NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Response to Comments - Draft 1

NERC Project 2022-03 Energy Assurance with Energy-Constrained Resources

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RELIABILITY | RESILIENCE | SECURITY




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Introduction

NERC Project 2022-03 Energy Assurance with Energy-Constrained Resources drafting team (DT) is addressing energy assurance. This project will enhance reliability by requiring entities to perform energy reliability assessments to evaluate energy assurance and when predefined criteria are not met, develop Corrective Action Plan(s), Operating Plans, or other mitigating actions to address identified risks. Energy reliability assessments evaluate energy assurance across the operations time horizons by analyzing the expected resource mix availability (flexibility) and the expected availability of fuel during the study period.

There were 57 sets of responses, including comments from approximately 186 different people from approximately 109 companies representing 10 of the industry Segments.

Additional information is available on the project page.

Background

Based on industry feedback, the standard drafting team (SDT) modified the ERA definition. In addition, determined that near-term ERAs and seasonal ERAs would be better suited in separate standards. The team kept near-term ERAs in BAL-007-1 and created a new BAL-008-1 to address seasonal ERAs. The purpose of this change was to make each requirement clearer about what applied to each standard and allow for two ERAs to be better distinguished. Please refer to the BAL-007-1 and BAL-008-1 Technical Rationale documents for additional justification and information regarding requirements within the proposed standards.

Response to Comments Document Layout

The DT will be responding to all comments in a summary response report. Each chapter covers topics identified throughout the comments received (e.g., Applicability, Definition, Administrative, Requirements, etc.). Comments received are outlined at a high level in each chapter followed by the drafting team's response on how it considered the comment and the outcome of how the comment was addressed. If you have any questions, please contact Standards Developer, Jordan Mallory (Jordan.mallory@nerc.net).

Thank You

The drafting team thanks industry for your time in reviewing the proposed BAL-007-1 standard and providing comments and proposals for the drafting team's consideration. All comments received have been reviewed and discussed. Response to comments have been drafted in a summary response.

Definitions

Energy Reliability Assessment Definition

Draft 1[1] proposed definition:

> ***Energy Reliability Assessment (ERA) -*** *Evaluation of the resources that supply electrical energy and ancillary services for the Bulk Power System to reliably meet the expected demand during the associated time period. ERAs account for the impact of actions that occur sequentially throughout the assessment period, including the depletion and replenishment of finite upstream resources (e.g., fuel).*

Industry comments:

- Many commenters questioned the need for the second sentence of the ERA definition, which is shown above. Concerns expressed that this sentence provides confusion and zero clarity.
- Industry commenters questioned if the term "demand" in the ERA definition was supposed to be capitalized using the defined term from the NERC Glossary of Terms.
- Only include registered Bulk Power System resources.
- What does "ancillary services" mean?
- Add definition to Technical Rationale document.

Drafting team response:

The DT removed the second sentence based on the majority of industry expressing that it does not add any clarity and capitalized the term demand used within the ERA definition to be consistent with the defined term from the NERC Glossary. Since the ancillary service of concern to the DT was Operating Reserves, "ancillary services" has been replaced with "Operating Reserves." The DT determined to not include only registered resources as the resource mix is moving to include more unregistered resources.

Below provides the updated proposed ERA definition that will be posted with Draft 2.

> ***Energy Reliability Assessment (ERA) -*** *Evaluation of the resources to reliably supply the Electrical Energy required to serve Demand and to provide Operating Reserves for the Bulk Power System throughout the associated evaluation period.*

In addition, the DT will add a definition section to the Technical Rationale (TR) document explaining the rationale behind this definition. Please see the updated TR posted with draft 2.

[1] Posted for comment and ballot period January 25 – March 11, 2024 (Project page: Project 2022-03 Energy Assurance with Energy-Constrained Resources (nerc.com))

Administrative

Results-based Standard and Requirement Flexibility

There were many industry concerns that the BAL-007-1 Standard was not drafted to a results-based level. In addition, industry shared concerns about the requirements being very prescriptive and the need to allow for flexibility.

