegmann		None	N/A
3	Northern California Power Agency	Michael Whitney		Negative	N/A
3	NW Electric Power Cooperative, Inc.	John Stickley		Affirmative	N/A
3	Ocala Utility Services	Neville Bowen	Truong Le	Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	Omaha Public Power District	David Heins		Affirmative	N/A
3	Orlando Utilities Commission	Ballard Mutters		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Abstain	N/A
3	Pacific Gas and Electric Company	Sandra Ellis	Pamalet Mackey	None	N/A
3	Platte River Power Authority	Wade Kiess		Affirmative	N/A
3	Portland General Electric Co.	Dan Zollner		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	James Frank		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	maria pardo		Abstain	N/A
3	Public Utility District No. 1 of Chelan County	Joyce Gundry		Affirmative	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Zack Heim		Negative	N/A
3	Santa Conner	Eric Brown		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Seattle City Light	Laurie Hammack		None	N/A
3	Seminole Electric Cooperative, Inc.	Jeremy Lorigan		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Sho-Me Power Electric Cooperative	Jarrold Murdaugh		Affirmative	N/A
3	Snohomish County PUD No. 1	Holly Chaney		Negative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Ryan Abshier		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson	Jennie Wike	Affirmative	N/A
3	TECO - Tampa Electric Co.	Ronald Donahey		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Negative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Xcel Energy, Inc.	Nicholas Friebe		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Jun Hua		Affirmative	N/A
4	City Utilities of Springfield, Missouri	John Allen		Affirmative	N/A
4	CMS Energy - Consumers Energy Company	Aric Root		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Mark Garza		Affirmative	N/A
4	Georgia System Operations Corporation	Benjamin Winslett		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Indiana Municipal Power Agency	Jack Alvey	Scott Berry	Abstain	N/A
4	LaGen	Wayne Messina		Affirmative	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		None	N/A
4	North Carolina Electric Membership Corporation	Richard McCall	Scott Brame	Affirmative	N/A
4	Oklahoma Municipal Power Authority	Ashley Stringer		None	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Negative	N/A
4	Sacramento Municipal Utility District	Foung Mua	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Negative	N/A
4	Seminole Electric Cooperative, Inc.	Jonathan Robbins		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho	Jennie Wike	Affirmative	N/A
4	Utility Services, Inc.	Brian Evans-Mongeon		Affirmative	N/A
4	WEC Energy Group, Inc.	Matthew Beilfuss		Affirmative	N/A
5	Acciona Energy North America	George Brown		Affirmative	N/A
5	AEP	Thomas Foltz		Affirmative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Affirmative	N/A
5	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
5	Associated Electric Cooperative, Inc.	Brad Haralson		Affirmative	N/A
5	Austin Energy	Michael Dillard		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Negative	N/A
5	BC Hydro and Power Authority	Helen Hamilton Harding		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Berkshire Hathaway - NV Energy	Kevin Salsbury		Affirmative	N/A
5	Black Hills Corporation	Derek Silbaugh		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Negative	N/A
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	California Department of Water Resources	ASM Mostafa		None	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		None	N/A
5	Cogentrix Energy Power Management, LLC	Gerry Adamski		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	Avani Pandya		Affirmative	N/A
5	Cowlitz County PUD	Deanna Carlson		Affirmative	N/A
5	CPS Energy	Robert Stevens		None	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Rachel Snead		Negative	N/A
5	Duke Energy	Dale Goodwine		Negative	N/A
5	Edison International - Southern California Edison Company	Selene Willis		Affirmative	N/A
5	EDP Renewables North America LLC	Heather Morgan	Robin Hill	None	N/A
5	Entergy - Entergy Services, Inc.	Gail Golden		None	N/A
5	Evergy	Derek Brown	Jennifer Flandermeyer	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Exelon	Cynthia Lee		Affirmative	N/A
5	FirstEnergy - FirstEnergy Corporation	Robert Loy		Affirmative	N/A
5	Herb Schrayshuen	Herb Schrayshuen		Affirmative	N/A
5	Hydro-Quebec Production	Carl Pineault		Affirmative	N/A
5	Imperial Irrigation District	Tino Zaragoza	Denise Sanchez	Abstain	N/A
5	JEA	John Babik		Affirmative	N/A
5	Lakeland Electric	Becky Rinier		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Affirmative	N/A
5	Los Angeles Department of Water and Power	Glenn Barry		None	N/A
5	Lower Colorado River Authority	Teresa Krabe		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	Anthony Stevens		Affirmative	N/A
5	Muscatine Power and Water	Neal Nelson		Affirmative	N/A
5	National Grid USA	Elizabeth Spivak		Affirmative	N/A
5	NB Power Corporation	Rob Vance		Affirmative	N/A
5	Nebraska Public Power District	Ronald Bender		Negative	N/A
5	New York Power Authority	Zahid Qayyum		Affirmative	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	North Carolina Electric Membership Corporation	John Cook	Scott Brame	Affirmative	N/A
