UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability Corporation	**)** **)**	**Docket No. _____**

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FIVE-YEAR ELECTRIC RELIABILITY ORGANIZATION PERFORMANCE ASSESSMENT REPORT IN ACCORDANCE WITH 18 C.F.R. § 39.3(c)

James B. Robb
President and Chief Executive Officer
North American Electric Reliability Corporation
3353 Peachtree Road NE, Suite 600
Atlanta, GA 30326
(404) 446-2567

Nina H. Jenkins-Johnston
Senior Counsel

Lauren Perotti
Senior Counsel

Candice Castaneda
Counsel

North American Electric Reliability Corporation
1325 G Street, N.W., Suite 600
Washington, DC 20005
(202) 400-3000
(202) 644-8099 – facsimile
nina.johnston@nerc.net lauren.perotti@nerc.net candice.castaneda@nerc.net

Counsel for the North American Electric Reliability Corporation

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The North American Electric Reliability Corporation ("NERC") respectfully submits its Five-Year Electric Reliability Organization ("ERO") Performance Assessment Report ("Performance Assessment") for the 2014-2018 Assessment Period[1] in accordance with the requirements of the Federal Energy Regulatory Commission's ("FERC" or "Commission") regulations at 18 C.F.R. § 39.3(c) (2018) and the directives in Order No. 672.[2] As required by 18 C.F.R. § 39.3(c)(1), this Performance Assessment:

(i) identifies how the ERO Enterprise's[3] activities and achievements during the Assessment Period build upon the certification criteria of 18 C.F.R. § 39.3(b);

(ii) evaluates the effectiveness of each Regional Entity in carrying out its Delegated Authority; and

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1 The Assessment Period runs between June 1, 2014 – December 31, 2018.

2 *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). NERC was certified by the Commission as the ERO, pursuant to § 215(c) of the Federal Power Act ("FPA"), by Commission order issued July 20, 2006. *Order Certifying the North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing*, 116 FERC ¶ 61,062 (2006).

3 The ERO Enterprise is comprised of NERC and its seven Regional Entities: (i) Florida Reliability Coordinating Council, Inc. ("FRCC"); (ii) Midwest Reliability Organization ("MRO"); (iii) Northeast Power Coordinating Council, Inc. ("NPCC"); (iv) ReliabilityFirst Corporation ("ReliabilityFirst"); (v) SERC Reliability Corporation ("SERC"); (vi) Texas Reliability Entity, Inc. ("Texas RE"); and (vii) Western Electricity Coordinating Council ("WECC"). The ERO Enterprise will consist of six Regional Entities on August 31, 2019 when FRCC ceases to be a Regional Entity.

(iii) addresses stakeholder comments on NERC's performance (specific comments attached as directed by the Commission in the 2014 Five Year Order).[4]

NERC requests that the Commission accept this Performance Assessment.

[4] *Order on the Electric Reliability Organization's Five-Year Performance Assessment*, 149 FERC ¶ 61,141, at P 70 (2014) ("2014 Five Year Order").

I. NOTICES AND COMMUNICATIONS

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

Nina H. Jenkins-Johnston
Senior Counsel
North American Electric Reliability Corporation
3353 Peachtree Road N.E., Suite 600
North Tower
(404) 446-9650
nina.johnston@nerc.net

Charles A. Berardesco
Senior Vice President and General Counsel
North American Electric Reliability Corporation
1325 G Street, N.W., Suite 600
Washington, D.C. 20005
(202) 400-3000
charles.berardesco@nerc.net

II. INTRODUCTION

The ERO Enterprise is facing unprecedented, rapid change in the electric industry, which raises new challenges to and opportunities for the reliability and security of the Bulk Power System ("BPS"). Over the past five years, the ERO Enterprise has been navigating these changes by its leveraging tools, such as its assessments, as well as its subject matter expertise to identify and propose steps to reduce existing and emerging risks to reliability. Through its assessments of the state of reliability, NERC has demonstrated that there is improved resilience, decreased protection system misoperations, and advanced risk management for the BPS.[5]

[5] The following key indicators show how NERC is managing risks to improve the reliability of the BPS during the Assessment Period: (i) there were no non-weather Category 4 or Category 5 events; (ii) the protection system misoperation rate continues to decline; (iii) frequency response shows improvement; and (iv) the BPS experienced no loss-of-load due to cyber or physical security events, despite continually evolving threats.

Reliability and security of the BPS is fundamental to national security, economic development, and public health and safety. A major disruption in electric service due to extreme weather, equipment failure, a Cyber Security Incident, or a physical attack could have far-reaching effects. Users, owners and operators of the BPS must therefore institute measures to protect against and to mitigate an impact to the BPS stemming from both conventional risks (e.g., extreme weather and equipment failures) and emerging security risks, such as physical attacks intended to damage or disable critical elements of the BPS. Throughout the Assessment Period, the ERO Enterprise implemented several initiatives, described below, to better protect against risks to the BPS. These efforts, done in coordination with the Commission and stakeholders, build on programs highlighted in the 2014 Performance Assessment.[6]

A. Identifying and Assessing Emerging Risks

The ERO Enterprise effectively identifies, prioritizes and mitigates risks to the BPS. In addition to its traditional reliability assessments, the ERO Enterprise draws from its varied sources and coordinates across its functions to better understand risks emerging from the changing electric industry.

In 2014, a polar vortex ("2014 Polar Vortex") tested the resilience of the North American BPS. This event demonstrated how extended periods of cold temperatures have direct impacts on generator resource availability. Higher than expected forced outages were observed during the 2014 Polar Vortex (particularly for natural-gas-fired generators) as well as higher-than forecasted peak demand. An analysis of the Generator Availability Data System ("GADs") following this event highlighted the interdependencies of gas and electricity providers. Since the 2014 Polar Vortex, there have been significant efforts to improve generator performance during severe cold

[6] *North American Electric Reliability Corporation, Five-Year Electric Reliability Organization Performance Assessment Report*, Docket No. RR14-5-000 (July 21, 2014).

weather. During subsequent winter periods, there were also marked improvements in forced outage rates. Tools like SAFNR[7] help ensure that the ERO Enterprise is aware of any pressing needs of the BPS with near Real-time information. SAFNR specifically allows NERC to coordinate with critical infrastructure operators, federal and local agencies and authorities during an event or severe weather. NERC is working to enhance the SAFNR tool to include features such as geospatial views of the BPS.

NERC is also improving the content of its databases. To keep pace with the changing resource mix, NERC needs data from all types of generating resources that may have an impact on reliability. In addition to traditional generation, GADS performance data now captures wind generation. NERC developed wind turbine generation data reporting instructions to assist wind plant personnel in reporting information to the GADS application. Wind plants with a Total Installed Capacity of 75 MW or more, with a commissioning date of January 1, 2005 or later, will be required to report on a set schedule. In addition to wind generation, NERC is leveraging its technical standing committees, specifically the Planning Committee, to determine appropriate data reporting requirements for solar data, in anticipation of a potential Section 1600 data request detailing what specific data NERC will collect.

During the Assessment Period, NERC targeted emerging risks to reliability. The Reliability Issues Steering Committee ("RISC") is an advisory committee that reports directly to the NERC Board of Trustees ("NERC Board") regarding BPS reliability issues and how to address them. In its biennial report, the RISC identifies and ranks BPS reliability risks to industry. In this report, the RISC makes recommendations to the NERC Board on actions that the ERO could take to address reliability risks. The RISC identified the changing resource mix as a risk area and

[7] Situational Awareness for FERC, NERC and the Regional Entities ("SAFNR").

advised the NERC Board to augment ERO Enterprise systems, as discussed herein, to gather data to better evaluate the implications of the changing resource mix. The RISC was also involved with the ERO Enterprise's efforts to address inverter-based resource controls, protection, and performance issues during the Assessment Period. NERC posted Alerts[8] in 2017 and 2018 to address this issue and formed a joint Inverter-Based Resource Performance Task Force to develop guidelines and recommended practices for inverter-based resources connected to the BPS. The RISC charged the Inverter-Based Resource Performance Task Force with ensuring that its efforts include addressing any gaps in NERC Reliability Standards. This example reflects the steps that the ERO Enterprise, working collaboratively with industry, has taken to better understand the changing resource mix, to identify mitigation solutions, to monitor their implementation.

[8] NERC often either discovers, identifies, or is provided with information that is critical to ensuring the reliability of the BPS in North America. In order to effectively disseminate this information, NERC utilizes email-based Alerts designed to provide concise, actionable information to the electricity industry.

B. NERC Reliability Standards are Addressing Planning, Cyber Security, and Physical Security Risks to the Bulk Electric System

NERC's mandatory and enforceable Reliability Standards define the reliability requirements for planning and operating the North American BES and securing the facilities, systems, and equipment underlying the efficient and effective operation of the BPS. In 2007, the Commission approved the first set of mandatory Reliability Standards in Order No. 693. In subsequent years, NERC invested significant resources to develop new and revised mandatory Reliability Standards to address Commission directives and emerging risks. NERC also invested significant time and effort to improve the quality, content, and organization of Reliability Standards.

During the Assessment Period, NERC reached a new level of maturity in its Reliability Standards development program. At the outset of the Assessment Period, NERC focused on addressing outstanding FERC directives from Order No. 693 and improving the initial set of Reliability Standards. Through the ERO's experience completing over 100 Reliability Standards projects, NERC is refining its approach to determine when a Reliability Standard is necessary to address a reliability risk as well as how to draft a Reliability Standard. NERC's approach to developing Reliability Standards consists of several key elements, including the following:

(i) use a results-based approach that focuses on performance, risk management, and entity capabilities, rather than prescribing specific processes for an entity to follow;

(ii) focus on advancing reliability and not prescribe commercial business practices; and

(iii) avoid duplication and conflict among requirements.

The body of NERC Reliability Standards now largely reflects a set of risk-based Reliability Standards.

As this foundational work concluded, NERC shifted more of its focus to the following:

(i) identifying new and emerging risks that may require new or revised Reliability Standards;

(ii) refining processes to create synergies between subject matter experts from NERC's various functions and standards so that the ERO can better identify areas to improve the effectiveness and efficiency of the Reliability Standards; and

(iii) enhancing its processes surrounding the development of Reliability Standards.

In order to identify new and emerging reliability risks as well as the optimum tool to address those reliability risks for the NERC Board (i.e., guidelines or a new or revised Reliability Standard), NERC must strengthen the synergies between its Reliability Standards and the feedback channels listed below:

(i) input and recommendations from the RISC and NERC's technical standing committees;

(ii) data from the Compliance Monitoring and Enforcement Program ("CMEP"), including the evaluation of compliance violation statistics, and reported of areas of concern, among others;

(iii) data and lessons learned from Events Analysis;

(iv) Commission input, including through the FERC technical conference;

(v) areas highlighted in the State of Reliability Report [9] and other reliability assessments; and,

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(vi) Regional Entity feedback.

NERC recognizes that the synergy between each of these channels and Reliability Standards varies and NERC strives to improve them. Below are several examples of how the ERO's maturing synergies with the above-mentioned channels have impacted Reliability Standards development:

(i) Standard drafting teams have leveraged cause coding efforts of the event analysis function to inform themselves of the magnitude of risk associated with a Reliability Standard requirement. The purpose of cause coding is to provide a structured, measurable, and continuously improvable approach to characterize the causes of reportable events and eventually to develop actionable BPS risk reduction knowledge. Standard drafting teams can identify characteristics of events (i.e., cold weather, EMS outage, or breaker failure) by running a query to gather information regarding any given risk. During the development of Reliability Standard EOP-004-4 (Event Reporting), the standard drafting team leveraged cause coding data to refine which event types require reporting, which thresholds are appropriate to trigger event reporting, as well as which entities should have reporting responsibility.

(ii) NERC's technical standing committees also provide feedback to standard drafting teams, especially in the analysis of emerging issues and development of industry guidelines. In 2017, following the issuance of NERC's report on the August 2016 Blue Cut Fire Disturbance, NERC formed the Inverter-Based Resource Performance Task Force, which reports jointly to the Operating Committee and the Planning Committee. The goal of this Task Force was to study, among other things, the impacts of inverter momentary cessation. The Task Force first developed a whitepaper and a guideline on BPS-Connected Inverter-Based Resource Performance. In 2018, this Task Force prepared an analysis of the Reliability Standard PRC-024 (Generator Frequency and Voltage Protection Settings) and identified opportunities to improve the standard by addressing potential issues associated with inverter-based resources. A standard development project is now underway to address the Task Force's recommendations.

(iii) NERC developed proposed Reliability Standard TPL-001-5 (Transmission Operations) following an assessment of single points of failure on protection systems using data collected pursuant to NERC's authority under § 1600 of the Rules of Procedure ("ROP"). Two NERC technical standing committees, with the assistance of NERC staff, analyzed this data and identified the extent of the reliability issue.

(iv) In 2010, NERC identified the need for a task force to address resiliency to geomagnetic disturbance ("GMD") events. Building upon the work of the GMD task force, NERC developed three versions of Reliability Standard TPL-007 (Transmission System Planned Performance for Geomagnetic Disturbance Events)

during the Assessment Period. The TPL-007 Reliability Standard requires planning entities to assess the vulnerability of their systems to severe, 1-in-100 year GMD planning events. Further, NERC began work on a FERC mandatory request for GMD data pursuant to § 1600 of the ROP to improve the availability of GMD data. In 2019, NERC initiated a new task force intended to address resiliency to electromagnetic pulse.

(v) To ensure that supply chain risk management Reliability Standards are properly scoped and implemented effectively, the NERC Board issued a series of resolutions directing NERC to continue working with industry and vendors on supply chain risk issues. The resolutions addressed studying the nature and complexity of supply chain risks, among other activities. In 2018-2019, at the direction of the NERC Board, NERC also prepared a report on cyber security supply chain risks with recommendations for future actions. NERC worked with the Electric Power Research Institute to provide an independent assessment of industry supply chain risks and presented an interim report to the NERC Board in August 2018. The NERC Board received the final report in May 2019. Recognizing the complex and evolving nature of supply chain risks, this final report contains several recommendations for further study (including the study of data collected pursuant to a forthcoming ROP § 1600 data request).

As demonstrated above, Reliability Standards are an important tool for reliability of the BPS; however, the need to address new and emerging risks may require tools outside of Reliability Standards. The Blue Cut Fire event, discussed above, is a prime example of NERC leveraging its various functions and processes to gather and share information in a timely fashion with industry while gradually examining the need for a Reliability Standard. The loss of solar photovoltaic resources during this event and other fault-induced solar photovoltaic resource loss events resulted in the creation of an event report and lessons learned for industry. NERC also posted Alerts in 2017 and 2018 to address this issue. Building upon these event analysis tools, NERC formed a joint Inverter-Based Resource Performance Task Force to develop models and simulations to inform guidelines on recommended practices for inverter based resources connected to the BPS. These Alerts and lessons learned are also informing modifications to the PRC-024 Reliability Standard (Generator Frequency and Voltage Protection Settings).

Guidelines are also important tools, outside of Reliability Standards, available to the ERO to address reliability risks. The objective of the reliability guidelines is to distribute key practices and information on specific issues critical to promote and maintain a highly reliable and secure BPS. Reliability guidelines are not binding norms or parameters to the level that compliance to NERC's Reliability Standards are monitored or enforced. Incorporation of guidelines into industry practices is voluntary. NERC evaluates whether reliability or technical risks require modification to Reliability Standards or development of guidance. NERC will not develop guidelines that conflict with the requirements of a Reliability Standard. Guidelines are used when a reliability risk requires further investigation or when a potential Reliability Standards-based solution needs further vetting prior to initiating the standard development process. NERC will also solicit

information from industry to identify more cost effective solutions outside of developing a Reliability Standard before initiating a standards authorization request.

C. The Electricity Information Sharing and Analysis Center ("E-ISAC") is Securing the BPS through Information Sharing and Analysis

In conjunction with Reliability Standards and electric industry coordination, the ERO Enterprise continues deploying information sharing and analysis as part of a comprehensive approach to securing the grid. During the Assessment Period, NERC enhanced capabilities of the E-ISAC, a division of NERC, which serves as a security communications channel for the electricity industry. It is headed by NERC's Vice President, Chief Security Officer ("CSO") who reports to NERC's President and Chief Executive Officer ("CEO"). The NERC Board oversees the operation of the E-ISAC through, among other things, the NERC Board Technology and Security Committee. The E-ISAC must adapt to the changing threat landscape, technologies, and business processes across the industry. It strives to enhance industry readiness and responses to threats, vulnerabilities, and incidents that could affect the BPS. NERC's biennial GridEx simulation exemplifies the way in which E-ISAC capabilities support the security of the BPS. GridEx allows participants the opportunity to self-assess their emergency response and recovery plans through simulated security exercises featuring stresses on the system. Each exercise builds on lessons learned from prior exercises and real-life scenarios (such as the attack on Ukraine's electricity infrastructure through improper infiltration of the supervisory control and data acquisition system). The E-ISAC also hosts an annual grid security conference to discuss cyber and physical security issues.

The E-ISAC also coordinates with the industry-led Electricity Subsector Coordinating Council ("ESCC"), which fosters the coordination of sector-wide, policy-related activities and initiatives to improve reliability and resilience of the electricity sector. In 2018, the E-ISAC began implementing a long-term strategic plan developed with guidance from the ESCC. The E-ISAC receives strategic oversight and guidance from the ESCC's Member Executive Committee ("MEC"). The MEC is comprised of eleven members appointed by the ESCC, one of which is the NERC CEO. The MEC provides industry leadership and strategic expertise to guide and support the E-ISAC. Beginning in 2019, the E-ISAC developed a set of performance metrics as a tool to help measure the E-ISAC's performance. The E-ISAC expects to review and update these metrics on an annual basis. The metrics measure the E-ISAC's progress against its execution of its long-term strategic plan, and were developed in consultation with the MEC and endorsed by the NERC Board. The E-ISAC provides quarterly metrics reports to the MEC and the NERC Corporate Governance and Human Resources Committee.

NERC has long recognized the importance of promoting robust information sharing between the E-ISAC and electric industry participants to enhance industry's ability to prepare for and respond to cyber and physical security threats, vulnerabilities, and incidents. Because of NERC's responsibilities for the E-ISAC and the development and enforcement of mandatory Reliability Standards, the NERC Board was concerned that electric sector participants may be hesitant to share information with the E-ISAC out of fear that those matters would be referred to the NERC CMEP functions. To address these concerns, in February 2012, the NERC Board adopted a policy to establish a clear separation between the E-ISAC and the CMEP. As revised in March 2013, the NERC Board policy outlines the following principles:

> (vi) the E-ISAC and E-ISAC Personnel shall have no responsibilities for the NERC CMEP;

(vii) E-ISAC personnel shall not, directly or indirectly, report or convey information about possible violations of Reliability Standards to the CMEP or CMEP personnel; and

(viii) CMEP personnel shall not, directly or indirectly, obtain or seek to obtain information about possible violations of Reliability Standards from E-ISAC personnel.

In May 2014, NERC management, in consultation with stakeholders, adopted the E-ISAC Code of Conduct to implement the NERC Board policy. The Code of Conduct governs the E-ISAC's relationship with other NERC departments and outlines the parameters within which E-ISAC personnel can share member-provided information outside of the E-ISAC. The Code of Conduct governs all NERC employees, including E-ISAC personnel, at all times. The Code of Conduct sets out broad information sharing restrictions. Subject to limited exceptions, information voluntarily provided to the E-ISAC cannot be shared with any other NERC or Regional Entity personnel. Because of this Code of Conduct, much of the information the E-ISAC receives cannot be used across the ERO to inform the development of Reliability Standards or the CMEP. When the E-ISAC issues public reports that aggregate and anonymize data, however, NERC may use such information to inform its activities in other functions.

In 2014, the E-ISAC, in close coordination with the Department of Energy ("DOE") and the ESCC, assumed the role of program manager in establishing a Cyber Security Risk Information Sharing Program ("CRISP")[10] for electric utilities in October 2014. The CRISP agreements contain strict data handling and protection provisions limiting the ability to share certain CRISP data. After anonymizing CRISP data, however, classified analysis reports are shared with asset owners and operators having the appropriate security clearances and unclassified threat indicators included in the CRISP reports. CRISP data is also available to asset owners and operators with access to the E-ISAC membership portal.[11] Industry participation in CRISP has increased steadily since 2014. While details regarding participation remain confidential, the program has significant participation by investor-owned utilities, as well as a number of large public power utilities and generation and transmission cooperatives. The E-ISAC has also been working with DOE to explore mechanisms to extend the benefits of CRISP to smaller utilities at lower cost. For example, DOE has initiated a pilot program to provide funding to smaller utilities to join CRISP at no cost for three years based on specific criteria.

Throughout the Assessment Period, the E-ISAC continued enhancing its membership portal, including offering more granular security alerts and notifications, tools for industry peer collaboration, and training materials. NERC continues to improve the capability of the membership portal by launching updates to enhance functionality, organization, and security.

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[10] CRISP is a voluntary program to facilitate Real-time, computer-to-computer-data exchange involving potential security threats identified through monitoring participant utility networks.

[11] The E-ISAC portal is the primary means for voluntary information sharing between the E-ISAC and its membership.

D. Strengthening the ERO Enterprise Model through Operational Alignment

In addition to addressing reliability risks during the Assessment Period, the ERO focused on improving operational efficiencies associated with oversight of the Regional Entities to whom NERC has delegated certain authority pursuant to Section 215 of the FPA.[12] During the Assessment Period, NERC consolidated the operations of the ERO Enterprise by terminating the Regional Delegation Agreements of two Regional Entities - Florida Reliability Coordinating Council – Regional Entity Division ("FRCC RE") and Southwest Power Pool – Regional Entity Division ("SPP RE") – and authorizing the transfer of the registered entities in their footprints to SERC and Midwest Reliability Organization ("MRO"). NERC amended the Regional Delegation Agreements for SERC and MRO to reflect the incorporation of the FRCC RE and SPP RE registered entities into their footprints. Through this consolidation, the ERO has completed its transition away from Regional Entities performing registered entity functions.

In the 2014 Performance Assessment, NERC proposed steps to achieving a more unified implementation of the major statutory functions with the Regional Entities. The Commission agreed with this vision and directed NERC to increase consistency and to promote coordination across the ERO Enterprise. To achieve alignment, consistent with the Commission's directive in the 2014 Five Year Order, NERC implemented two important tools: (i) formal oversight and audit of targeted risks associated with functions delegated to Regional Entities; and (ii) the ERO Enterprise Program Alignment Process ("Alignment Process").

[12] 16 U.S.C. § 824o.