Drafting team response:

The DT modified the requirements to fit the results-based standard guidance document and took the level of prescriptiveness up to provided entities with flexibility to meet the differences throughout the United States and Canada business models.

This standard enhances Balancing Authorities analysis and establishes the requirement for communicating forecasted events to the Reliability Coordinators with an Operating Plan. The Balancing Authority can customize the Energy Reliability Assessment (ERA) to determine the forecasted credible risk. The Balancing Authority evaluates the forecasted ERA, analyzes the risk of the energy shortage based on the extent of its magnitude and timing. To meet regional demands, Balancing Authorities must define their own scenarios as well as define what risks they will deem as credible. Providing the Balancing Authority with the ability to define the credible forecasted risk will ensure clarity in priorities and eliminate unnecessary plans at the Reliability Coordinators level. The Balancing Authority's notification to the Reliability Coordinator of an expected reliability event helps in dealing with real problems and fulfilling NERC Operating Plan responsibilities to improve reliability by making decisions that prevent or resolve emergency events.

Redundancy with other Standards

Many industry comments were concerned about the redundancy from other standards (TOP-002, BAL-002, BAL-003, etc.)

Drafting team response:

The SDT has clarified the difference between this standard and others including TOP-002 and EOP-011 through language changes and adding greater clarity in the technical rationale.

- The period for near-term ERA was changed in R1 so that beginning of the period is clearer (up to two days after present day) that the ERA does not need to overlap with TOP-002 Operations Planning Analysis.
- The term, "forecasted Energy Emergency" was used in the document for consistency and to differentiate from actual or imminent Energy Emergencies that have Operating Plans and are declared under EOP-011.
- The SDT believes the proposed standards are differentiated from BAL-002 and BAL-003 by the time horizon and focus on sufficient energy instead of response to and recovery from Contingencies in real-time. Connecting the conditions for forecasted Energy Emergencies in R8 with the Energy Emergency Alert conditions in Attachment 1 of EOP-011 should help further clarify that the consideration for ERAs is having insufficient energy that could result in loss of load.
- The SDT added additional description of how the BAL-007-1 and BAL-008-1 standards differentiate from other standards to the technical rationale (see the Rationale for each standard along with the Relationship to Other Standards sections).

Reliability Benefit

Many entities questioned the reliability benefit for this project and asked that the DT make it clear.

Drafting team response:

By implementing the standard, the Balancing Authority can proactively make reliability decisions based on energy and fuel constraints before an emergency occurs.

Feedback

Some commenters requested the DT seek feedback from Resource Subcommittee prior to posting the next draft.

Drafting team response:

The drafting team circulated the proposed draft 2 to the resource subcommittee prior to going out for its second ballot.

Applicability

Add Applicable Entities

Some entities expressed concern about the Balancing Authority not having the authority to gather information needed to meet the BAL-007-1 standard. It was suggested the team consider including additional entities like Load Serving Entity (LSE)/Load Responsible Entity (LRE), Resource Planners, and GOPs as applicable entities, Resource sharing groups.

Drafting team response:

The DT reviewed TOP-003 and determined that entities should be able to request the data needed to be compliant with BAL-007-1 and the newly proposed BAL-008-1. The team did discuss and agreed that resource planners are not applicable to TOP-003 and should be added to BAL-008-1 to assist Balancing Authorities to gather information needed for seasonal ERAs.

Requirements

Flexibility

Entities request flexibility in many aspects of the requirement language. Below lists the following high-level flexibility requests, allowing for:

- Probabilistic models and analysis.
- dynamic data-driven scenarios.
- accommodating a variety of approaches.