5	Northern California Power Agency	Jeremy Lawson		Negative	N/A
5	NovaSource Power Services	Kristina Marriott		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	NRG - NRG Energy, Inc.	Patricia Lynch		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	Patrick Wells		Affirmative	N/A
5	Oglethorpe Power Corporation	Donna Johnson		Affirmative	N/A
5	Omaha Public Power District	Mahmood Safi		Affirmative	N/A
5	Ontario Power Generation Inc.	Constantin Chitescu		Affirmative	N/A
5	Orlando Utilities Commission	Dania Colon		Affirmative	N/A
5	OTP - Otter Tail Power Company	Brett Jacobs		Affirmative	N/A
5	Pacific Gas and Electric Company	Ed Hanson	Pamalet Mackey	None	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	Public Utility District No. 1 of Chelan County	Meaghan Connell		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Negative	N/A
5	Salt River Project	Kevin Nielsen		Negative	N/A
5	San Miguel Electric Cooperative, Inc.	Lana Smith		Affirmative	N/A
5	Santee Cooper	Tommy Curtis		Negative	N/A
5	Seattle City Light	Faz Kasraie		Negative	N/A
5	Seminole Electric Cooperative, Inc.	Trena Haynes		None	N/A
5	Sempra - San Diego Gas and Electric	Jennifer Wright		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Southern Company - Southern Company Generation	James Howell		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Larry Rogers		Affirmative	N/A
5	Tacoma Public Utilities (Tacoma, WA)	Ozan Ferrin	Jennie Wike	Affirmative	N/A
5	Talen Generation, LLC	Donald Lock		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Negative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		Negative	N/A
5	Vistra Energy	Dan Roethemeyer		Affirmative	N/A
5	WEC Energy Group, Inc.	Clarice Zellmer		None	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP	JT Kuehne		Affirmative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Affirmative	N/A
6	APS - Arizona Public Service Co.	Marcus Bortman		Affirmative	N/A
6	Austin Energy	Lisa Martin		Affirmative	N/A
6	Basin Electric Power Cooperative	Jerry Horner		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Lindsay Wickizer		Affirmative	N/A
6	Black Hills Corporation	Brooke Voorhees		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirschak		Affirmative	N/A
6	Colorado Springs Utilities	Melissa Brown		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Cristhian Godoy		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Duke Energy	Greg Cecil		Negative	N/A
6	Entergy	Julie Hall		Negative	N/A
6	Evergy	Thomas ROBBEN	Jennifer Flandermeyer	Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Corporation	Ann Carey		Affirmative	N/A
6	Great River Energy	Donna Stephenson		Affirmative	N/A
6	Imperial Irrigation District	Diana Torres	Denise Sanchez	Abstain	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Abstain	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	New York Power Authority	Erick Barrios		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Justin Welty		None	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	Northern California Power Agency	Dennis Sismaet		Negative	N/A
6	NRG - NRG Energy, Inc.	Martin Sidor		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Omaha Public Power District	Shonda McCain		Affirmative	N/A
6	Platte River Power Authority	Sabrina Martz		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	PSEG - PSEG Energy Resources and Trade LLC	Joseph Neglia		Abstain	N/A
6	Public Utility District No. 1 of Chelan County	Glen Pruitt		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Marty Watson		Negative	N/A
6	Seattle City Light	Brian Belger		None	N/A
6	Snohomish County PUD No. 1	John Liang		Negative	N/A
6	Southern Company - Southern Company Generation	Ron Carlsen		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Erin Spence		Affirmative	N/A
6	Tacoma Public Utilities (Tacoma, WA)	Terry Gifford	Jennie Wike	Affirmative	N/A
6	TECO - Tampa Electric Co.	Benjamin Smith		None	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Negative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Florida Reliability Coordinating Council – Member Services Division	Vince Ordax		None	N/A
10	Midwest Reliability Organization	William Steiner		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Dave Krueger		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Affirmative	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Showing 1 to 313 of 313 entries

Previous

1

Next

Exhibit G

Standard Drafting Team Roster, Project 2019-06 Cold Weather

Standards Authorization Request Drafting Team Roster

Project 2019-06 Cold Weather

	Name	Entity
Chair	Matthew Harward	Southwest Power Pool, Inc.
Vice Chair	Matt Averett	Southern Company
Members	Alan Allgower	ERCOT
	Thor Angle	Puget Sound Energy
	David Daniels	American Electric Power
	Chris Dibble	Dominion Energy
	Samuel J. Dwyer, IV	Ameren
	Venona Greaff	Ingleside Cogeneration LP (Occidental Energy)
	James Healy	Seminole Electric Cooperative Inc.
	Cameron Lawson	Tennessee Valley Authority
	Jill Loewer	Utility Services
	Kenneth Luebbert	Evergy, Inc.
	Don Urban	ReliabilityFirst
PMOS Liaisons	Quinn Morrison	Exelon Power
	Michael Brytowski	Great River Energy
NERC Staff	Jordan Mallory – Senior Standards Developer	North American Electric Reliability Corporation
	Lauren Perotti – Senior Counsel	North American Electric Reliability Corporation