NERC initiated a formal oversight program for each of its delegated functions pursuant to which it required every business unit responsible for a delegated function to prepare an oversight plan for the Regional Entities. In each oversight plan, business units outlined the roles and responsibilities of NERC and the Regional Entities and identified performance metrics to evaluate Regional Entities from year to year. NERC requires each business unit to document annual metrics as well as lessons learned in an annual performance report. Through oversight and targeted audits conducted pursuant to Section 1207 and Appendix 4A of the ROP, NERC monitors operational risks that are a priority for the ERO Enterprise. NERC conducts the Appendix 4A targeted audits in close coordination with NERC's Compliance and Certification Committee ("CCC") – the Board-appointed stakeholder committee that directly reports to the NERC Board. The CCC provides support and independent advice on the execution of these oversight programs and monitors NERC's compliance with the ROP for these programs on an ongoing basis.

The Alignment Process operates parallel and complementary to oversight and targeted audits. The Alignment Process is designed to track (identify and capture), triage (classify, analyze, and prioritize), and provide transparency (post and report) on areas where the ERO Enterprise could improve or increase alignment. NERC tracks and publicly posts all identified topics, recommendations and resolutions or mitigation actions on its website. The Alignment Process is an expansion of a "Consistency Reporting Tool" that was developed by the Regional Entities in 2017 and posted on the individual Regional Entity websites to allow stakeholders to identify any inconsistencies across Regional Entities.

To further its efforts to achieve greater efficiency and alignment, NERC launched the ALIGN tool (previously called the CMEP Technology Project). The ALIGN tool will enhance the ERO Enterprise's ability to collect, share and analyze data that is crucial to reliability and security of the BPS. The tool will enhance NERC's ability to leverage the benefits of the ERO Enterprise model by eliminating varying systems and processes for monitoring compliance and establishing a single platform that aligns the business processes of the ERO Enterprise and improves documentation. Over time, the ALIGN tool will also create a single searchable database of CMEP data that can be leveraged to identify risks to reliability and provide additional input to NERC's overall risk mitigation strategies, which would include its ability to assess the need to develop new or modified Reliability Standards. NERC initiated the ALIGN project in 2018 targeting complete implementation of the tool in 2020. NERC also commenced a similar project for its registration function (*see infra* Section IV.C.1), which will accomplish the same effectiveness and efficiency goals. Together, these operational efforts illustrate NERC's actions to address consistency and coordination across the ERO Enterprise.

III. NERC'S ACTIVITIES AND ACCOMPLISHMENTS CONTINUE TO SATISFY THE ERO CERTIFICATION CRITERIA OF 18 C.F.R. § 39.3(b)

When NERC was certified as the ERO for North America, NERC demonstrated that it met the criteria and developed the processes required under 18 C.F.R. § 39.3(b).[13] In this section,

[13] 18 C.F.R. § 39.3(b) provides that the Commission must determine that any entity certified as the ERO achieves the following:

> (1) Has the ability to develop and enforce, subject to § 39.7, Reliability Standards that provide for an adequate level of reliability of the BPS; and
>
> (2) Has established rules that:

NERC highlights new activities and initiatives from the Assessment Period which demonstrate that NERC should continue to serve as the ERO, consistent with the criteria and processes mandated in 18 C.F.R. § 39.3(b).

A. NERC Continues to Advance its Ability to Develop Reliability Standards that Provide for an Adequate Level of Reliability of the BPS

During the Assessment Period, NERC continued to demonstrate its ability to develop Reliability Standards in support of a reliable and more secure grid. NERC addressed gaps in reliability through several Reliability Standards projects, including the following:

(i) to address the physical security of the BES, NERC developed the CIP-014 Reliability Standard which seeks to protect critical transmission stations and substations and their associated primary Control Centers from physical attack that could damage or render such facilities inoperable;

(ii) to address the potential impacts of GMD events on reliable operations, NERC developed the TPL-007 Reliability Standard which uses the latest in scientific and technical understanding to define GMD planning events for entities to use in assessing their vulnerabilities to GMD events. NERC also initiated the GMD Research Work Plan to continue to advance its understanding of this reliability risk and to inform future versions of the standard;

(iii) to address cyber security risks posed by vulnerabilities in the supply chain, NERC developed one new and two revised Reliability Standards to address supply chain risk management for industrial control system hardware, software, and computing and networking services associated with BES operations. In May 2019, NERC

(i) Assure its independence of users, owners and operators of the BPS while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any Electric Reliability Organization committee or subordinate organizational structure;

(ii) Allocate equitably reasonable dues, fees and charges among end users for all activities under this part;

(iii) Provide fair and impartial procedures for enforcement of Reliability Standards through the imposition of penalties in accordance with § 39.7, including limitations on activities, functions, operations, or other appropriate sanctions or penalties;

(iv) Provide reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing Reliability Standards, and otherwise exercising its duties; and

(v) Provide appropriate steps, after certification by the Commission as the Electric Reliability Organization, to gain recognition in Canada and Mexico.

completed a study further assessing supply chain risks with recommendations for future actions;[14]

(iv) to provide for enhanced information sharing of actual and attempted efforts to compromise the cyber security of the grid, NERC developed Reliability Standard CIP-008-6. This Reliability Standard broadens Requirements for mandatory incident reporting and requires that information be shared with the National Cyber Security and Communications Integration Center, in addition to the currently mandated reporting to the E-ISAC; and

(v) to improve the quality and rigor of planning studies and thereby promote a more reliable BPS, NERC developed proposed Reliability Standard TPL-001-5. This Reliability Standard would require planning entities to study, among other things, the potential impacts of Protection System "single points of failure" on their Systems. NERC identified this risk following an analysis of data collected pursuant to a data request under §1600 of the ROP.

In addition to adopting new Reliability Standards, NERC implemented initiatives to enhance the Reliability Standards development process. First, in response to the Commission's directive in the 2014 Five Year Order to develop and to post more granular assessments of Reliability Standards development, NERC launched a pilot project to track, on a going-forward basis, actual Reliability Standard project completion times as compared to estimated time for completion at the outset of a given project. In the 2014 Five Year Order, FERC noted that information regarding Reliability Standards projects was limited to whether a given project was "urgent" or "non-urgent."[15] The Commission sought information regarding how total time for development reflects the overall complexity of a project.[16] As part of its pilot, NERC designed a Project Tracking Spreadsheet to examine a project's actual completion time, defined as the total time between the first posting and the date of the final ballot. NERC tracks the following features of a Reliability Standard project as indicators of the complexity of a project:

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[14] *NERC Cyber Security Supply Chain Risks: Staff Report and Recommended Actions*, Docket No. RM17-13-000 (May 28, 2019).

[15] 2014 Five Year Order at P 64.

[16] *Id*.

(i) project priority (1 - 3, with 1 being the highest priority) consistent with the annual Reliability Standards Development Plan;

(ii) number of directives that are addressed by the project;

(iii) number of recommendations from FERC orders that do not rise to the level of a directive, but that are addressed by the project; and

(iv) number of other Reliability Standards affected by the project (i.e., those requiring retirement or amendment).

NERC updates the tracker monthly using inputs from Reliability Standard developers as well as Project Management and Oversight Subcommittee liaisons to the Standards Committees.

Second, NERC launched initiatives to improve Reliability Standards so that risks to the BPS are addressed in a more effective and efficient manner. Since its certification as the ERO, NERC has addressed the Commission's standard modification directives from Order No. 693 and subsequent orders and remaining gaps within Reliability Standards, as discussed above. NERC has shifted its focus towards refining the existing Reliability Standards to become more effective and efficient and addressing any newly identified reliability risks. This builds upon efforts from the previous assessment period, including the Independent Experts Review Project[17] and Project 2013-02 Paragraph 81.[18]

NERC's Standard Processes Manual ("SPM") requires the periodic review of each Reliability Standard to determine whether it should be reaffirmed, revised, or withdrawn.[19] In

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[17] The purpose of this project was to conduct an independent review and evaluation of the body of non-CIP Reliability Standards to recommend areas for improvements, identify reliability gaps, and recommend retirements and consolidations of standards. The final report, titled *Standards Independent Experts Review Project: an Independent Review by industry Experts* (June 2013), is available on NERC's website at: https://www.nerc.com/pa/Stand/Standard%20Development%20Plan/Standards_Independent_Experts_Review_Project_Report-SOTC_and_Board.pdf.

[18] The purpose of this project was to propose the retirement of Reliability Standard requirements that provided little protection to the reliable operation of the BES, were redundant, or were unnecessary, in accordance with FERC's March 15, 2012 Order on NERC's Find, Fix, and Track process. *See N. Am. Elec. Reliability Corp.*, 138 FERC ¶ 61,193, at P 81 (2012).

[19] SPM § 13.0.

2016, NERC began using a tool to support this periodic review process by grading all Reliability Standards that are currently enforceable or subject to enforcement for one year. Reliability Standards were graded through an open and inclusive stakeholder process and final grades were included in the Reliability Standards Development Plan filed yearly with the Commission on an informational basis.

NERC also initiated the Standards Efficiency Review in 2017. The goal of this project is to retire or modify unnecessary or redundant Reliability Standard Requirements without jeopardizing the reliability of the BPS. The first phase of the project focused on Operations and Planning Reliability Standards. At the end of this phase, the Standards Efficiency Review team recommended retiring a number of Reliability Standards Requirements as duplicative of other Requirements or as administrative in nature. In 2018, NERC initiated Project 2018-03 Standards Efficiency Review Retirements to implement the retirement recommendations.[20] During the second phase of the project, NERC is leading two efforts. First, NERC is evaluating how to retire or modify unnecessary or redundant Critical Infrastructure Protection ("CIP") Reliability Standards Requirements, as it previously did with Operations and Planning Reliability Standards. Second, NERC is evaluating the following six concepts as possible projects to improve the body of Reliability Standards – both Operations and Planning and CIP Reliability Standards:

(i) Concept 1 – Evidence Retention – NERC will examine: (i) data retention requirements to ensure that the burden of producing records necessary to demonstrate compliance is commensurate with the risk to the reliability of the BPS; and (ii) potential uniform tools and applications to standardize evidence retention requirements;

(ii) Concept 2 – Prototype Reliability Standards – NERC will examine the contents of a risk-based standards template to guide standard drafting teams in developing standards that address a risk objective without being overly prescriptive;

[20] More information about Project 2018-03 is available at https://www.nerc.com/pa/Stand/Pages/Project-2018-03-Standards-Efficiency-Review-Retirements.aspx.

(iii) Concept 3 – Relationship between Guidance and Standards – NERC will develop a repeatable process whereby the ERO determines when a risk to the BPS requires development of a Reliability Guideline or a Reliability Standard;

(iv) Concept 4 – Training Requirements – NERC will evaluate whether to consolidate all training requirements in the body of Reliability Standards into the Personnel Performance, Training and Qualifications ("PER") family of standards;

(v) Concept 5 – Data Exchange Requirements – NERC will evaluate ways in which to consolidate information / data submittals dispersed across various family of standards; and

(vi) Concept 6 – Competency-based Requirements – NERC will evaluate how best to address competency-based requirements in the body of standards.

B. NERC Coordinates Budget and Strategic Planning across the ERO Enterprise

During the Assessment Period, NERC sought to align NERC and Regional Entity annual business plans and budgets ("BP&Bs"), ERO Enterprise risks, and the ERO Enterprise strategic planning process. The RISC biennial report informs the following strategic and budget planning documents:

(i) ERO Enterprise Long-Term Strategy – The long-term strategy addresses the ERO Enterprise's approach to addressing risks for a five to seven year time frame.

(ii) ERO Enterprise Operating Plan – Guided by the long-term strategy, this plan identifies the ERO Enterprise's vision, mission, core principals, and goals, and provides a list of key contributing activities to inform a rolling operational planning horizon. NERC flags any activities that are recommendations from the RISC report.

(iii) ERO Enterprise BP&Bs – The BP&Bs set the specific annual activities, resources, and resource allocation in support of the goals and objectives in the operating plan. BP&Bs are prepared, reviewed, and approved annually for NERC and each of the Regional Entities, and NERC reviews the Regional Entities' BP&Bs for alignment with the ERO Enterprise Operating Plan.

(iv) ERO Enterprise Metrics – The metrics provide performance benchmarks for the ERO activities outlined in the BP&B.

C. NERC Continues to Enhance its Procedures for Compliance and Enforcement

The ERO Enterprise strives to serve as an objective and fair enforcement authority that promotes a culture of reliability excellence through risk-based registration, certification, compliance monitoring, enforcement and mitigation. During the Assessment Period, NERC enhanced its CMEP by: (i) researching and identifying trends in the incidence of noncompliance; (ii) maintaining the transparency of its dispositions of noncompliance; and (iii) increasing procedural efficiencies in coordination with the Regional Entities. NERC ends this Assessment Period with a structure in place, through the Alignment Process, to collect, review, resolve, and communicate discrepancies in practices across the ERO Enterprise. NERC tracks identified discrepancies as well as their associated recommendations or resolutions.

1. Trends in Noncompliance

The ERO Enterprise continues to implement a risk-based approach focusing on registered entity-specific risks and serious noncompliance. NERC observed two notable trends during the Assessment Period: (i) reduced repeat moderate and severe risk violations; and (ii) continued progress in mitigating the ERO's older caseload of noncompliance.

To gauge the effectiveness of the risk-based CMEP in deterring and mitigating higher risk violations during the Assessment Period, the Commission directed NERC to examine the incidence of repeat noncompliance.[21] To measure this, NERC reviewed moderate and serious risk violations for registered entities with the following compliance histories: (i) no prior compliance history; (ii) compliance history involving dissimilar conduct; and (iii) compliance history involving similar conduct. NERC notes the following:

[21] 2014 Five Year Order at P 39.

(i) NERC reviewed all noncompliance filed between 2012 and 2018 and found an overall downward trend of moderate or serious risk determinations for entities with prior noncompliance with similar conduct over the past five years;

(ii) In 2016, NERC filed 111 violations with moderate or serious risk determinations for entities with prior noncompliance with similar conduct.

(iii) In 2017, there were 48 filed violations for entities with prior noncompliance with similar conduct.

(iv) In 2018, there were 22 filed violations for entities with prior noncompliance with similar conduct.

NERC expects some level of noncompliance with similar underlying conduct to persist. The downward trend in repeat moderate and severe risk violations is noted in the **Figure [1]**[22] below:

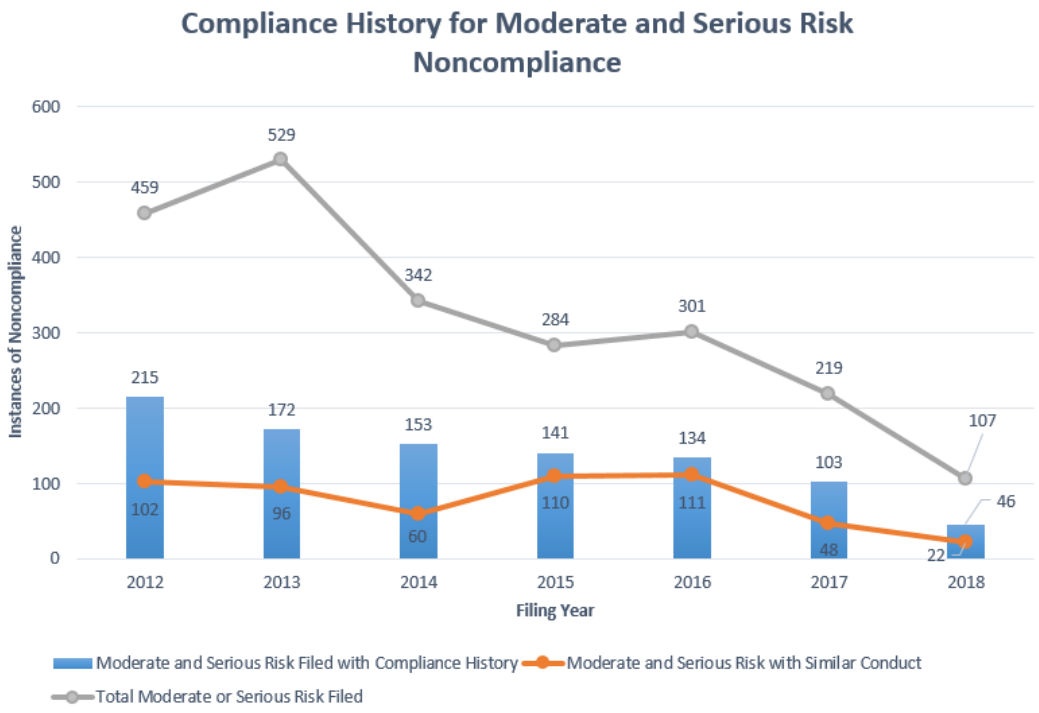

Figure 1 - Instances of Moderate and Serious Risk Noncompliance Filed with Compliance History or Similar Conduct, 2012-2018

[22] Unless otherwise noted, all figures and tables in the filing include SPP RE data.

As shown in **Figure [2]** below, there has also been a general decrease in the number of serious risk violations across the ERO Enterprise during the Assessment Period. Serious risk violations historically have comprised only a small percentage of the total:

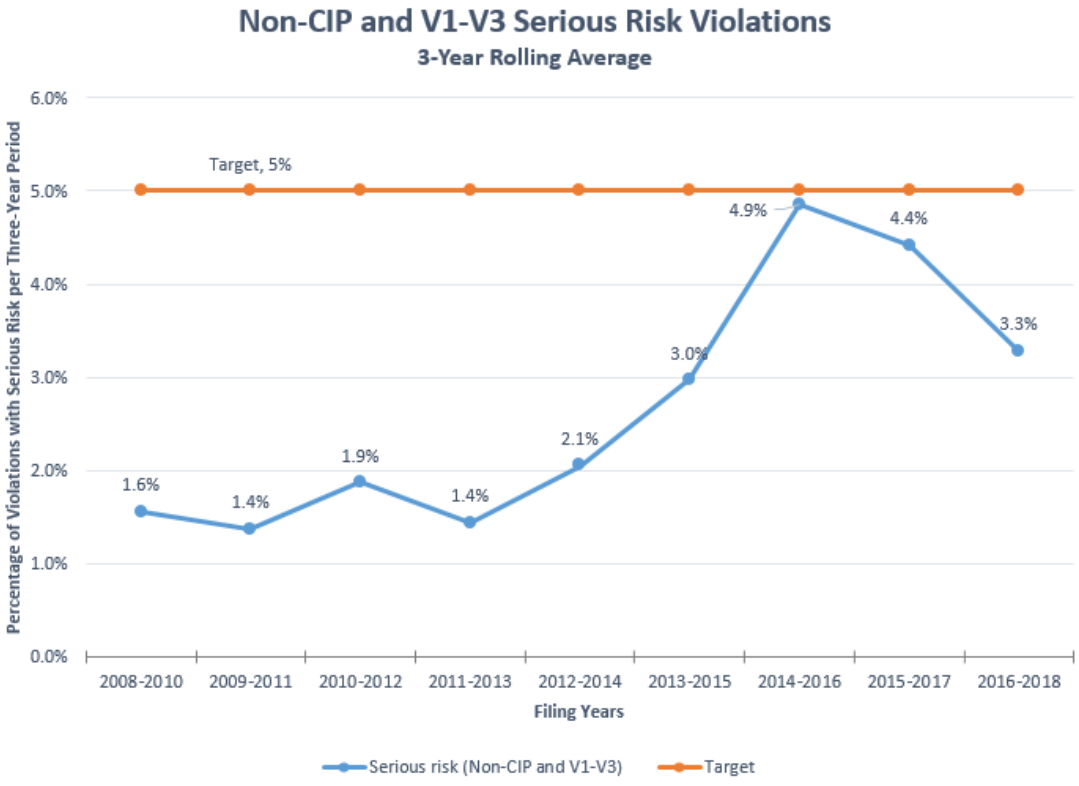

Figure - 2 Three-Year Rolling Average of Serious Risk Violations as a Percentage of all Filed Violations, by Filing Year (Non CIP and CIP Versions V1-V3)

Figure 3 - Three-Year Rolling Average of Serious Risk Violations as a Percentage of all Filed Violations, by Filing Year (CIP Only)

As shown in the preceding two figures, serious risk violations comprise a small percentage of the total noncompliance during the Assessment Period. NERC filed the highest number of serious risk violations as a percentage of total violations in 2016. Since that time, the percentage of serious risk violations as a percentage of all filed noncompliance has fallen to under NERC's self-determined target of five percent.

The ERO Enterprise conducted focused reviews in 2017 and 2018 to identify whether deficiencies in mitigation contributed to noncompliance and to identify potential methods of further reducing repeat noncompliance. To provide NERC with better visibility and a wider perspective of the issue, NERC now tracks and reports on compliance history on a quarterly basis.

2. Transparency in Compliance and Enforcement

Consistent with the Commission's expectations in the 2014 Five Year Order, NERC continues to maintain transparency in its disposition of noncompliance.[23] In addition to its quarterly reports on all matters associated with CMEP activities, public webinars and other opportunities to exchange information about its programs, on its website, NERC publicly posts dispositioned noncompliance, whether through a Full Notice of Penalty, Spreadsheet Notice of Penalty, Find, Fix, Track, and Report ("FFT"), or Compliance Exception. In parallel path, NERC takes steps to safeguard confidential information and to ensure the accuracy and completeness of CMEP data. NERC enhanced its internal policies by: (i) segregating duties for the publication of content to NERC's public website from duties to develop materials for publication; and (ii) developing procedures delineating roles and responsibilities in the event of inadvertent disclosure.

3. Enhancing Procedural Efficiencies in the CMEP

As the ERO Enterprise matures in its risk-based approach for CMEP, it is important to have a computer system that accurately manages and analyzes data and other information handled on a daily basis. Over the course of ALIGN's development, NERC worked with a stakeholder group to collect registered entity perspectives and feedback. The tool is expected to increase efficiencies by standardizing processes (including forms and interfaces) across the ERO Enterprise, to improve documentation, and to support ERO Enterprise-wide sharing and analysis of CMEP information. ALIGN will have a single, common portal for registered entities, enabling consistency of experience. NERC expects to eliminate delays and manual communications with the advent of Real-time access to CMEP information. In addition to the procedural efficiencies, the CMEP tool is projected to provide cost-savings for the ERO Enterprise. By the end of the

[23] 2014 Five Year Order at P 72.

Assessment Period, NERC completed more than 50 percent of its business process harmonization activities for the anticipated launch of ALIGN. NERC expects to launch ALIGN through three releases ending in 2020 and resulting in a comprehensive, consistent, and efficient CMEP platform.

NERC also incorporated a consolidated hearing process into the ROP to increase efficiencies, to enhance consistency and to streamline costs in the ERO Enterprise CMEP hearing process. The process allows a Regional Entity to opt-in to a centralized hearing process whereby NERC conducts a contested case hearing in an enforcement dispute. The consolidated process still allows the Regional Entity from whom the dispute originates to appoint up to two members of what is typically a five-member Hearing Body. This process is optional to the Regional Entities. As of May 2019, all Regional Entities except Texas RE have opted to participate in the consolidated hearing process.