Drafting team response:

The drafting team has completely rewritten R2 to accommodate a variety of approaches where the Balancing Authority (BA) determines the Scenarios or methods for generating Scenarios that stress system conditions. Industry feedback emphasized the importance of BAs determining the scenarios to alleviate worries about excessively studying high-risk, low-probability scenarios. The revised language allows for probabilistic analysis and dynamic data-driven scenarios as requested per industry comments. Consequently, changes also address concerns regarding the clarity of "high load" scenarios and the intention behind studying energy and fuel supply contingencies.

Requirement R1

Near-term ERA Clarity

Many commenters asked the drafting team what it meant by near-term throughout the standard to define what it means.

Drafting team response:

After completing an exercise of drafting a proposed near-term ERA definition, the team determined that the proposed definition was better suited within the requirement language and not as a standalone definition. A near-term ERA is an ERA that must have a duration between five days and six weeks and begin no later than two days after the present operating day. The frequency of near-term ERA must be at intervals that ensure all time periods are covered by a near-term ERA. Please see the updated TR for additional information.

Seasonal ERA Definition

Many commenters asked the drafting team what it meant by seasonal throughout the standard to define what it means.

Drafting team response:

The drafting team modified separate near-term ERAs and seasonal ERAs into a new standard for both: one near term and one seasonal. Within each standard, requirements have been modified to specify the definition of the time frame and duration for each ERA. A number of changes were made to both the season definition and the allowable duration of the defined seasons. Please see the updated TR for additional information.

Requirement R2/Scenarios

The drafting team received numerous comments about the scenarios. The comments ranged from too extreme to not extreme enough, but the predominant message was that most entities prefer the BA be allowed to determine its own scenarios based upon its individual circumstances.

Drafting team response:

The drafting team changed the language referring to the fuel contingency to allow the BA to define a credible fuel contingency that is appropriate for its own BA area. The amount of information needed by the BA to determine its credible fuel contingency is defined by each BA. The drafting team also changed the language referring to the energy supply contingency to allow the BA to define a credible energy supply contingency that is appropriate for its own BA area. The amount of information needed by the BA to determine its credible energy supply contingency is defined by each BA. Information required to determine the contingencies may be obtained through the BAs data specification document which is required under TOP-003.

Requirement R5 and R6

- Timelines do not support ERA scenarios provided or any operating plans.
- R5 and R6: 60-day review may be too long for a review.
- Check Measure Requirement R6… stated 30 and not 60 as stated in the requirement.

Drafting team response:

The drafting team reviewed the requirements and decided to keep the 60 days. While for many BAs and RCs, 60 days is significantly longer than will most likely be required. However, for RCs with a larger number of BAs within their footprint, the drafting team feels the allowable 60-day time is appropriate (new R6). The 60-day time frame has been provided for BA revisions to provide sufficient time to make any necessary changes (new R7). BAs within a common RC footprint may have more requested changes to address; the drafting team has provided time to accommodate this situation.

Requirement R8

Many comments expressed concern that Requirement R8 has been drafted to a very prescriptive level and the requirements are not realistic for smaller Balancing Authorities and does not provide the necessary flexibility for other Balancing Authorities.

Drafting team response:

Requirement 8 has been updated in the latest draft standard to be fundamentally in alignment with the Energy Emergency Alert (EEA) definitions from EOP-011, Attachment 1, Section B. These are well-understood and accepted criteria and offer the same flexibility as the current implementation of EOP-011.

It would be expected that a BA would define their forecasted EEA criteria using the same definitions as EEA criteria, meaning that if they are relying on a reserve sharing group to meet EOP-011 EEA criteria, then meeting the forecasted EEA criteria would have the same definition, allowing for the use of RSGs (Reserve Sharing Groups).

To draw separation between BAL-007-1 and EOP-011, Requirement 1 of BAL-007-1 was updated to reflect that an ERA begins “no later than two days after the present operating day”, indicating that the BAL-007-1 time period is further out than the EOP-011 time period.

Notifications between entities should be a common practice when forecasting Energy Emergencies.

Operating Plans

- Will the requirements require a lot of operating plans?
- Operating plans are ambiguous within the requirements.