Finally, in late 2015, the NERC Board accepted and endorsed the recommendations of the Compliance Guidance policy, which includes Implementation Guidance and CMEP Practice Guides.[24] Pre-Qualified Organizations or Standards Drafting Teams may develop Implementation Guidance providing industry-vetted examples and approaches to illustrate how registered entities could comply with a Reliability Standard. Once submitted to NERC, Implementation Guidance is reviewed for endorsement. The ERO Enterprise also develops CMEP Practice Guides which address how ERO Enterprise CMEP staff execute compliance monitoring and enforcement activities. NERC publishes the complete list of ERO Enterprise endorsed Implementation Guidance as well as CMEP Practice Guides on its website.[25]

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[24] *See* https://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Board_Agenda_Package_November_2015_v3a.pdf.

[25] *See* https://www.nerc.com/pa/comp/guidance/Pages/default.aspx.

D. NERC Continues to Maintain Rules to Ensure Due Process, Openness and Balance of Interests in Developing Reliability Standards

NERC continues to maintain rules ensuring due process, openness, and balance of interests in developing Reliability Standards and otherwise exercising its duties. NERC continues to maintain its status as an American National Standards Institute ("ANSI") - accredited standards developer in accordance with the policies and procedures of that organization.

During the Assessment Period, NERC revised its Standard Processes Manual.[26] The revised Standard Processes Manual improves the processes for conducting any necessary field tests for new and revised Reliability Standards, developing interpretations of Reliability Standards, and posting supporting technical documents to approved Reliability Standards. It also contains a number of clarifications and updates throughout. Additionally, in March 2018, the Commission approved revisions to Appendix 3D to the ROP - Registered Ballot Body Criteria - to help ensure that the votes of Independent System Operators and Regional Transmission Organizations are appropriately represented in segment 2 of the NERC Registered Ballot Body for voting on Reliability Standards.[27]

E. NERC Continues Gaining Recognition in Canada and Mexico

The North American BPS spans 10 sovereign jurisdictions across three countries. Dedicated efforts by NERC and Canadian and Mexican partners over the past several years continue to move the reliability regulatory framework toward a high level of consistency across jurisdictional boundaries.

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[26] *Petition of the North American Electric Reliability Corporation for Approval of Proposed Revisions to the Standard Processes Manual, Appendix 3A to the NERC Rules of Procedure,* Docket No. RR19-2-000 (filed Nov. 19, 2018).

[27] *N. Am. Elec. Reliability Corp.*, Docket No. RR18-1-000 (unpublished letter order).

As some of the original proponents for an international ERO, Canadian stakeholders are committed to the 2005 *Principles for an Electric Reliability Organization That Can Function on an International Basis* ("Bilateral Principles"). During the Assessment Period, the ERO saw continued Canadian dedication to a consistent, continent-wide regulatory framework for reliability. Below is a table showing that compliance monitoring arrangements in place between the ERO and all Canadian provinces and showing the parties and dates of all currently effective legislation or agreements.

	MOU Parties	Year Signed
BC	NERC+WECC+BC Utilities Commission	2018
AB	NERC+WECC+AESO; WECC+MSA	2010
SK	NERC+MRO+SaskPower	2015
MB	NERC+MRO+MB Government NERC+MRO+Manitoba Hydro	2012 2018
ON	NERC+NPCC+IESO NERC+OEB	2006 2006
QC	NERC+NPCC+Régie	2009, 2014
NS	NERC+NPCC+NS Power; NERC+NSUARB	2006
NB	NERC+NPCC+NB Energy and Utilities Board	2016
NEB	NERC+NEB	2007

In addition to Canada, Mexico is increasing its interaction with the ERO Enterprise. In 2015, Mexico began implementing comprehensive energy reforms adopted in 2013 and 2014, thereby prompting greater Mexican participation in the ERO Enterprise. Mexico adopted its first comprehensive mandatory reliability framework and garnered the support and resources of the

ERO Enterprise to implement its historic energy reforms. To formalize its relationship with NERC as a resource and expert on electric reliability, NERC, Centro Nacional de Control de Energia ("CENACE"), and the Comisión Reguladora de Energía [28] executed a memorandum of understanding ("MOU") in 2016. Through the MOU, the parties created a senior management Steering Group to oversee activity under the MOU and to finalize the funding framework for activities under the MOU. The parties also committed to exploring opportunities for formal Mexican participation in the ERO. Pursuant to this MOU, NERC conducted a Cyber Risk Preparedness Assessment on Mexican utilities in 2016. The purpose of the assessment was to ensure that CENACE operations were consistent with Reliability Coordinator, Balancing Authority and/or Transmission Operator-type Reliability Standards, inclusive of CIP Reliability Standards.

IV. EVALUATING REGIONAL ENTITY PERFORMANCE

Commission regulations require that each assessment of the ERO's performance include "an evaluation of the effectiveness of each Regional Entity, recommendations by the Electric Reliability Organization, users, owners, and operators of the BPS, and other interested parties for improvement of the Regional Entity's performance of delegated functions, and the Regional Entity's response to such evaluation and recommendations." [29] Through oversight and audit conducted pursuant to Section 1207 and Appendix 4A of the ROP, NERC evaluates Regional Entity performance and compliance with the ROP, Commission directives, the Regional Delegation Agreements, NERC policies or procedures as well as guidance and directions issued

[28] CENACE is a public decentralized body in Mexico that exercises the operative control of the power system. Comisión Reguladora de Energía is an agency of CENACE, as a coordinated energy regulator of Mexico.

[29] 18 C.F.R. § 39.3.

by the NERC Board.[30] During the Assessment Period, NERC launched a formal oversight program pursuant to which NERC identified oversight monitoring activities, as well as performance metrics for the Regional Entities.[31] Each year, these monitoring activities shift focus to address new risks and to reflect the results of Regional Entity performance from the prior year. NERC documents Regional Entities' performance, as measured against the oversight plan metrics, in annual performance reports shared with the Regional Entities and NERC senior management. Using Regional Entity and senior management feedback, NERC updates oversight plans to reflect any identified areas of focus or risk.

As indicated in NERC's 2015 informational filing to the Commission, NERC developed a staggered schedule to develop oversight plans for each function. The first set of oversight plans developed were implemented in 2017 and NERC issued performance reports in the first quarter of 2018. Regional Entities reviewed the performance reports and provided feedback to NERC, including proposals to mitigate any areas of improvement identified by NERC business units. This feedback loop resulted in revised oversight plans for the 2018 calendar year. NERC repeated the process in 2018 with performance reports issued in 2019 for 2018 activities.

NERC leverages the oversight plan performance reports and results of other Regional Entity oversight activities[32] to identify risk areas warranting targeted audits conducted in accordance with generally accepted auditing principles. During the Assessment Period, NERC performed targeted audits of the following areas:

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30 *See Pro Forma* NERC Regional Delegation Agreement, Section 8(f).

31 In the 2014 Five Year Order, the Commission directed NERC "to continue developing performance metrics that measure consistency, coordination, and efficiency between and among NERC and the Regional Entities in order to achieve predictable, timely, and consistent results across the ERO Enterprise." 2014 Five Year Order at P 73.

32 In addition to oversight plan performance reports, NERC examines the following during its audit scoping process: (i) annual ERO Enterprise risk assessments; (ii) Regional Entity self-certifications; (iii) targeted reviews of different areas; and (iv) feedback from the NERC Board.

(i) confidentiality and conflict of interest;

(ii) event analysis;

(iii) compliance monitoring competency evaluation guide; and

(iv) Section 215 accounting.

NERC functions also reflected feedback from these targeted audits in their revised oversight plans for the following calendar year. Below, NERC outlines its findings and recommendations from its Regional Entity oversight.

A. Reliability Standards

While each Regional Entity may propose regional Reliability Standards to the ERO,[33] the ERO Enterprise has made a concerted effort to focus efforts on supporting the development of continent-wide Reliability Standards and using Variances,[34] where possible, to address necessary differences while achieving a similar or greater level of reliability. In support of this shift, the Regional Entities are engaged in continual review of their standard development procedures for opportunities to align them with NERC's standard development procedures while continuing to maintain individual FERC-approved efficient processes. The Regional Entities also initiated projects to conduct periodic reviews of regional Reliability Standards and Interconnection-wide Variances and to revise or retire existing regional Reliability Standards. No new regional Reliability Standards were proposed during the Assessment Period. As of December 31, 2018, 12

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[33] *See* Section 215(d) of the FPA, Section 39.8 of the Commission's regulations, and the Regional Delegation Agreements.

[34] A "Variance" is defined in Appendix 2 to the NERC ROP as "an aspect or element of a Reliability Standard that applies only within a particular Regional Entity or group of Regional Entities, or to a particular entity or class of entities. A Variance allows an alternative approach to meeting the same reliability objective as the Reliability Standard, and is typically necessitated by a physical difference. A Variance is embodied within a Reliability Standard and as such, if adopted by NERC and approved by the Applicable Governmental Authority(ies), shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority."

regional Reliability Standards remained in effect. Out of these 12 regional Reliability Standards, two have been subsequently approved for retirement.

The following table provides a summary of Regional Entity standard development activity requiring NERC action through December 31, 2018, with dates of Commission approval (where applicable):

Regional Entity	**Standard Activity**
MRO	Revisions to Regional Reliability Standards Process Manual, RR16-3-000 (approved 5/6/2016)
NPCC	Revisions to Regional Reliability Standards Development Procedure, RR14-7-000 (approved 12/23/2014) Retirement of PRC-002-NPCC-01, RD16-8-000 (approved 8/16/2016) PRC-006-3 (revised Variance for the Quebec Interconnection), (filed for information with the Commission on September 5, 2017)
RF	BAL-502-RF-03, RD17-8-000 (approved 10/16/2017)
SERC	Revisions to Regional Reliability Standard Development Procedure, RR18-2-000 (approved 3/31/2018) PRC-006-SERC-02, RD17-9-000 (approved 10/16/2017)
Texas RE	Revisions to Regional Reliability Standards Development Process, RR17-3-000 (approved 5/30/2017) Retirement of IRO-006-TRE-1, RD19-2-000 (approved 1/29/2019)
WECC	Revisions to Reliability Standards Development Procedures: - RR14-8-000, (approved 12/23/2014) - RR17-5-000 (approved 10/27/2017) BAL-002-WECC-2a, RD17-3-000 (approved 1/24/2017) BAL-004-WECC-3, RD18-2-000 (approved 5/30/2018) FAC-501-WECC-2, RD18-5-000 (approved 5/30/2018) IRO-006-WECC-3, RD19-4-000 (approved 5/10/2019) VAR-001-5 (revisions to VAR-001 WECC Variance), RD18-8-000 (approved 10/15/2018) VAR-002-WECC-2, RD15-1-000 (approved 3/3/2015) VAR-501-WECC-2, RD15-1-000 (approved 3/3/2015)

	VAR-501-WECC-3, RD17-5-000 (approved 4/28/2017) VAR-501-WECC-3.1 (errata), RD17-7-000 (approved 9/26/2017) **Retirements** Retirement of PRC-004-WECC-2, RD18-3-000 (approved 3/28/2019) Retirement of TOP-007-WECC-1a, RD16-10-000 (approved 5/10/2017) Retirement of VAR-002-WECC-2, RD18-1-000 (approved 9/5/2018)

B. Compliance Monitoring and Enforcement Program

In this section, NERC describes the oversight activities performed pursuant to the CMEP oversight plans and provides a summary of the results of NERC's oversight during the Assessment Period.

1. Compliance Monitoring

One of the most significant changes to compliance monitoring over the Assessment Period was the implementation of a risk-based approach. The ERO found that it is not practical, effective, or sustainable for the ERO Enterprise to monitor all compliance issues to the same degree or to treat all noncompliance in the same manner. Compliance monitoring and enforcement must be "right-sized" based on a number of considerations, including risk factors and registered entity management practices related to the detection, assessment, mitigation, and reporting of noncompliance. A risk-based approach is necessary for a proper allocation of resources. It also encourages registered entities to enhance internal controls, including those focused on the self-identification of noncompliance. This shift resulted in compliance changing from using a one-size-fits-all actively monitored list of NERC Reliability Standards to focusing on the risks each registered entity posed to the reliability of the BPS.

During the prior assessment period, NERC's multi-year Reliability Assurance Initiative resulted in the development of the ERO Enterprise Risk-Based Compliance Monitoring

Framework ("Framework").[35] In this Framework, NERC focused on identifying, prioritizing, and addressing risks to the BPS, which enables each Compliance Enforcement Authority ("CEA") to focus resources where they are most needed and likely to be the most effective. The first step of the Framework is the identification and prioritization of ERO Enterprise-wide risks. Through the review of the ERO Enterprise-wide risks, the ERO develops an annual compilation of Risk Elements. NERC documents the Risk Elements in the ERO Compliance Monitoring and Enforcement Program Implementation Plan ("CMEP IP").

The CMEP IP contains the ERO Enterprise Risk Elements, which provide guidance to Regional Entities in the preparation of their Regional Entity IPs and regional risks tied to individual registered entities within their footprints. Although the CMEP IP identifies NERC Reliability Standards and Requirements to be considered for focused compliance monitoring, the ERO Enterprise recognizes that Regional Entities will develop a focused list of NERC Reliability Standards and Requirements specific to the risks posed by a registered entity. The CEA outlines this approach in a registered entity-specific Compliance Oversight Plans ("COPs").

A COP reflects the CEA's assessment of a registered entity's inherent risk as well as the risk mitigation activities conducted by the registered entity, such as its internal controls. The COP determines the interval of monitoring, the depth of testing (i.e., a list of NERC Reliability Standards and requirements), and the types of CMEP tools used to engage a registered entity (i.e., audit, spot check or self-certification). The COP is dynamic and requires updating from time to time. CEAs use the COP to tailor CMEP activities based on identified registered entity-specific risks.

[35] *See Overview of the ERO Enterprise's Risk-Based Compliance Monitoring and Enforcement Program* (Sept. 2014), https://www.nerc.com/pa/comp/Reliability Assurance Initiative/Overview of the ERO Enterprise%E2%80%99s Risk-Based CMEP.pdf.

When developing registered entity-specific COPs, Regional Entities consider local risks and specific circumstances associated with individual registered entities. The COP also takes into account the unique compliance history of each registered entity, along with both the timing of and the results of any prior compliance monitoring, when determining which compliance monitoring tools will be used for future monitoring for each registered entity. A CEA may revise a COP if a registered entity experiences significant changes, new compliance responsibilities, or faces new reliability risks. As a result, the scope of monitoring of a particular registered entity in a COP may include more, fewer, or different Reliability Standards than those outlined in the CMEP IP. The determination of the appropriate CMEP tools may be adjusted as needed within a given implementation year. **Figure [4]** below shows the various inputs for the development of a COP for a given registered entity.

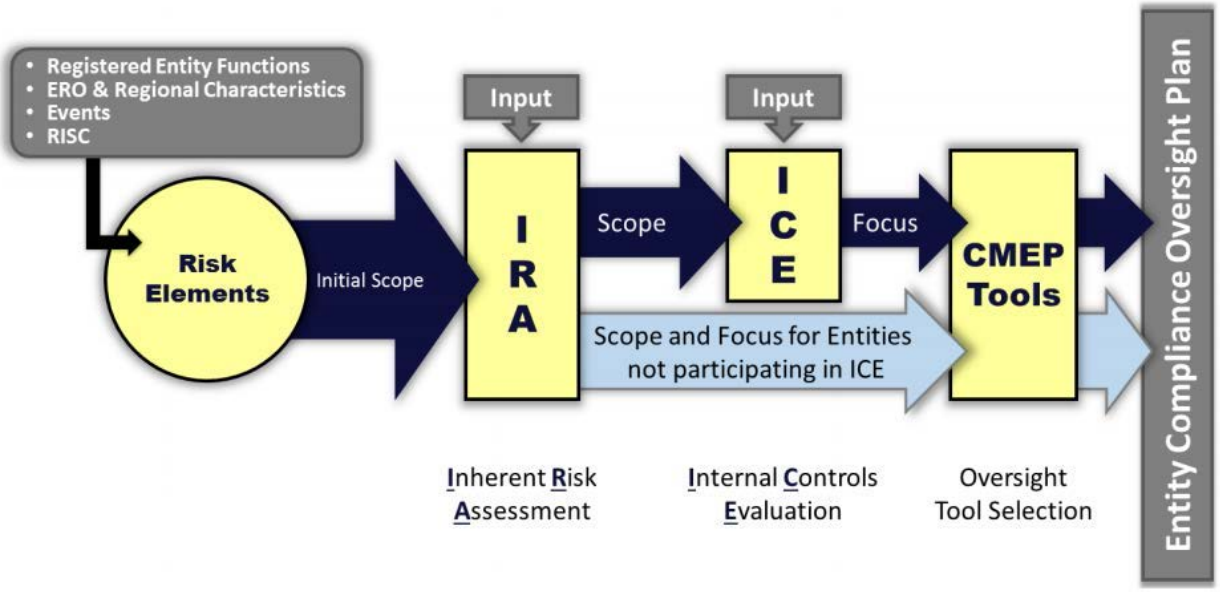

Figure 4 - Inputs for the Development of a COP

a. Risk Elements

NERC and the Regional Entities are responsible for identifying Risk Elements that reflect emerging and impactful risks to the BPS as well as other ERO-wide and Regional Entity-specific risks. NERC leads the effort to identify Risk Elements using inputs from compliance findings, event analysis data, and the expert judgment of NERC and Regional Entities, committees, and subcommittees (e.g., NERC Reliability Issues Steering Committee). NERC lists the Risk Elements in the annual CMEP IP. NERC also identifies Reliability Standard requirements correlated with the identified Risk Elements to prioritize compliance monitoring efforts for a given registered entity.

In the table below, NERC shows the change in Risk Elements during the Assessment Period. The change in Risk Elements from the early years of this Assessment Period to the present reflect a maturation of the risk-based approach to compliance monitoring. The most recent Risk Elements focus on discrete issues that NERC encourages the Regional Entities and industry to

prioritize for the upcoming year. NERC expects the Regional Entities to also develop Risk Elements specific to their footprints to further inform their compliance monitoring activities.

2015	2016 - 2018	2019
Cyber security	Critical Infrastructure Protection	Improper Management of Employee and Insider Access
Extreme Physical Events	Extreme Physical Events	Insufficient Long-Term Planning Due to Inadequate Models
Infrastructure Maintenance	Maintenance and Management of BPS Assets	Insufficient Operational Planning Due to Inadequate Models
Monitoring and Situational Awareness	Monitoring and Situational Awareness	Spare Equipment with Extended Lead Time
Protection System Misoperations / Uncoordinated Protection Systems	Protection System Failures	Improper Determination of Misoperations
Long-Term Planning and System Analysis	Event Response / Recovery / Planning and System Analysis	Improper determination of Misoperations / Inhibited Ability to Ride through Events
Human Error	Human Performance	Gaps in Program Execution
Workforce Capability		

b. Inherent Risk Assessments and Internal Controls

In order to successfully implement risk-based CMEP, the ERO Enterprise refined its understanding of the risks each registered entity poses to the reliability of the BPS. During the

Assessment Period, the Regional Entities developed common risk factors and conducted inherent risk assessments ("IRAs") for registered entities. The common risk factors are quantitative thresholds for various operational features. By developing these common risk factors, the ERO Enterprise could align its approach for conducting IRAs and consistently identifying areas of focus (i.e., specific lists of NERC Reliability Standards) for compliance monitoring activities. Upon completing an IRA, a CEA knows the unique characteristics of a registered entity and its inherent risks to the reliability of the BPS. The CEA can also refine its evaluation of which risk areas should be included in compliance monitoring activities. The CEA accomplishes this by reviewing the registered entity's performance history (i.e., compliance history, event analysis trends, etc.) to understand how an entity is using internal controls to manage compliance and to mitigate risks.

c. NERC's Evaluation of Regional Entity Performance of the CMEP

In the following section, NERC discusses the performance metrics for the Regional Entities during the Assessment Period.

(1) Development of COPs

By the end of the Assessment Period, all Regional Entities implemented processes (i.e., IRA completion) under the risk-based Framework described above. All Regional Entities are using common ERO Enterprise risk factors to develop IRAs and to inform COPs. NERC determined that all the Regional Entities are using their knowledge of a registered entity's inherent risk and performance risk in identifying which monitoring tool to apply, the scope of monitoring engagements, and selecting Reliability Standards to examine. In **Figure [5]** below, NERC compares the number of registered entities to the number of initial IRAs completed by each Regional Entity. By 2018, the Regional Entities completed 1,314 IRAs for 1,488 registered

entities. All Regional Entities completed IRAs for Reliability Coordinators, Balancing Authorities, and Transmission Operators in 2018.

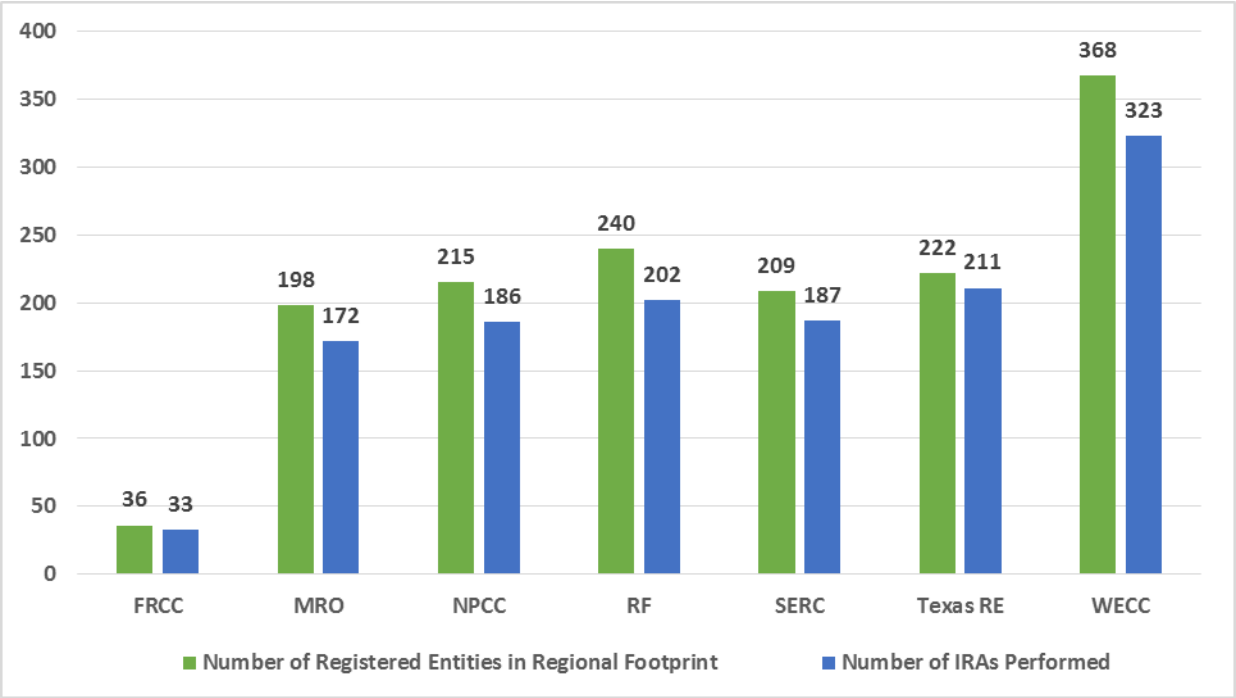

Figure 5 - Number of IRAs Completed by Each Regional Entity

Additionally, NERC and the Regional Entities developed ERO Enterprise-approved templates for their compliance monitoring activities. For example, as of 2017, all Regional Entities use the IRA Summary Reports, Audit Notification Letters, and Audit and Spot Check Reports, as well as templates for these activities occurring in the Coordinated Oversight Program for multi-region registered entities ("MRREs").

While the ERO successfully launched the COP development process during the Assessment Period, there are several ERO Enterprise-wide opportunities to enhance the COP development process. These opportunities include enhancing Regional Entity documentation for: (i) risk and monitoring decisions in COP development; and (ii) decisions around effectiveness for internal control reviews, particularly assessment of registered entity evidence, registered entity

internal control design and implementation. NERC also found that there is an opportunity to improve alignment of Regional Entity CMEP IPs, specifically around the development and use of Regional Risk Assessments and Regional Risk Elements. Moving forward, NERC will determine needs for guidance and training around the level of detail needed to document professional judgment and technical justifications for IRA and COP results.

(2) Audit Documentation

NERC notes that there is an overall opportunity for the Regional Entities to strengthen documentation processes around COP and final audit scope determinations, to ensure documentation is complete and contains sufficient detail to support significant judgments and conclusions. NERC identified certain gaps in documentation that made it difficult to understand final COP decisions around risk areas.

(3) Coordinated Oversight Program

NERC has a Coordinated Oversight Program designed to increase efficiency in the compliance monitoring and enforcement activities forMRREs. The program is voluntary and a registered entity operating in or owning assets in two or more Regional Entity jurisdictions with one or more NERC Compliance Registry identification numbers is a potential candidate for inclusion in the program. A key area of improvement for the Coordinated Oversight Program is increasing regional coordination through refining IRAs, data submittals, and self-report processes. NERC expects that the ALIGN tool will address several of these issues. NERC also identified ERO Enterprise opportunities to improve coordination between lead Regional Entities and affected Regional Entities in developing final compliance monitoring decisions for MRREs in the program.

During the Assessment Period, the ERO Enterprise published an ERO Enterprise Guide for the Coordinated Oversight Program. In this guide, NERC provides details to participating and

interested entities related to general roles and responsibilities, program applicability, and expectations for coordination of various activities. During the Assessment Period, the ERO Enterprise granted 49 MRREs entry into the Coordinated Oversight Program. Due to recent consolidation of a large MRRE group into a single NERC Compliance Registry identification number, the number of registered entities participating in the program decreased from 231 in 2017 to 197 in 2018. **Figure [6]** below shows the distribution of MRREs under coordinated oversight by Lead Regional Entity ("LRE") as of the end of the third quarter of 2018.

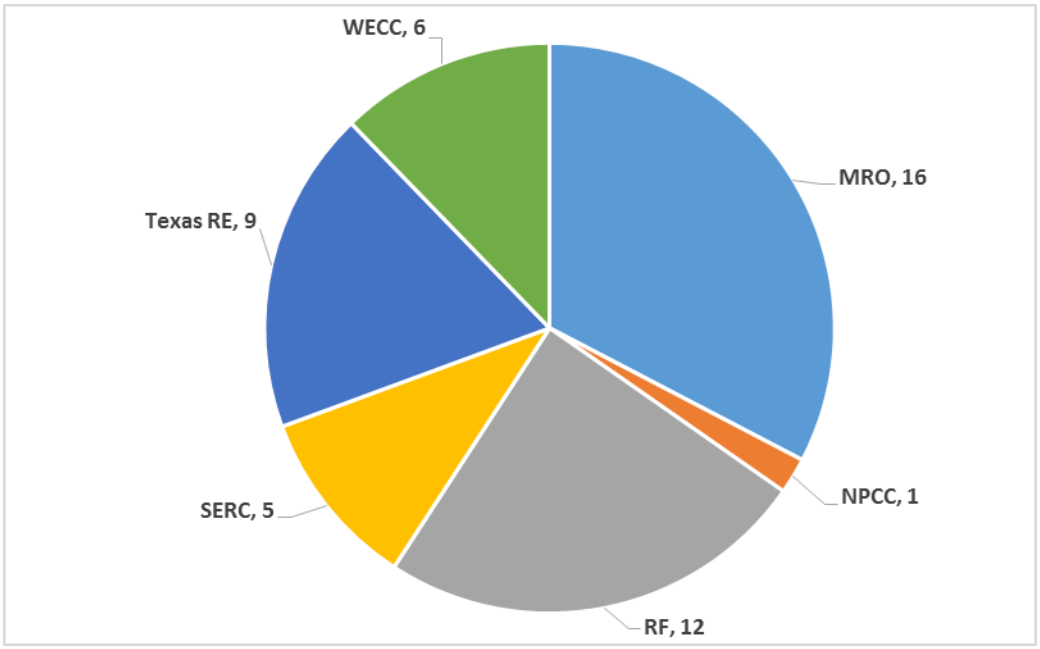

Figure 6 - Distribution of MRREs under coordinated oversight by LRE

d. Participation in ERO Enterprise CMEP Staff Training

NERC CMEP staff provide training to ERO Enterprise staff through workshops, instructor-led training events, and eLearning opportunities. Training opportunities focus on identifying gaps in staff knowledge and capabilities related to the risk-based CMEP. During the Assessment Period, NERC offered the following training opportunities for Regional Entity staff:

(i) A workshop called "From Theory to Field Application" attended by 175 Regional Entity staff. Participants learned about controls around Reliability Standards,

penalty calculations, CIP auditing of high and medium impact BES Cyber Systems, and Transmission Operations / Interconnection Reliability Operations.

(ii) CIP auditor training on network security reviews. Approximately 21 Regional Entity staff attended the training in person and 21 attended remotely.

(iii) NERC and the Regional Entities hold two sessions a year on audit team leadership skills. This course ensures that audit team leaders and certification team leaders possess the requisite skills to lead a Compliance Audit or certification team.

(iv) Annual three-day workshop attended by 150 CMEP staff focusing on internal controls and updates on key processes, tools and techniques applied to Operations and Planning and CIP Reliability Standards, and use of network analysis tool for CIP auditors.

(v) NERC holds approximately two days of training per year on risk assessment and penalty determination training exercises

e. Targeted Compliance Audits

(1) Regional Entity Compliance Monitoring Competency Evaluation Guide Audit

In 2018, NERC gathered and reviewed information related to the procedures undertaken by NERC and each Regional Entity to ensure the competency of Regional Entity compliance personnel and how it is tracked, monitored, and updated. The objective of this initiative was twofold. First, NERC sought to determine how it and the Regional Entities monitor, track, and update the professional competencies of Regional Entity compliance personnel. Second, it assessed how NERC and the Regional Entities verify that Regional Entity compliance personnel have and maintain the competencies necessary to execute their roles. NERC noted no non-conformance with the ROP by any of the Regional Entities.

(2) Regional Entity Internal Controls Evaluation Audit

The objective of the internal controls evaluation audit was to assess whether the Regional Entities are adequately and consistently evaluating registered entities' internal controls and using

the results to impact risk assessments associated with compliance monitoring activities. The audit did not reveal any violations of the ROP by either the Regional Entities or NERC.

2. Enforcement

During the Assessment Period, NERC's enforcement oversight consisted of two components: metrics and reviews of Regional Entity enforcement processes, as discussed below. Regional Entity performance, mandated by the formal oversight plans, are documented in quarterly Board of Trustee Compliance Committee reports, the annual CMEP report, the annual FFT/Compliance Exception Report as well as individual Regional Entity reports. These reports document findings, recommendations, enhancements and lessons learned for the Regional Entities.

As NERC transitioned its focus toward a risk-based CMEP, enforcement metrics shifted to include metrics such as: (i) the percentage of noncompliance that is self-reported; (ii) the number of repeat and serious violations that were aggravated due to compliance history; and (iii) the percentage of noncompliance with incomplete mitigation. NERC reports on its metrics, measured at the ERO Enterprise level, in an annual Compliance Monitoring and Enforcement Program report,[36] as well as in public quarterly reports to the NERC Board of Trustees Compliance Committee.[37]

The second component of NERC's enforcement oversight activities consists of reviewing specific Regional Entity enforcement processes and the Regional Entity's implementation of those processes. NERC has an annual evaluation program through which it oversees specific enforcement-related processes. A preliminary schedule is developed and provided to the Regional

[36] These reports are available on NERC's webpage at https://www.nerc.com/pa/comp/Pages/AnnualReports.aspx. Until 2017, these reports were also filed with the Commission in Docket No. RR15-2.

[37] The quarterly reports are available on NERC's website at https://www.nerc.com/gov/bot/BOTCC/Pages/ComplianceCommittee(BOTCC).aspx.

Entities. NERC provides guidance and feedback to the Regional Entities on opportunities to enhance consistency and effectiveness of such processes. These reviews prioritize specific elements of the CMEP on a rotating basis. NERC follows these reviews with a summary report and specific feedback letters to each Regional Entity. For example, NERC performs an annual review of the implementation of the FFT and Compliance Exception programs in conjunction with FERC and reports on the results of such reviews in an annual filing with the Commission in Docket No. RC11-6.

In the following sections, NERC examines the performance metrics used to evaluate the Regional Entities' performance of their enforcement obligations.

i. The ERO Enterprise Processes Noncompliance in a Timely and Effective Manner and Demonstrates Continued Progress in Using the Enforcement Program to Reduce Risks to Reliability

One metric NERC has consistently used to track enforcement processing performance during the Assessment Period is the "average age of noncompliance." The "average age of noncompliance" metric allows NERC to examine, on average, how long a Regional Entity takes to reach a final determination on a noncompliance, irrespective of final disposition (i.e., notice of penalty or FFT). During the Assessment Period, the average age of noncompliance decreased from approximately 12 months at its highest point in 2014 to 11.8 months at the end of 2018. NERC observes that there has been some variation in average violation age, with a trend upward from the five-year low of approximately seven months in mid-2017, but the overall average remains within NERC's goal that the average age of noncompliance should not exceed 12 months. The average age climbed to a similar peak by the end of 2018 for a number of reasons, chiefly, a sustained increase in discovered noncompliance resulting from the implementation of newly enforceable Reliability Standards in 2016.

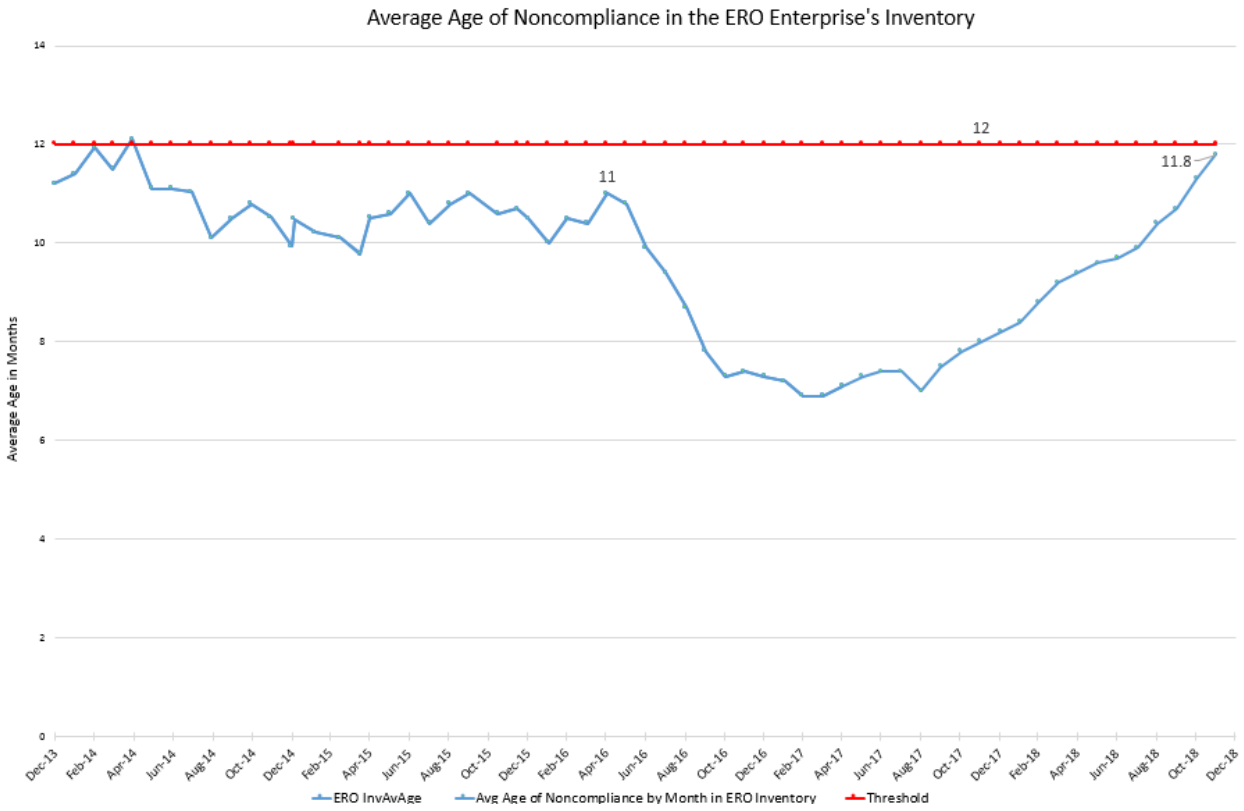

Figure 7 - Average Age of Noncompliance in the ERO Enterprise's Inventory[38]

As illustrated in the **Figure [7]** above, NERC observed an increase in the average age of noncompliance in inventory over the 2017-2018 timeframe. This increase in average age of noncompliance corresponds to a substantial increase in the amount of noncompliance discovered in the 2016-2018 timeframe compared to the 2014-2015 timeframe. The increase in discovered noncompliance, which peaked in the first quarter of 2017, is attributed to several new Reliability Standards coming into effect in July 2016 (including the CIP Version 5 standards).

The following chart compares the average age of noncompliance for each Regional Entity from January 1, 2015 (when the ERO average was approximately 10 months) to August 1, 2018 (when the ERO average was approximately 9.7 months):

[38] NERC notes that this chart excludes from the averages presented federal violations that were at one time placed on hold pending resolution of court proceedings.

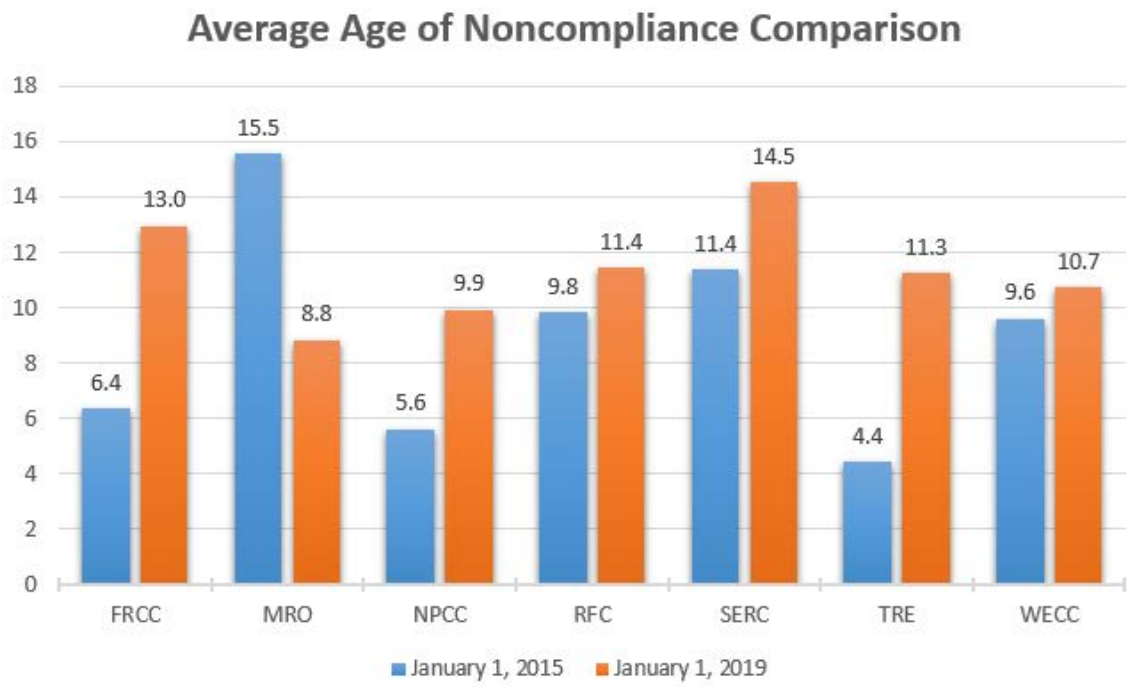

Figure 8 - Average Age of Noncompliance by Regional Entity, January 1, 2015 Compared to January 1, 2019

NERC observed that the average age of noncompliance varies by Regional Entity and can vary over time depending on the size, composition, and complexity of the Regional Entity's caseload.

A second metric NERC uses to measure the efficiency of enforcement processes is the disposition of minimal risk noncompliance. The ERO Enterprise has a streamline disposition track to process minimal risk noncompliance called the compliance exception track. This track requires prompt mitigation. Since most noncompliance involves minimal risk issues, increase used of the compliance exception track can improve processing efficiencies. The following **Figures [9-11]** show the percentage of minimal risk noncompliance processed as compliance exceptions for the years 2016-2018:

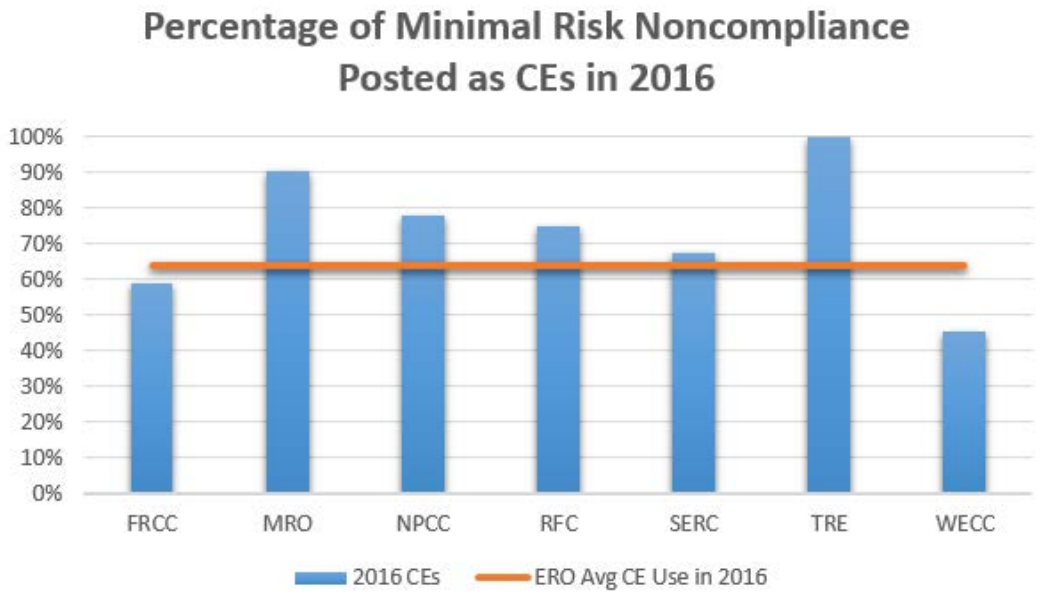

Figure 9 – Percentage of Minimal Risk of Noncompliance posted as CEs in 2016

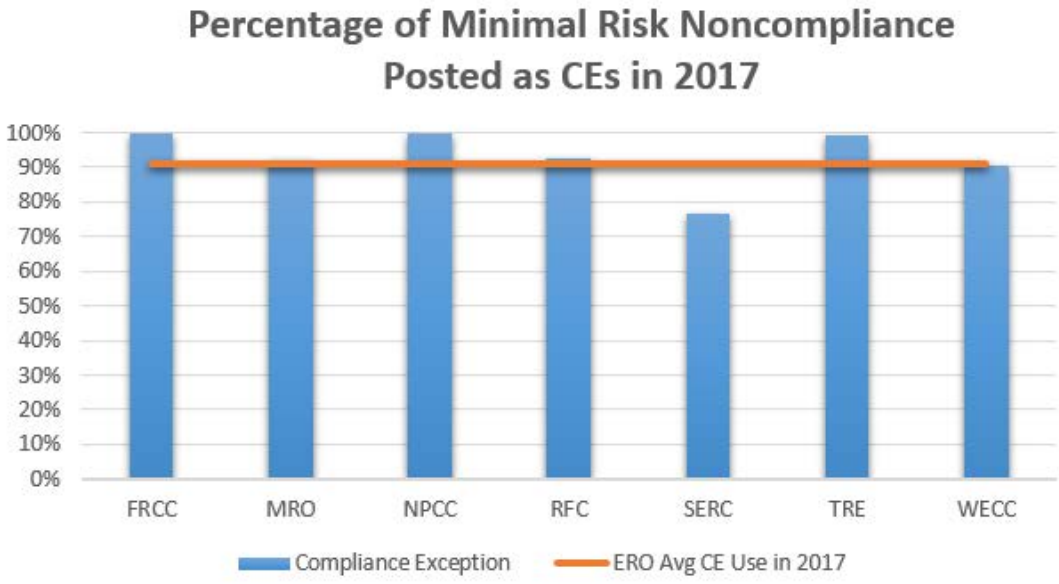

Figure 10 – Percentage of Minimal Risk of Noncompliance posted as CEs in 2017

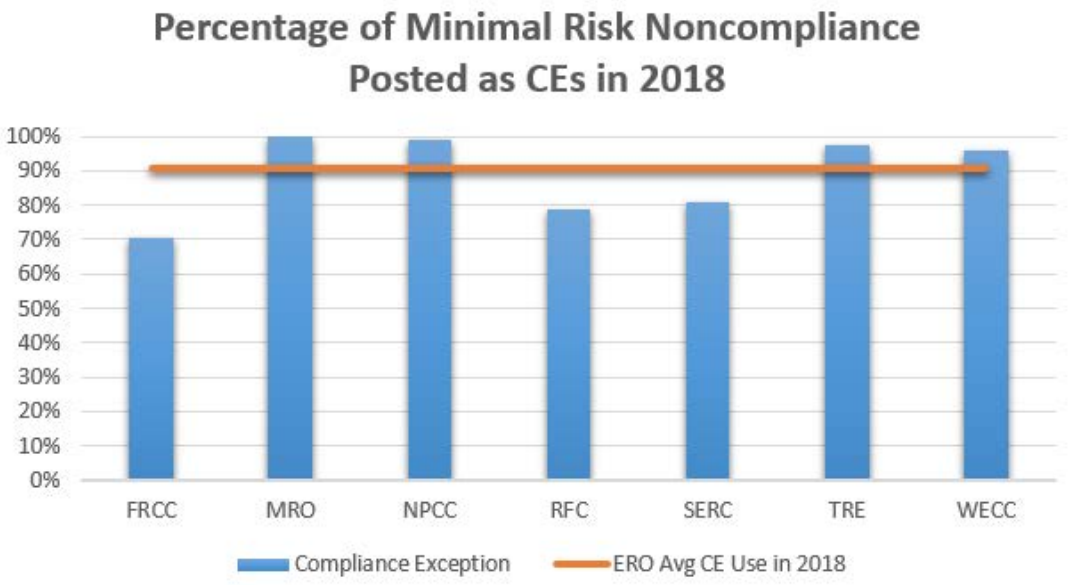

Figure 11 – Percentage of Minimal Risk of Noncompliance posted as CEs in 2018

NERC notes that each Regional Entity's use of the compliance exception track may depend on the composition of the Regional Entity's caseload; however, NERC has found that the Regional Entities have generally implemented this program in accordance with NERC's expectations.