Drafting team response:

The SDT understands the concern that specific Operating Plans developed ahead of time may change for actual events. However, the SDT believes that the Operating Plans that are useful for looking out to the near-term horizon and the seasonal horizon can be sufficiently general or a list of processes or activities that can be performed rather than specific actions that need to be done. For near-term ERAs, the Operating Plan would be developed for multi-day actions rather than actions that would occur in real-time if an Energy Emergency actually occurs, and the Balancing Authority has the flexibility to include in its Operating Plan only the actions that make sense to perform over that time period and up next day or day of the event (real-time). Similarly, for the seasonal ERA, the Balancing Authority can develop Operating Plans that include the possible actions that can occur over months to reduce risk before the seasonal period.

Deterministic versus Probabilistic

Some entities questioned if the requirement language was drafted at a level that allowed for probabilistic analysis.

Drafting team response:

In general, the SDT attempted to incorporate suggestions from the comments and remove prescriptive language where it was deemed necessary and not adding value. Examples of this can be seen in Requirement 1, 2, and R8. Specifically, to allow for probabilistic vs. deterministic analysis, the SDT believes that either and/or both types of modeling would be acceptable in meeting the requirements of the Standard.

Too Prescriptive Language

Some entities questioned if the requirement language was drafted at a level that allowed for probabilistic analysis.

Drafting team response:

The SDT believes it could be a significant effort to develop probabilistic and/or deterministic modeling (in either the near term or seasonal time frame) for entities that may not already be performing analysis in line with the Standard and therefore the effective date was extended from 12 to 18 months for the near-term ERA and 18 to 24 months for the seasonal ERA.

Small Balancing Authorities/Sharing Groups

Some comments expressed concern that the proposed requirements do not take small Balancing Authorities into consideration. In addition, commenters expressed that the DT should take into consideration Reserve Sharing Groups and Western Resource Adequacy Program (WRAP) type groups when drafting requirements for entities who use these types of groups.

Drafting team response:

The drafting team has addressed this concern through two notable adjustments. Firstly, R2 has been revised to accommodate Scenarios or methods for creating Scenarios to be determined by Balancing Authorities (BA). Secondly, R9 has been revised to evaluate ERA results against conditions outlined in EOP-011 Attachment 1 Section B. These circumstances are familiar to BAs and are relevant across the full spectrum of BA sizes.

The SDT believes that BAs have the ability to define the ERA process as needed to fit their specific characteristics and requirements. R1-R4, R8, and R9 all allow the BA to develop the methodology, identify the risk, set criteria, and develop mitigation strategies for the ERA. The SDT debated adding language to R.1 stating “Each Balancing Authority shall, individually or jointly with other Balancing Authorities, document” but decided that latitude is implied and will add additional detail in the Technical Rationale to support the consideration of the comments received.

Inter-Balancing Authority Energy Transfers

Some entities were concerned that there was a reliability gap because energy transfers between neighboring Balancing Authorities were not included explicitly in the standards.

Drafting team response:

The SDT added the text, “energy transfers between neighboring Balancing Authorities” to the list of near-term ERA elements in Requirement R1.3.1 to address this concern.

Technical Rationale

Industry comments:

Many entities request the technical rationale document be updated regarding many aspects of the standard.

- Attachment 1 should be moved to TR.
- Clarity around individually or jointly regarding Requirement R1.
- Various aspects such as the handling of “high load” scenarios, the persistence of contingencies throughout the assessment period, and the intention behind studying certain types of contingencies.

Drafting team response:

See the updated Technical Rationale, which addresses industry comments requesting additional clarifications or justification.

The drafting team removed Attachment 1 as a part of the changes allowing Balancing Authority’s to define their own scenarios. In addition, the language related to contingencies was also changed to specifically refer to an energy supply Contingency and a fuel supply contingency to help differentiate between the energy contingency and the Balancing Authority’s Most Severe Single Contingency (MSSC) which may not be the unit providing the most energy during the study period.