NERC also monitors Regional Entity implementation of the self-logging program. The self-logging program, another component of NERC's risk-based enforcement program, allows registered entities with demonstrated effective management practices to keep track of minimal risk noncompliance (and related mitigation) on a log that is periodically reviewed by the Regional Entity. Minimal risk noncompliance added to the log is presumed to qualify for compliance exception treatment. After an initial pilot program, any registered entity may request evaluation by its Regional Entity in accordance with the program requirements. As of January 2019, 77 U.S. registered entities and one Canadian entity are participating in the self-logging program. **Figure [12]** below shows the distribution by Regional Entity:

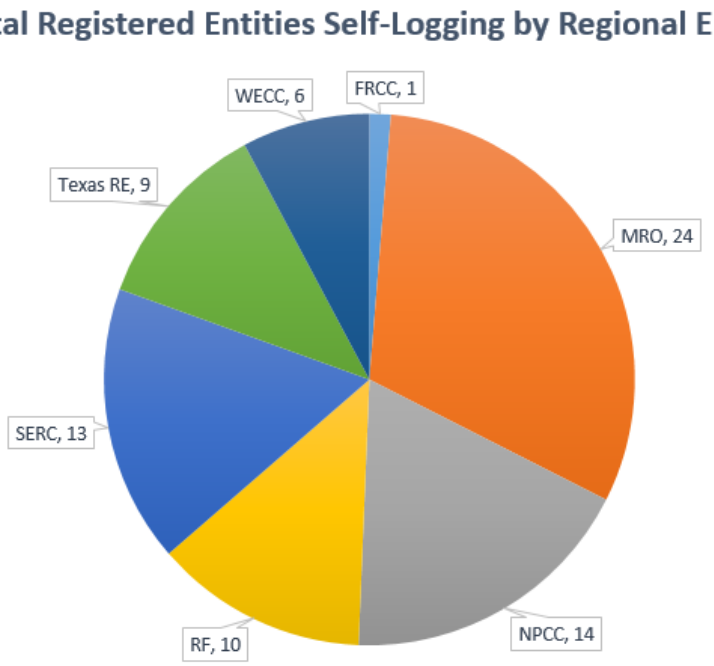

Figure 12 - Number of Registered Entities Participating in the Self-Logging Program by Regional Entity (current as of August 2018)

As discussed in detail below, NERC reviewed each Regional Entity's implementation of the self-logging program and has determined that each has implemented the program successfully and consistently during the Assessment Period.

ii. The ERO Enterprise Continues to Implement the FFT and Compliance Exception Programs Appropriately

Each year, NERC and the Commission perform a joint coordinated review of the implementation of the FFT and Compliance Exception programs during the prior year. NERC also files a report with the Commission summarizing the results of this review.[39] Through these

[39] Reports addressing the implementation of the program during the Assessment Period include: *North American Electric Reliability Corporation's Annual Report on the Find, Fix, Track, and Report Program* (Sep. 18, 2015); *North American Electric Reliability Corporation's Annual Report on the Find, Fix, Track and Report and Compliance Exception Programs* (Nov. 14, 2016); *North American Electric Reliability Corporation's Annual Report on the Find, Fix, Track and Report and Compliance Exception Programs* (Oct. 4, 2017), and *North American Electric*

reviews, and as described further in the individual annual reports, NERC has determined that the Regional Entities have implemented the FFT and compliance exception programs appropriately during the Assessment Period. Further, the Regional Entities have continued to improve the implementation of these risk-based enforcement programs during the Assessment Period, particularly with respect to identifying the root causes of noncompliance and identifying factors affecting the risk associated with individual noncompliance.[40] See *supra* Section IV regarding activities and accomplishments during the Assessment Period.

In the interest of continued improvement, NERC identified areas where Regional Entities could improve their implementation of the program and identified several best practices. NERC's observations are as follows:

(i) *Adherence to Relevant Rules and FERC Orders*. NERC found that each Regional Entity generally adhered to the relevant NERC ROP, CMEP, and FERC orders in its implementation of the FFT and Compliance Exception programs.

(ii) *Detailed and Updated Internal Procedures*. NERC found that each Regional Entity had comprehensive internal procedures to provide systematic guidance in the processing of noncompliance.

(iii) *Program Implementation*. NERC found that each Regional Entity implemented the FFT andCompliance Exception programs efficiently and that in each case reviewed, the selection of compliance exception or FFT treatment was appropriate. Following its review of each sampled case, NERC concluded that each Regional Entity generally included an appropriate discussion of the facts and circumstances of each case, an adequate evaluation of the root cause(s) of the noncompliance, an adequate risk assessment, and an adequate mitigation assessment. NERC, however, identified certain areas for continued improvement. Specifically:

Reliability Corporation's Annual Report on the Find, Fix, Track and Report and Compliance Exception Programs (Nov. 1, 2018), all filed in Docket No. RC11-6.

[40] In the 2014 performance assessment, NERC noted several opportunities for improvement across the ERO Enterprise, appropriately tailoring risk assessments, ensuring that internal Regional Entity program documentation remains up to date following program changes, and fully implementing processing efficiencies with respect to mitigation activities and verification of mitigation completion. *See also* NERC's Oct. 4, 2017 FFT and Compliance Exception filing at 7-8; *see also* Notice of Staff Review of Compliance Programs, Docket No. RC11-6-005 (Jun. 27, 2017).

- *Including Facts and Circumstances of Noncompliance in the Issue Description.* NERC observed that three Regional Entities could have included additional information in the issue description regarding the facts and circumstances of each noncompliance to improve clarity, although NERC found that none of the missing information was necessary to confirm the appropriateness of the ultimate disposition. NERC observed that one Regional Entity should consider whether to separate noncompliance into separate violation identification numbers when it involves multiple failures over a period of time. NERC made recommendations to two Regional Entities to include actual noncompliance duration dates.

- *Root Cause Evaluations.* NERC observed that some Regional Entities have greatly improved their evaluation and discussion of root causes. Such discussion is helpful in that it aids an entity in fully understanding the causes of its noncompliance and steps for effective mitigation.

- *Risk Assessments.* NERC observed opportunities for improvement of risk assessments. NERC recommended that sufficient information about the risk assessment be included. NERC specifically recommended that four Regional Entities ensure that risk assessments include a complete evaluation of relevant compliance history of registered entities and their affiliates, or state when there is no relevant compliance history. NERC identified as a best practice WECC's practice of providing a thorough noncompliance evaluation that includes looking at deeper issues such as the quality of internal controls.

- *Mitigation Actions.* NERC also found that each Regional Entity generally had the appropriate documentation from the registered entity to demonstrate completed mitigation.

iii. The ERO Enterprise is Successfully Implementing the Self-Logging Program

In 2017, NERC completed a review of Regional Entity implementation of the self-logging program. Following its review, NERC determined that the majority of the Regional Entities have successfully implemented the self-logging program. NERC offered, among other things, the following observations regarding Regional Entity implementation of the program:

(i) *Outreach and Participation.* NERC identified NPCC, MRO, and Texas RE as having exemplary outreach activities to promote participation in the program. Reliability First and WECC had robust self-logging programs with ongoing outreach and high entity participation. SERC had demonstrated improvement in its outreach.

(ii) *Determining Eligibility for Participation*. NERC confirmed there was adequate evidence and information to support each of the registered entities' eligibility for participation in the program. In addition, NERC found that the Regional Entities were consistently performing formal reviews of registered entities' internal controls for identifying, mitigating, and reporting minimal risk noncompliance. NERC found that the quality and detail of documentation that is maintained by the Regional Entities to track eligibility, evaluation, and notification of participation into the self-logging program after FERC's November 2015 order had improved compared to the documentation during the pilot phase of the program.

(iii) *Review of Logs*. NERC determined that the Regional Entities were each reviewing the logs for completeness and accuracy prior to submitting to NERC, and that the number of instances where the Regional Entities needed to contact the registered entities for additional information was small. NERC noted some differences in the level of detail in Regional Entity processes for reviewing logs.

(iv) *Verification of Mitigation*. NERC determined that each of the Regional Entities with active participants in the program conducted some method of verification that mitigation activities were being completed for self-logged noncompliance. NERC encouraged those Regional Entities still verifying mitigation activities for all noncompliance (NPCC, Texas RE, and WECC) to consider verification by sample to enhance the efficiency benefits of the program.

Since the conclusion of this review, more Regional Entities are verifying completion of mitigation through sampling methods. The ERO Enterprise is currently working on developing a single process for such sampling. By the end of the Assessment Period, there were 78 registered entities self-logging.

iv. The ERO Enterprise Strives to Improve its Mitigation Review Processes

In 2017-2018, NERC completed a review of Regional Entity evaluation of mitigation associated with a noncompliance by reviewing the Regional Entities' internal notes, processes, and any evidence the Regional Entities considered in order to determine whether the registered entity effectively and adequately mitigated a noncompliance. NERC recommended improvements for both the ERO as well as the Regional Entities. In its oversight role for this process, NERC completed the following during the Assessment Period:

(i) *Enhanced Internal Reviews*. NERC has modified internal processes to ensure that proposed mitigation actions adequately address identified causes and that sufficient internal controls exist to prevent recurrence.

(ii) *Training*. In 2018, NERC staff presented on issues related to mitigation at the annual CMEP workshop.

Overall, the Regional Entities are compliant with the CMEP; however, NERC will evaluate the following improvements moving forward:

(i) *Technology Improvements*. To promote the use of mitigating activities over formal mitigation plans, where applicable, the ERO Enterprise plans to implement a process in ALIGN that initially assigns all mitigation to start as mitigating activities and allows the Regional Entity to switch to the formal process if it determines the noncompliance needs a formal mitigation plan.

(ii) *Rule of Procedure Improvements*. Revisions to the ROP to increase the time period for review and acceptance of formal mitigation plans to ensure that the mitigation activities are adequate as well as to remove provisional acceptance of mitigation plans.

With respect to the Regional Entities, NERC recommends the following:

(i) *Procedure Modifications*. Regional Entities should modify procedures. where necessary, to clarify, among other things, (i) when a mitigation plan is required versus when mitigating activities are acceptable; and, (ii) the affidavit process by making it clear that affidavits are only required for noncompliance processed by the FFT disposition.

(ii) *Evidence*. Regional Entities should tie completion evidence to specific mitigation plan milestones or mitigating activities to ensure that all supporting documents are provided by the registered entity.

2. Conflict of Interest and Confidentiality Targeted Audit

NERC conducted an audit of each Regional Entity's business practices to safeguard confidential information and to prevent conflicts of interests within its organization. For this audit, NERC examined practices and procedures in place at the Regional Entities between January 2015 and May 2016 including data access protocols, document handling, training, contingency protocols, authorization procedures and security testing procedures.

NERC's audit testing found instances at two Regional Entities where individuals participated in a compliance audit without a valid confidentiality agreement, in violation of Section 402.8.2 of the ROP. In both instances, NERC recommended that the Regional Entity review its processes for obtaining and maintaining confidentiality agreements from compliance audit

participants to ensure they all have agreements that are valid and in effect. In both instances, the Regional Entity accepted the observation and mitigated the issue.

C. Organization Registration and Certification

NERC is responsible for devising and implementing the criteria that determine which BPS users, owners, and operators are subject to approved Reliability Standards and for maintaining the corresponding NERC Compliance Registry of organizations. NERC accomplishes this work through three functions – Registration, Certification, and BES Exception Requests. Through these functions, NERC monitors who is subject to compliance with its mandatory Reliability Standards.

It is worth noting here that registration criteria and Reliability Standards requirements are distinct from the Functional Model. The Functional Model does not describe which users, owners and operators of the BPS should be registered with the ERO. The Functional Model also does not contain a list of requirements applicable to registered entities. Instead, it is a reference tool identifying reliability-related tasks for users, owners and operators of the BPS. This reference tool enables standard drafting teams to understand the interrelationship between tasks performed by applicable entities. The Functional Model is also used as a guide for standard drafting teams to ensure that the appropriate applicable entities are listed under each Reliability Standard. Risks posed to the Bulk Power System and/or industry changes are more aptly addressed through revisions to registration criteria or requirements of the NERC Reliability Standards, rather than through changes to the Functional Model.

During the Assessment Period, NERC continued to examine how industry changes could impact registration criteria, particularly in the area of Distributed Energy Resources ("DER"). Today, NERC's registration criteria and its Reliability Standards applicable to generation

generally do not address resources connected to the grid at voltages below 100 kV, nor do they address resources with less than a registered capacity of 75 MVA in aggregate or an individual nameplate rating of 20 MVA. Furthermore, Reliability Standards are not written to apply to equipment within the distribution utility, unless it has a direct impact on the effect of grid reliability, such as load shedding or system restoration.

To further study the impact of DER, and the potential implications for registration and Reliability Standards, NERC formed an Essential Reliability Services Working Group ("ERSWG") which studied the changing resource mix in the context of monitoring grid reliability and resiliency. Specifically, it examined the need and steps to integrate higher DER penetration. The working group developed a report explaining how practices for modeling and operating the BPS may be enhanced to reflect future system characteristics. Building on the work of the ERSWG, the Planning Committee's System Planning Impacts from Distributed Energy Resources is examining key points of interest related to system planning, modeling, and reliability impacts to the BPS. The areas of focus for this group include:

(i) providing guidelines, white papers, compliance guidance, etc. in support of NERC Reliability Standards addressing interconnection requirements;

(ii) building off of existing NERC Reliability Guidelines for DER modeling and modeling practices, particularly for inclusion of DER in dynamic load models; and

(iii) assisting Event Analysis evaluations of BPS disturbances when aggregate DER are involved in the disturbance.

1. Registration

A key goal for NERC's registration function during the Assessment Period was developing common and consistent registration processes to promote efficiencies across the ERO Enterprise. NERC reviews Regional Entity execution of the Organization Registration Program to meet NERC's program goals and requirements. Areas that are reviewed may include the execution of

the Organization Registration Program (ROP§ 500), appeals process (ROP§§ 502-1.3), the functional mapping process (ROP §§ 501-1.4), and data management processes (confidentiality, integrity, and retention) (ROP§§ 502-2 and 1500). NERC tracks certain metrics to illustrate ERO Enterprise use of common and consistent registration processes to promote efficiencies.

Each Regional Entity supported ERO initiatives, such as the deployment of a new software tool for registration of Coordinated Functional Registration entities. Extending the functionality delivered with this tool, registration also has a new Centralized Organization Registration ERO System ("CORES") - tool which provides entity information to NERC for use in compliance monitoring and enforcement. This new system will be brought online in 2019 and coordinate with the ALIGN tool.

NERC oversaw the successful implementation of the Panel process beginning in 2016. NERC established the Panel with the goal of maintaining consistency and oversight in registration decisions made by the ERO Enterprise. NERC convenes a Panel to evaluate requests for: (i) deactivation of, or decisions not to register, an entity that meets the Registry Criteria; (ii) requests to add an entity that does not meet (i.e., falls below) the Registry Criteria; (iii) disputes regarding the application of the Registry Criteria; and (iv) requests for a sub-set list of applicable Reliability Standards. Any convened Panel is comprised of a NERC lead with Regional Entity participants. To date, NERC has received ten Panel requests, two of which were subsequently withdrawn. The Panel has issued seven determinations and has one open case whose decision is pending. Panel decision summary reports are posted on the NERC website.

NERC determined that each Regional Entity has met the requirements in Section 501 of the ROP, with respect to functional mapping. The functional mapping process is intended to ensure that: (i) no areas are lacking any registered entities to perform the duties and tasks identified in and

required by the Reliability Standards to the fullest extent practical; and (ii) there is no unnecessary duplication of such coverage or required oversight. NERC also verified that each of the Regional Entities has adequate data management processes and procedures to meet their data confidentiality, integrity, and retention obligations under the ROP. **Figures [13] – [18]** show the changes in registration activity during the Assessment Period.

Year	Type	BA	DP	DP-UFLS	GO	GOP	IA	LSE	PA/PC	PSE	RC	RP	RSG	RRSG	FRSG	TO	TOP	TP	TSP	Total
2014	Activation	4	7		67	70		8	3	29		1				4	1	6	1	201
	Deactivation	29	66		64	71	4	48		38	1	3				21	7	3	6	361
2015	Activation		1	44	76	90		2	3	14						8	1	2	2	243
	Deactivation		95		48	60	44	522	6	734		2				18	1	4	4	1538
2016	Activation			4	88	119									2	22	8	10	1	254
	Deactivation		23	4	64	86		3				3				10	2	1	1	197
2017	Activation		12	12	77	93			2			1				16	1	5	1	220
	Deactivation		16		43	61			1			1				12	4	1		139
2018	Activation	1	3	7	71	82			2							7		11		184
	Deactivation	9	68	2	177	181			6		3	29	3		1	44	20	28	6	577

Figure 13 – 5-Year (2014-2018) ERO Registration Activity by Function

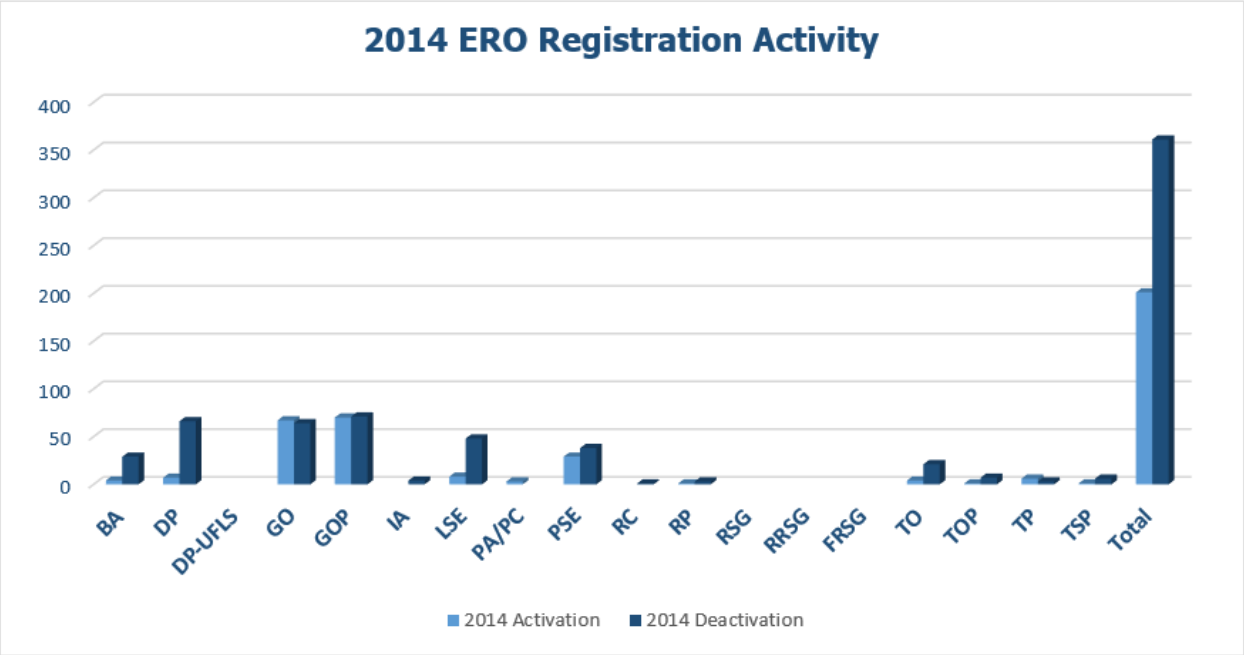

Figure 14 – 2014 ERO Registration Activity

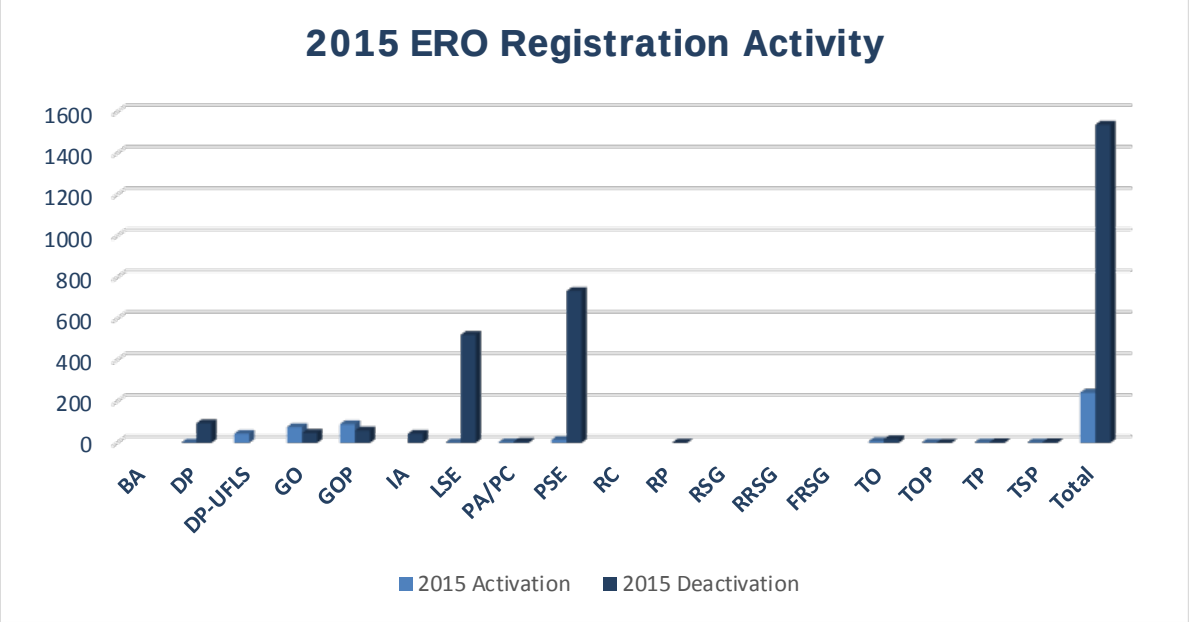

Figure 15 - 2015 ERO Registration Activity

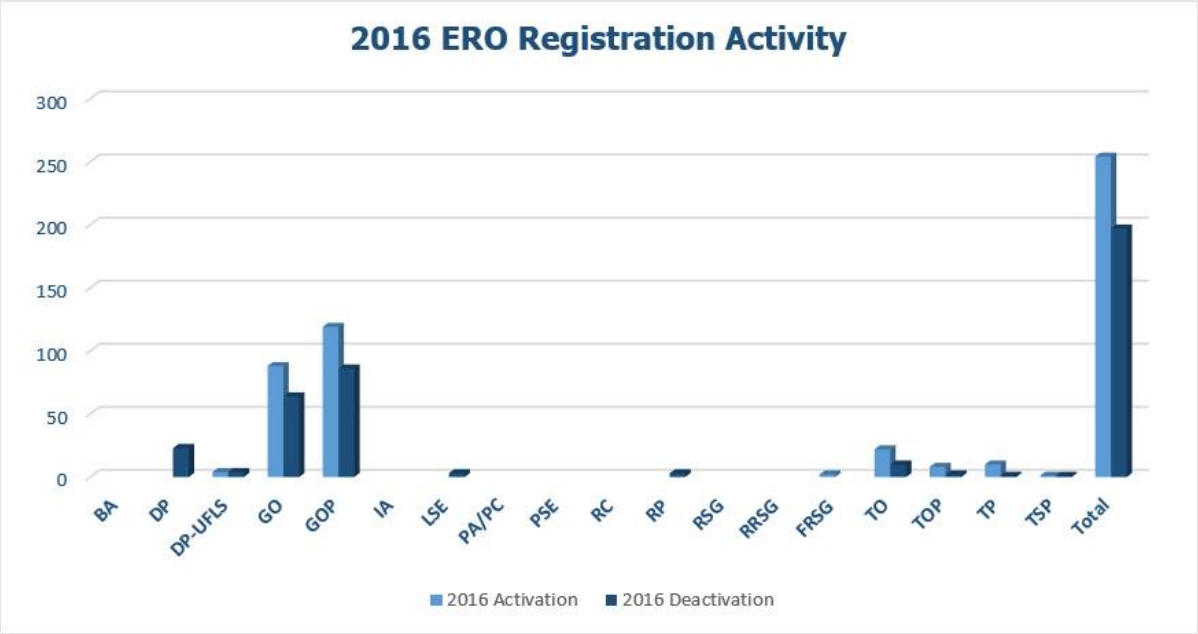

Figure 16 - 2016 ERO Registration Activity

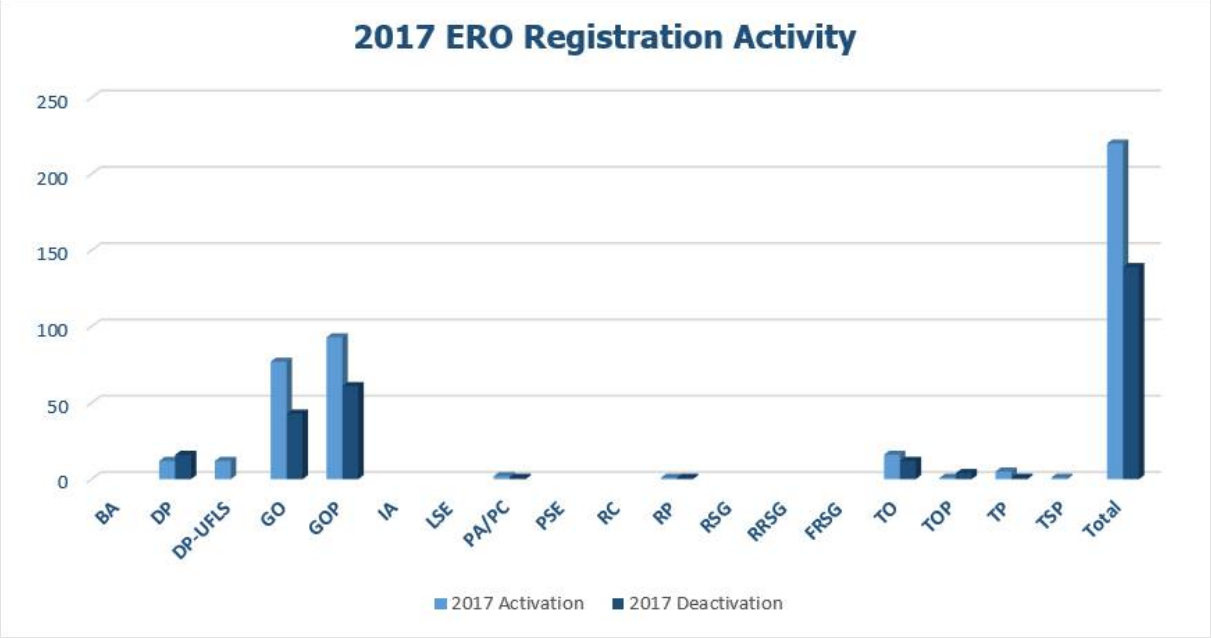

Figure 17 - 2017 ERO Registration Activity

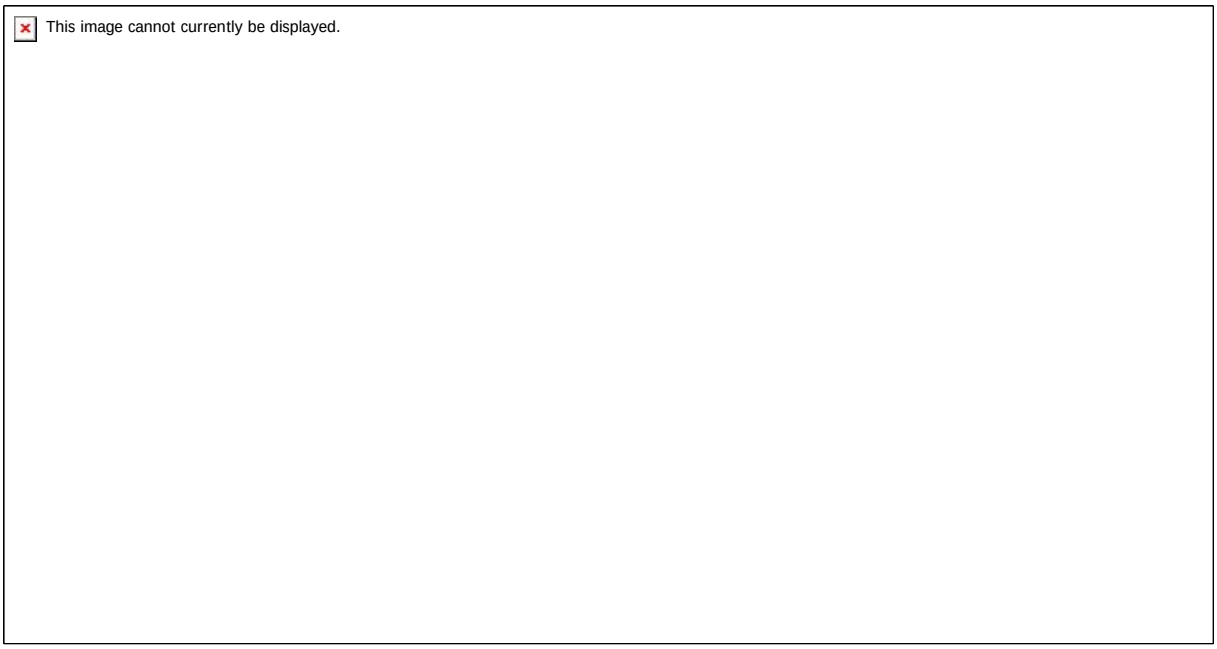

Figure 18 - 2018 ERO Registration Activity

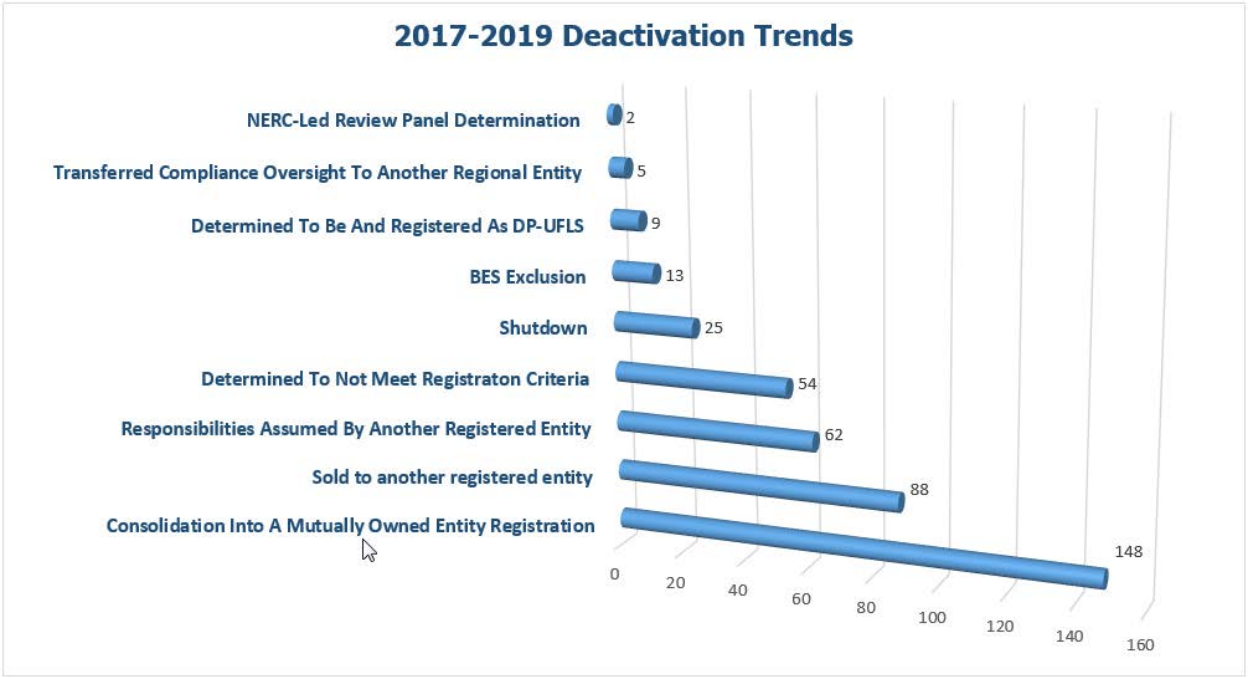

Figure 19 - 2017-2019 Deactivation Trends

2017-2019 Deactivation Trends

2017-2019 Deactivation Trends	
Consolidation Into A Mutually Owned Entity Registration	148
Sold to another registered entity	88
Responsibilities Assumed By Another Registered Entity	62
Determined To Not Meet Registraton Criteria	54
Shutdown	25
BES Exclusion	13
Determined To Be And Registered As DP-UFLS	9
Transferred Compliance Oversight To Another Regional Entity	5
NERC-Led Review Panel Determination	2

NERC is continuing to refine its metrics to provide more qualitative data for Regional Entity performance evaluation in future years.

2. Certification

During the Assessment Period, NERC revised training for certification and made it available to ERO Enterprise personnel and industry subject matter experts as an on-demand computer-based training module. Training now includes courses on Fundamentals of Auditing and Gathering Quality Evidence.

The 2018 CMEP Annual Report included results from NERC's first year of implementing the Certification oversight plan. These results included the ERO Enterprise's completion of one certification of a new Balancing Authority ("BA") and 12 certification reviews of already certified and operational entities. NERC accomplished certification oversight through direct participation in all certification engagements as required by NERC's ROP and participation on biweekly calls coordinating with Regional Entities. NERC also tracked fundamental program measures in the areas of utilization, fairness of administration, and consistency and comparability of executed process parameters. In 2019, Certification plans to complete processing one new Transmission

Operator, one new BA, and three new Reliability Coordinator certifications, as well as conducting at least four certification reviews.

3. BES Exception Requests

In Order No. 773, the Commission approved the revised BES Definition[41] and Appendix 5C of the ROP, providing procedures that registered entities might use to request exceptions to facility inclusion or exclusion from the BES Definition ("Exceptions Process"). During the Assessment Period, NERC developed a BES oversight plan and coordinated with the Regional Entities through a working group to implement the revised BES Definition and Exception Process. Through these efforts, the ERO Enterprise published implementation guidance for consistent evaluation of BES inclusions, exclusions, and self-notifications of Registration status under the ROP.

The BESnet Tool also enables NERC, Regional Entities, and Submitting Entities requesting an exception from the BES Definition to efficiently manage and review materials associated with an Exception Request. NERC has processed approximately five years of Exception Requests – totaling [37] Exclusion Exception Requests and seven Inclusion Exception Requests. NERC requires formal notification to its Registration function of Exception Request decisions and includes BES matters at each meeting with Regional Entities regarding Registration matters.

In 2017, NERC developed the BES Exceptions oversight plan as a mechanism for oversight of ERO Enterprise-wide activities under Appendix 5C of the ROP. These results are included in the 2018 CMEP Annual Report and reflect NERC's review of certifications of Exception Requests,

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41 *Revisions to Electric Reliability Organization Definition of Bulk Electric System and Rules of Procedure*, Order No. 773, 141 FERC ¶ 61,236 (2012); *order on reh'g*, Order No. 773-A, 143 FERC ¶ 61,053, *order on reh'g and clarification*, 144 FERC ¶ 61,174 (2013), *aff'd sub nom.*, *New York v. FERC*, 783 F.3d 946 (2d. Cir. 2015).

examination of Inclusion and Exclusion Exception Requests, and confirmation of Self Determination Notifications regarding the BES status of Registered Entity facilities. In 2019, NERC will continue working with Regional Entities to ensure a coordinated and transparent approach to implementation of Appendix 5C of the ROP.

D. Reliability Assessments of the BPS

NERC fulfills its statutory obligation to "conduct periodic assessments of the reliability and adequacy of the [BPS] in North America"[42] through its work under the following functions: Bulk Power Situational Awareness ("SA"), Event Analysis ("EA"), Performance Analysis ("PA"), and Reliability Assessments ("RA"). These four functions gather and analyze data on the BPS and share the results of this analysis with the public. During the Assessment Period, these functions issued publications addressing the state of reliability, potential vulnerabilities in the BPS, and forward-looking analyses of the BPS.[43] The following diagram illustrates the relationship between the functions.

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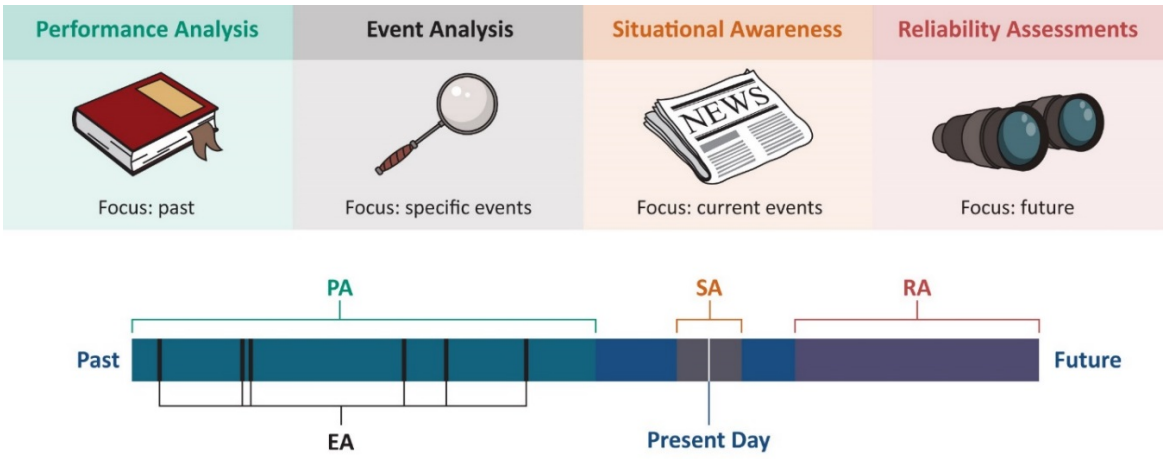
42 16 U.S.C. § 824o(g).

43 ERO Enterprise tools support NERC's collaborative operations and are an important component of the effort to assure reliability. For example, the Misoperations Information Data Analysis System ("MIDAS") improves misoperations analysis coordination between NERC and the Regional Entities, leading to faster and more accurate identification of acute reliability risks. Another tool, the Reliability Assessment Data System ("RADS"), automates the process of collecting and validating data used in the development of long-term and seasonal reliability assessments. Further, NERC uses the Event Analysis Management System ("TEAMS") to collect information about specific reliability events for further analysis and potential lessons learned development. In addition, the Generator Availability Data System ("GADS") Wind tool provides a platform for registered entities to report information about the operation and performance of wind turbines.



These functions rely upon and leverage stakeholder expertise on the technical standing committees – namely the Planning Committee, the Operating Committee and the Critical Infrastructure Protection Committee. Each of these technical committees are comprised of subcommittees and working groups with Regional Entity representation. They brief the NERC Board on their work product on a quarterly basis. The scope of the work that they perform each year is documented in a work plan that is submitted to the NERC Board. Each technical committee has an executive committee that guides and coordinates the work produced by the subcommittees, working groups and task forces. To further coordinate issues that may be cross-cutting, the Chairs and Vice-Chairs (who sit on the executive committees) of all NERC technical standing committees meet on a quarterly basis, concurrent with the NERC Board and Member Representatives Committee ("MRC") meetings. NERC's trustees also attend those MRC meetings. Their work provides critical inputs for the aforementioned functions and enable NERC to identify ongoing trends and potential risks. NERC could not produce the following work product without the technical standing committees – annual State of Reliability Report; periodic reliability assessments; and the Blue Cut Fire Disturbance Report, which prompted the task force on

performance characteristics of utility-scale inverter-based resources (e.g., solar photovoltaic ("PV") and wind power resources) directly connected to the BPS.

The following section examines NERC oversight of Regional Entity activities for these Reliability Assessment functions.

1. Performance Analysis Regional Entity Performance

NERC measures Regional Entity performance in the PA process by evaluating if the Regional Entities are timely in sharing information (i.e., submission timelines in the relevant NERC PA database), responsive (i.e., quarterly evaluation of timelines in the relevant PA databases and annual evaluation of Regional Entity review of key findings during development of the State of Reliability Report), and active in training opportunities. As part of their work in this area, Regional Entities are responsible for validating data accuracy and completeness. For example, Regional Entity staff should report the percentage of registered entities in required reporting and follow up with missing submittals. The metrics outlined below for GADS, TADS and MIDAS stem from NERC's oversight plans for the Regional Entities. The technical standing committees, and more specifically their working groups, are also involved in evaluating the validity of these databases. For example, the GADS Working Group reviews and recommends new GADSs data collection categories, reviews additions and changes to GADS data reporting instructions, and analyzes trends and risks to reliability from generator availability and performance. NERC leverages the analysis of the technical standing committees to identify new risks and to determine the appropriate method to address the risk. For example, NERC has been working with stakeholders to evaluate a potential Section 1600 data request for solar facilities.

The primary area of improvement for the Regional Entities identified over the Assessment Period is in timely information sharing. NERC is working with Regional Entities to enhance activities to correct untimely or incomplete data submissions by responsible entities. In **Figures**

[**20**]-[**24**] below, NERC tracks submission rates for the Regional Entities.[44]

2017 GADS and TADS Submissions (Report Date: March 29, 2018)									
Percentage of Complete Data Submissions									
Reporting Quarter	2017-Q1		2017-Q2		2017-Q3		2017-Q4		
	GADS	TADS	GADS	TADS	GADS	TADS	GADS	TADS	
MRO	90%	100%	90%	100%	90%	100%	90%	100%	
NPCC	98%	100%	98%	100%	98%	100%	98%	100%	
RF	99%	100%	99%	100%	99%	100%	99%	100%	
SERC	99%	97%	99%	94%	99%	97%	99%	91%	
Texas RE	100%	100%	100%	100%	100%	100%	100%	100%	
WECC	95%	99%	95%	99%	95%	99%	95%	99%	

Figure 20 - 2017 GADS and TADS Submissions (Report Date: March 29, 2018)

2018 GADS and TADS Submissions								
Percentage of Complete Data Submissions								
Reporting Quarter	2018-Q1		2018-Q2		2018-Q3		2018-Q3	
	GADS	TADS	GADS	TADS	GADS	TADS	GADS	TADS
MRO	92.8%	96.4%	92.8%	90.9%	88.4%	81.8%	79.1%	100.0%
NPCC	87.4%	74.1%	87.4%	74.1%	87.4%	55.6%	96.9%	100.0%
RF	97.4%	100.0%	96.8%	96.6%	94.2%	100.0%	98.7%	100.0%
SERC	86.8%	97.1%	85.1%	94.3%	82.6%	74.3%	99.1%	100.0%
Texas RE	93.4%	57.7%	93.4%	50.0%	88.5%	50.0%	100.0%	100.0%
WECC	87.7%	86.5%	86.4%	79.7%	74.0%	74.3%	98.0%	98.6%

Figure 22 - 2018 GADS and TADS Submissions (Report Date: December 19, 2018)

[44] SPP RE is excluded from these tables due to the termination of its RDA with NERC.

Please note that MIDAS percentages may have reflected a lower than expected percentage of completion due to confusion regarding the process for opting out of Misoperations reporting by responsible entities claiming to not have owned any Composite Protection Systems protecting BES Elements.

Please also note, tables may not reflect most recently submitted data or the impacts of recent Regional Entity transfers.

2017 MIDAS Submissions				
Percentage of Complete Data Submissions				
Reporting Quarter	2017-Q1	2017-Q2	2017-Q3	2017-Q4
	MIDAS	MIDAS	MIDAS	MIDAS
MRO	77%	77%	81%	79%
NPCC	87%	87%	81%	77%
RF	91%	92%	90%	92%
SERC	93%	91%	92%	94%
Texas RE	90%	91%	81%	84%
WECC	96%	95%	97%	99%

Figure 23 - 2017 MIDAS Submissions (Report Date: March 29, 2018)

2018 MIDAS Submissions (Report Date: December 19, 2018)				
Percentage of Complete Data Submissions				
Reporting Quarter	2018-Q1	2018-Q2	2018-Q3	2018-Q4
	MIDAS	MIDAS	MIDAS	MIDAS
MRO	96%	96%	97%	98%
NPCC	89%	90%	89%	91%
RF	96%	99%	98%	98%
SERC	99%	97%	99%	99%
Texas RE	97%	95%	94%	96%
WECC	99%	99%	100%	100%

Figure 24 - 2017 MIDAS Submissions (Report Date: December 19, 2018)

2. Events Analysis Regional Entity Performance

The EA function facilitates the sharing of lessons learned from applicable system events and trends to enhance reliability. The EA Process ("EAP") provides a structured framework for analyzing events on the system.[45] During the Assessment Period, the ERO Enterprise received hundreds of new qualified events, including Hurricanes Harvey and Irma as the first Category 5 Events since 2012. Texas RE, FRCC and SERC compiled reports to capture impacts and high-level lessons learned from these storms. Hurricanes Michael and Florence occurred in 2018. FRCC and SERC, respectively, are compiling reports to capture impacts and identify high-level

[45] The Event Analysis Process is posted on the NERC website at: http://www.nerc.com/pa/rrm/ea/EA%20Program%20Document%20Library/ERO_EAP_V3_final.pdf.

lessons learned and effective practices from the planning, preparation, and response to these storms. Further collaborative analysis took place with WECC for a 2016 California Independent System Operator, Inc. frequency excursion and the 2016 Blue Cut Fire. In addition, NERC conducted a joint analysis with RF, SERC, and WECC in 2017 regarding the impact of the total solar eclipse on photovoltaic energy production. Additionally, collaborative analysis took place with WECC for the October 2018 solar generation loss event. In 2018, a wildfire (Canyon 2 Fire) caused transmission line faults that triggered 900 MW of solar resource loss. A major disturbance report was published and a second solar loss alert was issued as a result of this analysis. Outreach activities included publishing lessons learned, hosting annual Monitoring and Situational Awareness Technical Conferences, providing industry-wide causal analysis training, and conducting workshops in MRO, RF, Texas RE, and WECC addressing protective relay misoperations. NERC also provided trending data about event counts and impact in support of Regional Entity workshops and conferences.

NERC tracks Regional Entity performance by focusing on the following:

(i) Initial Report Completion - measuring the average time between event occurrence and NERC's receipt of an initial report compared with the goal time period specified in the EA Process;

(ii) Final Report Completion - measuring the average time between event occurrence and NERC's receipt of a final brief report or event analysis report;

(iii) Cause Coding - tracking average time between event occurrence and completion of entity-involved cause coding. Cause Coding seeks to characterize the causes of reportable events in a structured, measurable, and continuously improvable method;

(iv) Lessons Learned Development/Publishing - tracking the number of events leading to published lessons learned from registered entities in the Regional Entity area; and,

(v) EA Qualifying Event Processing and Closure - measuring average time for an event to be processed.

During the Assessment Period, the ERO Enterprise exhibited good performance in analyzing, understanding, and communicating lessons learned from events affecting reliability of the BPS (*see* **Figures [29 – 31]**). Nonetheless, NERC may apply incrementally more active oversight over Regional Entities regarding the timeliness of initial and final brief reports, as well as consistency of outcomes while still respecting Regional differences.

The following tables and graphs provide a Regional Entity by Regional Entity comparison of performance in 2017 and 2018.

Category 1-5 Events Only (2017)							
Region	**Number of Events**	**Number of Events with EOP-004 or OE-417**	**Number of Events with BR**	**Number of Events started with EOP or OE and resulted in BR**	**Average workdays to initial BR received at NERC**	**Number of Events with Final BR**	**Average workdays to Final BR received at NERC**
FRCC	9	8	8	7	24.00	8	24.63
MRO	39	34	38	33	26.47	20	28.80
NPCC	23	21	23	21	15.09	18	22.78
RF	37	31	35	29	16.34	35	23.69
SERC	18	16	12	10	27.92	9	27.78
Texas RE	11	8	11	7	13.20	6	19.50
WECC	30	22	25	18	17.76	22	28.73
Total	167	140	152	125	20.05	118	25.52

Figure [25·] – Report Completion (2017)

Category 1-5 Events Only (2018)							
Region	**Number of Events**	**Number of Events with EOP-004 or OE-417**	**Number of Events with BR**	**Number of Events started with EOP or OE and resulted in BR**	**Average workdays to initial BR received at NERC**	**Number of Events with Final BR**	**Average workdays to Final BR received at NERC**
FRCC	2	2	1	1	17.00	1	27.00
MRO	20	15	20	15	20.00	12	18.50
NPCC	26	22	26	22	17.38	22	26.23
RF	40	32	38	30	13.76	35	17.14
SERC	32	32	17	17	22.00	14	23.86
Texas RE	11	9	10	8	32.70	10	39.60
WECC	33	21	33	21	17.15	24	33.79
Total	**164**	**133**	**145**	**114**	**18.34**	**118**	**25.14**

Figure [26·] - Report Completion (2018)

Figures [27-31] illustrate the Cause Code Assignment Process ("CCAP") followed by NERC and the Regional Entities to assign cause codes after an event on the BPS is analyzed for the two years during which oversight plans were in place for Event Analysis. The charts in each figure measure the number of events at issue, per Regional Entity, for each stage of CCAP. The four stages of the CCAP represented are:

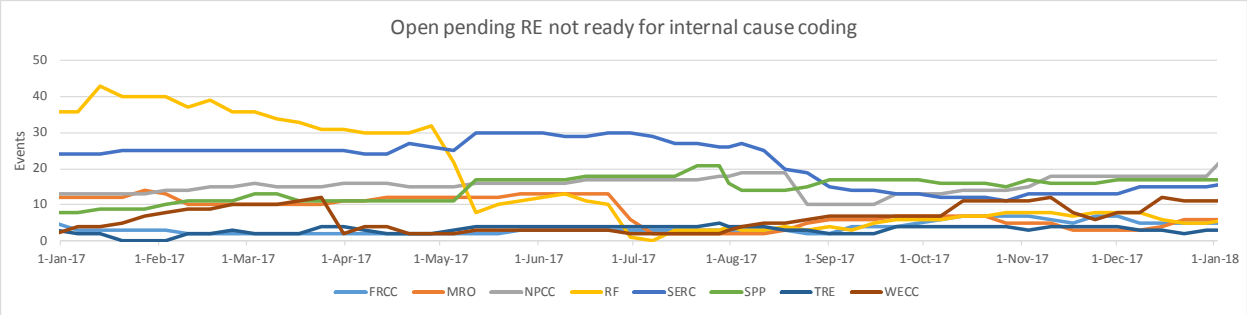
(i) the receipt of event analysis brief reports[46] by the Regional Entities from registered entities;

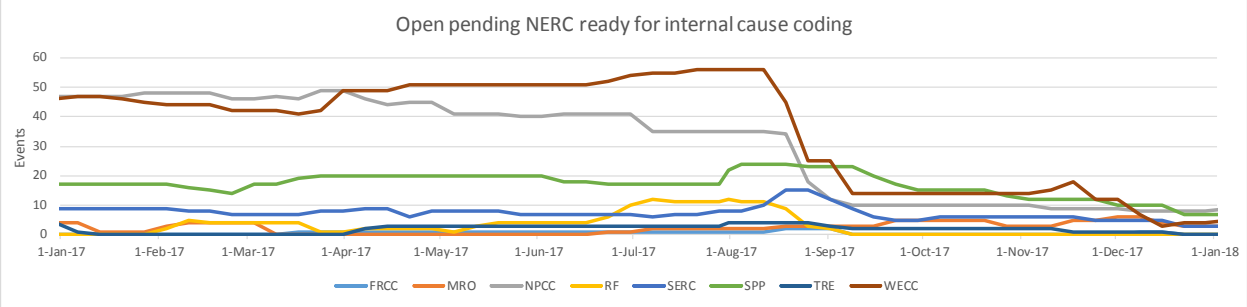
(ii) the receipt of event analysis brief reports by NERC from the Regional Entities and internal cause coding of the event;

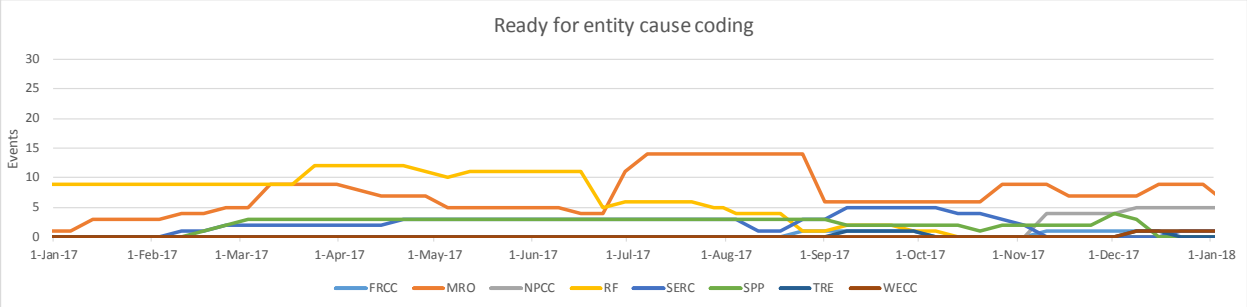
(iii) external cause coding discussion with registered entity, NERC and the Regional Entities; and

(iv) the completion of cause coding by NERC and the Regional Entity.

[46] Registered entities impacted by an event prepare brief reports for all qualifying events.







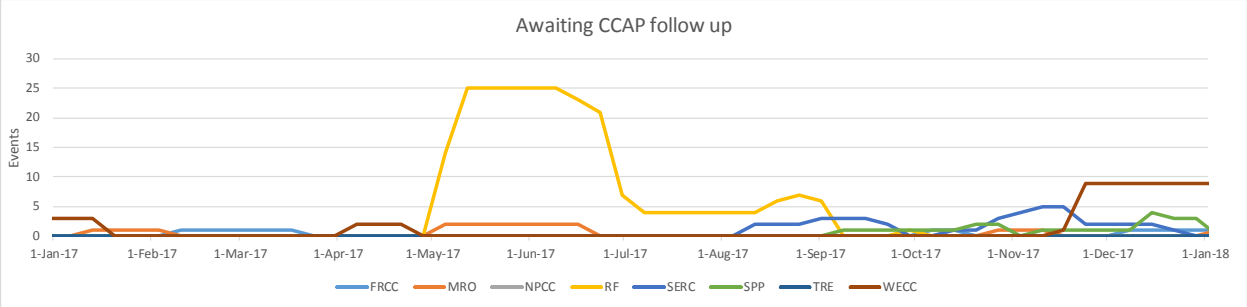


Figure [27·] - Cause Coding (2017)

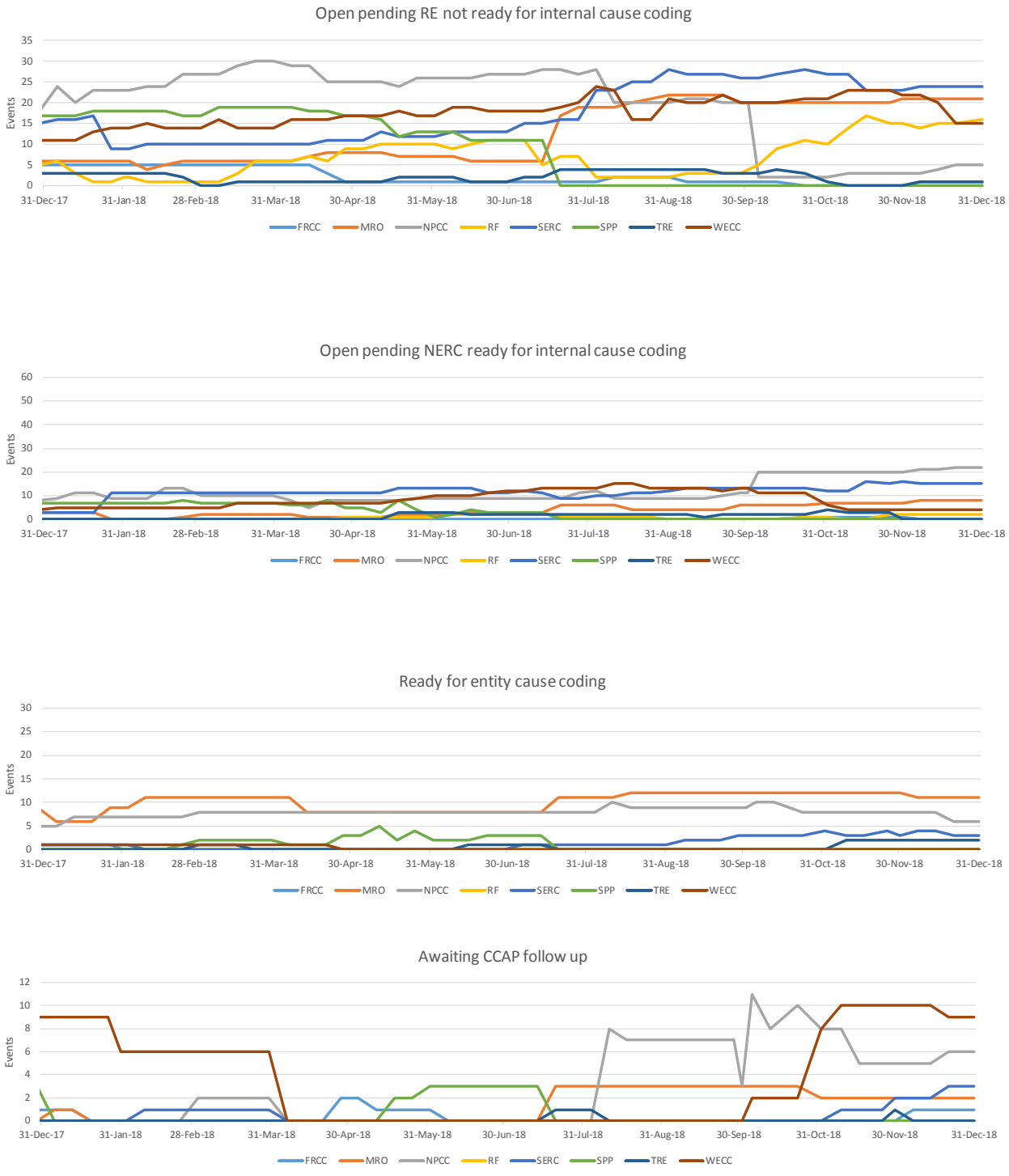


Figure [28·] - Cause Coding (2018)

Region	2014	2015	2016	2017	2018	Total
FRCC	3	1	2	0	**0**	**7**
MRO	1	0	2	0	**3**	**13**
NERC	1	0	0	1	**0**	**26**
NPCC	4	10	6	2	**4**	**38**
RF	4	1	1	1	**5**	**19**
SERC	1	1	0	0	**0**	**4**
Texas RE	2	1	1	2	**0**	**20**
WECC	1	1	1	3	**3**	**22**
Total	**19**	**16**	**13**	**9**	**15**	**149**

Figure [29] - Lessons Learned Development

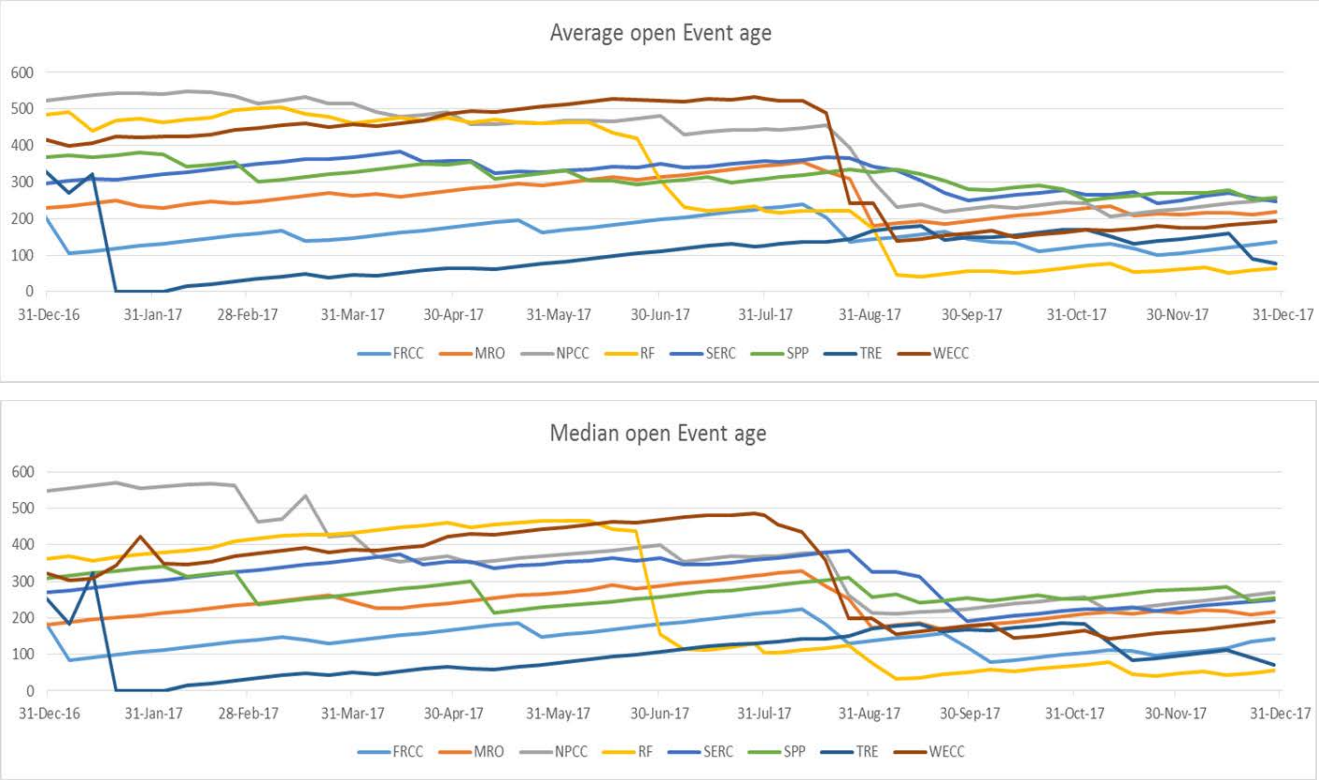


Figure [30·] - EA Qualifying Event Processing and Closure (2017)

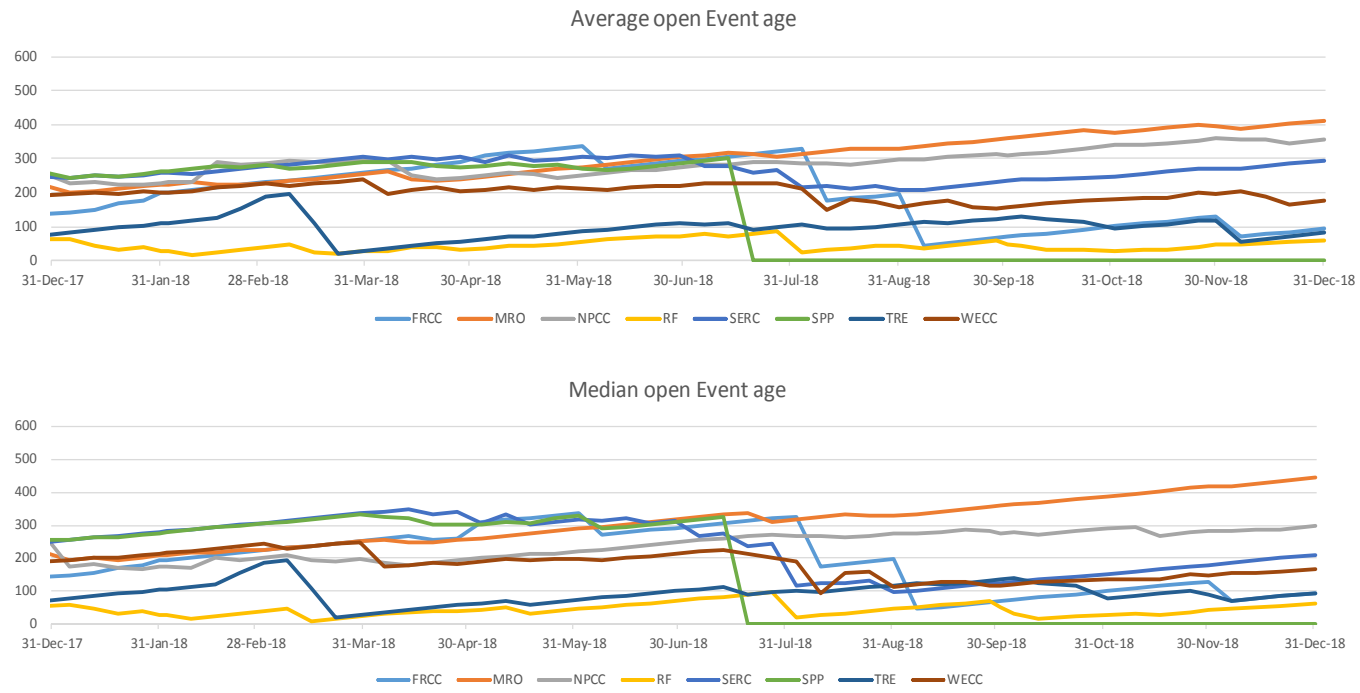


Figure [31] - EA Qualifying Event Processing and Closure (2018)

3. Targeted Event Analysis Audit

A catastrophic event on the BES is a significant risk to ERO Enterprise operations. As a result, NERC conducted a targeted audit of the EAP to examine Regional Entity compliance with the EA processes and procedures. The EA function is the main control of the ERO against a catastrophic event occurring. The targeted audit covered the January 2016 to July 2017 period. NERC found that all Regional Entities met the requirements of the ROP and Regional Delegation Agreements ("RDAs"). There were no instances of noncompliance by any Regional Entity for the ROP requirements in this area. Since all of the Regional Entities complied with requirements of the program, the audit focused on identifying leading practices and areas for greater consistency and alignment amongst the Regional Entities.

4. Situational Awareness Regional Entity Performance

NERC and Regional Entity SA functions coordinated to enhance industry's understanding of conditions and reliability risks to the BPS for several events that occurred during the Assessment Period. These events included hurricanes Harvey (Texas RE), Irma and Matthew (FRCC, SERC); wildfires around Santa Barbara, CA (WECC); winter storms in the Northeast and Pacific Northwest (NPCC, WECC); and the onset of a period of extreme cold weather and high loads for the last week of 2017 (MRO, RF, SERC). GridEx IV also brought NERC and Regional Entities together to practice triage and response to a simulated continent-wide coordinated attack on the BPS, bringing in cyber and physical security-related topics in a realistic exercise environment. **Figures [32] - [33]** show the incidence of events and occurrences during the Assessment Period.

2017 Situation Awareness Events, Occurrences, and Reports by Regional Entity					
Region	**Number of Events and Occurrences**	**Number of EOP-004 Reports**	**Number of OE-417 Reports**	**Number of EEA-3 Declarations**	**Metric 3 Firm Load Shed over 300 MW**
FRCC	17	9	7	0	0
MRO	32	26	6	0	0
NPCC	39	32	7	0	1
RF	69	59	10	0	0
SERC	68	35	33	0	0
SPP	31	25	6	0	0
Texas RE	24	17	7	0	0
WECC	129	85	44	5	1
Total	**409**	**288**	**120**	**5**	**2**

Figure [32] -2017 Situation Awareness Events, Occurrences, and Reports by Regional Entity

2018 Situation Awareness Events, Occurrences, and Reports by Regional Entity					
Region	**Number of Events and Occurrences**	**Number of EOP-004 Reports**	**Number of OE-417 Reports**	**Number of EEA-3 Declarations**	**Metric 3 Firm Load Shed over 300 MW[47]**
FRCC	15	7	8	3	0
MRO	49	41	8	8	0
NPCC	231	207	24	1	0
RF	104	43	61	0	0
SERC	106	56	50	0	0
Texas RE	41	29	12	0	0
WECC	159	91	68	4	0
Total	**705**	**474**	**231**	**16**	**0**

Figure [33] - 2018 Situation Awareness Events, Occurrences, and Reports by Regional Entity

Situational Awareness (including near Real-time data captured under SAFNR) helps ensure that the ERO Enterprise is aware of the Real-time status and any pressing needs of the BPS. SAFNR data provides NERC with near Real-time information about the BPS. This allows NERC to coordinate with federal and local agencies and authorities during an event or severe weather.

5. Reliability Assessments Regional Entity Performance

NERC evaluates Regional Entity performance by evaluating the following metrics using a scale of 1 to 3 (3 = highest point possible):

(i) Accuracy – the degree to which the result of a measurement, calculation, or specification conforms to NERC instructions and processes;

(ii) Timeliness – submitting materials on or before a specified date and time;

(iii) Responsiveness – responding to appeals, questions, peer feedback, and requests;

(iv) Completeness – answering questions and including all relevant information, data, and analysis; and

[47] 2018 ERO Enterprise Metrics, http://departments.internal.nerc.com/legalregulatory/MainDocuments/Exhibit%20C%20to%202019%20Five%20Year%20Performance%20Assessment.pdf?Web=1.

(v) Validity – data and information supporting the assessments are supported and adhere to NERC definitions and instructions.

i. Individual Regional Entity Performance

For the Summer and Winter Reliability Assessments, a total of 15 points can be earned toward the final score.

2018 Summer Assessment							
	FRCC	**MRO**	**NPCC**	**RF**	**SERC**	**TRE**	**WECC**
Processes in place to validate data	2	2	2	2	3	3	2
Narratives are consistent with submitted data	2	2	2	2	2	2	2
On-time data and narratives	1	3	3	3	3	3	2
Narratives complete and comprehensive	2	2	2	1	2	3	1
Responsive to NERC	3	3	3	3	3	3	3
TOTAL	10	12	12	11	13	14	10

2018 Winter Assessment							
	FRCC	**MRO**	**NPCC**	**RF**	**SERC**	**TRE**	**WECC**
Processes in place to validate data	2	2	2	2	3	3	2
Narratives are consistent with submitted data	2	2	2	2	2	2	2
On-time data and narratives	3	3	3	1	3	3	3
Narratives complete and comprehensive	2	2	2	2	2	2	2
Responsive to NERC	3	3	3	3	3	3	3
TOTAL	12	12	12	10	13	13	12

For the Long-Term Reliability and Probabilistic Assessments, a total of 18 points can be earned.

2018 Long-Term Assessment and Probabilistic Assessment							
	FRCC	**MRO**	**NPCC**	**RF**	**SERC**	**TRE**	**WECC**
Processes in place to validate data	2	2	2	2	3	3	2
Narratives are consistent with submitted data	2	2	2	2	2	2	2
On-time data and narratives	3	3	3	3	3	3	2
Narratives complete and comprehensive	2	2	3	2	2	2	2
Responsive to peer review feedback	3	3	3	3	3	3	3
Responsive to NERC	3	3	3	3	3	3	3
TOTAL	15	15	16	15	16	16	14

Special Reliability Assessments are developed separately from the periodic assessments and they are not scored in the same manner. Since the Special Reliability Assessment targeted a

specific risk (in this case, an assessment on accelerated generation retirement) not every Regional Entity was required to participate in the same manner. The 2018 Special Assessment primarily focused on coal and nuclear retirements in the Midwest and Mid-Atlantic areas.

NERC's 2018 RA oversight concluded that all Regional Entities adequately supported reliability assessments, with opportunities for improvement. In particular, NERC found that Regional Entities should consider conducting their own or leveraging existing study work to support assessments and that the ERO Enterprise as a whole should consider evaluating reliability beyond the peak hour resource adequacy assessment currently performed. Finally, NERC underscored that improvements for on-time submittal would enhance Regional Entity assessment processes. NERC will continue working with Regional Entities to improve ERO Enterprise Reliability Assessments.

V. ADDITIONAL TARGETED AUDITS

NERC conducted an audit of the three Regional Entities that engage in activities outside of § 215 of the FPA of 2005 to gain reasonable assurance that they are properly budgeting, funding, and accounting for such activities separate from the activities that are funded with § 215 assessments. Section 215 accounting is a financial risk per the annual enterprise risk assessment. The three Regional Entities subject to this audit are NPCC, Texas RE, and WECC. For this audit, NERC reviewed the procedures followed by these Regional Entities to account for their §215 and non-statutory activities. NERC conducted its work utilizing professional standards promulgated by the Institute of Internal Auditors. NERC did not find any instances of noncompliance by any of the three Regional Entities.

VI. CONCLUSION

Wherefore, for the foregoing reasons, the ERO Enterprise continues to satisfy statutory and

regulatory criteria for certification. As a result, NERC respectfully requests that the Commission accept this Performance Assessment for the Assessment Period.

Respectfully submitted,

/s/ Nina H. Jenkins-Johnston

Nina H. Jenkins-Johnston
Senior Counsel

Lauren Perotti
Senior Counsel

Candice Castaneda
Counsel

North American Electric Reliability Corporation
1325 G Street, N.W., Suite 600
Washington, DC 20005
(202) 400-3000
(202) 644-8099 – facsimile
nina.johnston@nerc.net
candice.castaneda@nerc.net
lauren.perotti@nerc.net

Counsel for the North American Electric Reliability Corporation

Date: July 22, 2019

FEDERAL ENERGY REGULATORY COMMISSION
DOCKET NO. RR14-___

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

EXHIBIT A

TO

FIVE-YEAR ELECTRIC RELIABILITY ORGANIZATION PERFORMANCE ASSESSMENT REPORT

DISCUSSION OF HOW NERC MEETS THE ERO CERTIFICATION CRITERIA OF 18 C.F.R. § 39.3(b)

JULY 22, 2019

EXHIBIT A

TABLE OF CONTENTS

EXHIBIT A

I. DISCUSSION OF HOW NERC MEETS THE ERO CERTIFICATION CRITERIA OF 18 C.F.R. § 39.3(b)

A. Criterion 1 - The ERO has the ability to develop and enforce, pursuant to 18 C.F.R. § 39.7, Reliability Standards that provide for an adequate level of reliability of the BPS.

This criterion encompasses two distinct functions of the ERO: (i) the ability to develop Reliability Standards that provide for an adequate level of reliability of the bulk power system ("BPS"); and (ii) the ability to enforce those Reliability Standards.

Development of Reliability Standards

NERC develops Reliability Standards pursuant to § 300 of its Rules of Procedure ("ROP") and its *Standard Processes Manual* ("SPM"), Appendix 3A to the ROP, both of which have been approved by the Commission as ERO Rules.[1] In accordance with § 316 of the ROP, NERC maintains its accreditation as an American National Standards Institute ("ANSI")-accredited standards developer by demonstrating that its SPM meets ANSI's essential requirements for standards development.

The overall purpose of NERC's Reliability Standards development process, as stated in § 301 of the ROP, is to develop and maintain Reliability Standards that apply to BPS users, owners and operators and that enable NERC and the Regional Entities to measure the reliability performance of the users, owners and operators and to hold them accountable for the reliable operation of the BPS. Section 301 of the ROP requires that Reliability Standards developed by NERC must be technically excellent, timely, just, reasonable, not unduly discriminatory or preferential, in the public interest, and consistent with other applicable standards of governmental authorities.[2]

In Order No. 672 and the ERO Certification Order, the Commission stated that the ERO's Reliability Standards development process must ensure that each Reliability Standard is technically sound; that its operational specifications are designed to achieve a valuable reliability goal; that the standard is clear and unambiguous regarding what is required and who is required to comply; and that there be clear criteria to measure whether an entity is in compliance with the Reliability Standard, so that enforcement can be applied in a consistent and non-preferential

[1] Sections 304 and 308.1 of the ROP specify that "NERC shall develop Reliability Standards in accordance with the NERC *Standard Processes Manual*, which is incorporated into these Rules of Procedure as Appendix 3A." The current version of the SPM is version 4 which became effective March 1, 2019. *N. Am. Elec. Reliability Corp.*, Docket No. RR19-2-000 (March 1, 2019) (delegated letter order).

[2] Section 304 of the ROP sets forth NERC's "Essential Principles for the Development of Reliability Standards." These principles, which include openness, transparency, consensus-building, fair balance of interests, due process and timeliness, are discussed under criterion 5, below.

manner.[3] Consistent with these requirements, § 302 of the ROP specifies the essential attributes of technically excellent Reliability Standards to be developed by NERC.[4] These essential attributes include:[5]

1. **Applicability** — Each Reliability Standard shall clearly identify the functional classes of entities responsible for complying with the Reliability Standards, with any specific additions or exceptions noted.[6]

2. **Reliability Objectives** — Each Reliability Standard must have a clear statement of purpose that describes how the Reliability Standard contributes to the reliability of the BPS. Section 302.2 of the ROP lists the general objectives for the BPS that provide a foundation for determining the specific objective(s) of each Reliability Standard:[7]

    2.1. **Reliability Planning and Operating Performance** — Bulk Power Systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions.

    2.2. **Frequency and Voltage Performance** — The frequency and voltage of Bulk Power Systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

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[3] *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 ¶ 31,204 at PP 258, 262, 325, 327, *order on reh'g*, Order No. 672-A, 114 FERC ¶ 61,328 (2006). NERC was certified by the Commission as the ERO, pursuant to § 215(c) of the Federal Power Act ("FPA"), by Commission order issued July 20, 2006.*Order Certifying North American Electric Reliability Corporation as the Electric Reliability Organization and Ordering Compliance Filing*, 116 FERC ¶ 61,062, at PP 239, 241 (2006) (ERO Certification Order).

[4] In the ERO Certification Order, the Commission recognized that NERC's proposed ROP provided that the characteristics for technical excellence of a Reliability Standard must be met for a proposed Reliability Standard to be approved. ERO Certification Order at P 235.

[5] The descriptions of the essential attributes that follow are summaries, not direct quotes from § 302 of the ROP.

[6] The functional classes of entities, or reliability functions, have been developed through NERC's functional model of the BPS, and are defined in its: (i) *Glossary of Terms Used in NERC Reliability Standards*, and (ii) *Statement of Compliance Registry Criteria* which is incorporated into the ROP as Appendix 5B. Currently, the functional classes of entities are: Balancing Authorities, Distribution Providers, Frequency Response Sharing Groups, Generator Operators, Generator Owners, Planning Authorities/Planning Coordinators, Regulation Reserve Sharing Groups, Reliability Coordinators , Reserve Sharing Groups, Resource Planners, Transmission Operators, Transmission Owners, Transmission Planners, and Transmission Service Providers.

[7] In the ERO Certification Order, the Commission recognized that NERC's proposed rules provided that the purpose of a Reliability Standard, or its reliability objective, should derive from one or more of these eight general objectives. ERO Certification Order at P 236.

2.3. **Reliability Information** — Information necessary for the planning and operation of reliable Bulk Power Systems shall be made available to those entities responsible for planning and operating Bulk Power Systems.

2.4. **Emergency Preparation** — Plans for emergency operation and system restoration of Bulk Power Systems shall be developed, coordinated, maintained, and implemented.

2.5. **Communications and Control** — Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of Bulk Power Systems.

2.6. **Personnel** — Personnel responsible for planning and operating Bulk Power Systems shall be trained and qualified, and shall have responsibility and authority to implement actions.

2.7. **Wide-Area View** — The reliability of Bulk Power Systems shall be assessed, monitored, and maintained on a Wide-Area basis.

2.8. **Security** — Bulk Power Systems shall be protected from malicious physical or cyber attacks.

3. **Performance Requirement or Outcome** — Each Reliability Standard shall state one or more performance Requirements, which if achieved by the applicable entities, will provide for a reliable BPS, consistent with good utility practices and the public interest. Each Requirement is not a "lowest common denominator" compromise, but instead shall achieve an objective that is the best approach for BPS reliability, taking account of the costs and benefits of implementing the proposal.

4. **Measurability** — Each performance Requirement shall be stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by the Requirement. Each performance Requirement shall have one or more associated measures used to objectively evaluate compliance with the Requirement. If performance can be practically measured quantitatively, metrics shall be provided to determine satisfactory performance.

5. **Technical Basis in Engineering and Operations** — Each Reliability Standard shall be based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that field.

6. **Completeness** — Reliability Standards shall be complete and self-contained. The Reliability Standards shall not depend on external information to determine the required level of performance.

7. **Consequences for Noncompliance** — In combination with guidelines for penalties and sanctions and other ERO and Regional Entity compliance documents, the consequences of violating a Reliability Standard are clearly presented to the entities responsible for complying with the Reliability Standards.

8. **Clear Language** — Each Reliability Standard shall be stated using clear and unambiguous language. Responsible entities, using reasonable judgment and in keeping with good utility practices, are able to arrive at a consistent interpretation of required performance.

9. **Practicality** — Each Reliability Standard shall establish Requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter.

10. **Consistent Terminology** — To the extent possible, Reliability Standards shall use a set of standard terms and definitions that are approved through the NERC Reliability Standards development process.[8]

In the ERO Certification Order, the Commission concluded that by specifying the eightgeneral objectives for which a Reliability Standard must be intended, and by incorporating other requirements for Reliability Standards development into the essential attributes of technically excellent Reliability Standards, NERC's ROP satisfied the requirements of Order No. 672 for the ERO's Reliability Standards development process.[9]

The NERC SPM also specifies the performance elements of a Reliability Standard.[10] The requirement that each Reliability Standard contain these elements applies a systematic discipline in the development and revision of standards, in order to produce standards that are measurable, enforceable, and consistent. The SPM allows for a clear statement of the purpose, requirements, measures, and compliance elements associated with each standard. The performance elements of a Reliability Standard, as specified in the SPM § 2.5, are as follows:

- Title: A brief, descriptive phrase identifying the topic of the Reliability Standard.

- Number: A unique identification number assigned in accordance with a published classification system to facilitate tracking and reference to the Reliability Standards.

[8] In furtherance of the essential attribute of "Consistent Terminology," NERC has developed and maintains the *Glossary of Terms Used in NERC Reliability Standards*, https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf, containing definitions of terms that are used in one or more Reliability Standards.

[9] ERO Certification Order at PP 239, 241.

[10] *See generally* SPM § 2.0.

- Purpose: The reliability outcome achieved through compliance with the Requirements of the Reliability Standard.

- Applicability: Identified which entities are assigned reliability requirements. The specific Functional Entities and Facilities to which the Reliability Standard applies.

- Effective Dates: Identification of the date or pre-conditions determining when each Requirement becomes effective in each jurisdiction.

- Requirement: An explicit statement that identifies the Functional Entity responsible, the action or outcome that must be achieved, any conditions achieving the action or outcome, and the reliability-related benefit of the action or outcome. Each Requirement shall be a statement for which compliance is mandatory.

- Compliance Elements: Elements to aid in the administration of ERO compliance monitoring and enforcement responsibilities.

- Measure: Provides identification of the evidence or types of evidence that may demonstrate compliance with the associated requirement.

- Violation Risk Factors and Violation Severity Levels: Violation risk factors ("VRFs") and violation severity levels ("VSLs") are used as factors when determining the size of a penalty or sanction associated with the violation of a requirement in an approved Reliability Standard. Each requirement in each Reliability Standard has an associated VRF and a set of VSLs. VRFs and VSLs are developed by the drafting team, working with NERC staff, at the same time as the associated Reliability Standard, but are not part of the Reliability Standard. The NERC Board of Trustees ("NERC Board") is responsible for approving VRFs and VSLs.

    - Violation Risk Factors: VRFs identify the potential reliability significance of noncompliance with each requirement. Each requirement is assigned a VRF in accordance with the last approved set of VRF criteria.
    - Violation Severity Levels: VSLs define the degree to which compliance with a requirement was not achieved. Each requirement shall 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. Each requirement is assigned one or more VSLs in accordance with the latest approved set of VSL criteria.

- Version History: The version history is provided for informational purposes and lists information regarding prior versions of Reliability Standards.

- Variance: A Requirement (to be applied in the place of the continent-wide Requirement) that is applicable to a specific geographic area or to a specific set of registered entities.

- Compliance Enforcement Authority: The entity that is responsible for assessing performance or outcomes to determine if an entity is compliant with the associated Reliability Standard. The Compliance Enforcement Authority [(CEA)] will be NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

The NERC SPM sets forth the detailed process steps for the development and approval of a new Reliability Standard or a revision to an existing standard; the SPM also sets forth the detailed roles of the different persons and groups in in the process.[11] Under the ROP and the SPM, the key groups involved in development of a proposed new Reliability Standard or revision to an existing standard are: (i) the Standards Committee; (ii) the standards authorization request ("SAR") drafting team; (iii) the standard drafting team; and (iv) the Registered Ballot Body ("RBB").

The Standards Committee is an elected body comprised of two members from each segment of the RBB.[12] The Standards Committee, with the assistance and facilitation of the professional staff of the NERC Reliability Standards development program, oversees the overall standards development process. The Standards Committee ensures that standard development teams have the technical resources and capabilities required to develop technically sound standards that will gain industry support. Among other things, the Standards Committee determines whether SARs, and any associated technical information for the development of a standard, submitted by interested persons and entities should be pursued for development, and it appoints members to SAR drafting teams and standard drafting teams.[13] A SAR drafting team is a team of technical experts that, among other responsibilities, assists in refining a SAR and considers and responds to comments.[14] The standard drafting team is a team of technical experts that develops the details of the proposed new or revised Reliability Standard, analyzes results of field tests of the standard (if applicable), and considers and responds to comments.[15] The RBB, which is open to any person or

[11] The ROP also provides for an expedited standards development process in the event an applicable governmental authority directs the development of a Reliability Standard within a certain timeframe. This process is described in § 309.3 of the ROP.

[12] The segment organization of the RBB is set forth in detail in the *Registered Ballot Body Criteria*, Appendix 3D to the ROP.

[13] *See* SPM §§ 3.4 and 3.6.

[14] *See* SPM § 4.2.

[15] SPM § 4.3.

entity and is organized by industry segments, votes on the adoption or rejection of proposed Reliability Standards or revisions to existing standards.[16]

The SPM also specifies roles in the standards development process for the NERC Reliability Standards staff, which is led by the director of standards.[17] Staff provides support to the Standards Committee in managing the Reliability Standards processes and in supporting the work of all drafting teams. More specifically, staff is responsible for ensuring that development and revision of standards is in accordance with the SPM, works to ensure the integrity of the Reliability Standards development process and the consistency of quality and completeness of NERC Reliability Standards, and facilitates all steps in the standards development process.

The NERC standards development process relies on the legal and technical expertise provided by the industry experts comprising the SAR drafting teams and standard drafting teams, the technical and administrative assistance provided by the NERC standards process managers and the NERC standards process staff, and the overall oversight and direction of the Standards Committee. Thus, the NERC standards development process ensures that the essential attributes of technically excellent Reliability Standards, including the accomplishment of one of the eight general reliability objectives specified in §§ 302.2.1 through 302.2.8 of the ROP, are represented in each Reliability Standard that is developed or revised through the process and submitted to the NERC Board and, ultimately, to the Commission for approval.

Over the last decade, NERC has addressed the Commission's directives for new or revised Reliability Standards in Order No. 693.[18] NERC continues to invest significant resources to support its Reliability Standards program. The following table presents the direct budgeted expenses for the Reliability Standards program for 2015-2019:[19]

[16] ROP § 305; SPM §§ 3.2 and 4.7-4.14. Following successful balloting by the ballot pool, a proposed standard is submitted to the NERC Board of Trustees for approval, and if approved by the Board, is filed with the Commission for approval in accordance with § 215(d) of the FPA and 18 C.F.R. § 39.5. NERC Bylaws, Article IX, § 1; ROP §§ 308.2, 308.3, and 309; and SPM at §§ 4.0 and 4.15.

[17] SPM § 3.5; *see also* ROP § 307.

[18] *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, FERC Stats. & Regs. ¶ 31,242, *order on reh'g*, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

[19] *See NERC 2015 Business Plan and Budget* at 44 and Attachment 2 at 1, filed in Docket No. RR14-6-000 on August 22, 2014; *NERC 2016 Business Plan and Budget* at 43 and Attachment 2 at 20;, filed in Docket No. RR15-16-000 on August 24, 2015; *NERC 2017 Business Plan and Budget* at 45 and Attachment 2 at 24, filed in Docket No. RR16-6-000 on August 23, 2016; *NERC 2018 Business Plan and Budget* at 31 and Attachment 2 at 25, filed in Docket No. RR17-7-000 on August 23, 2017; *NERC 2019 Business Plan and Budget,*Attachment 2 at 20, filed in Docket No. RR18-9-000 on August 24, 2018 The amounts cited are direct expenses only and do not include NERC indirect expenses (General and Administrative, Information Technology, Legal and Regulatory, Human Resources, and Finance and Accounting) allocated to the Reliability Standards Program Area.

Year	Amount
2015:	$4,800,751
2016:	$3,888,768
2017	$3,861,666
2018:	$3,332,944
2019:	$3,377,356

The continent-wide Reliability Standards that have been developed by NERC and approved by the Commission cover the full range of reliability objectives specified in § 302 of the ROP:

- Resource and Demand Balancing
- Communications
- Critical Infrastructure Protection
- Emergency Preparedness and Operations
- Facilities Design, Connections and Maintenance
- Interchange Scheduling and Coordination
- Interconnection Reliability Operations and Coordination
- Modeling, Data, and Analysis
- Nuclear
- Personnel Performance, Training and Qualifications
- Protection and Control
- Transmission Operations
- Transmission Planning
- Voltage and Reactive Power

In accordance with the template and performance elements specified in the SPM, each approved Reliability Standard contains the following clearly-identified sections and subsections: (i) Applicability — stating the title of the standard, its identification number, its purpose, the reliability functional entities to which it is applicable, and its effective date; (ii) Requirements; (iii) Measures; (iv) Compliance — stating the entity responsible for monitoring compliance; the compliance monitoring period and reset timeframe; data retention requirements for the registered

entities; and the levels of noncompliance for specified types of violations of the standard; and (v) Regional Variances, if any.

The inclusion of these elements helps to ensure that Reliability Standards clearly state who is responsible for compliance with a Reliability Standard, the Requirements for which compliance is required, and how compliance may be measured by the CEA.

NERC systematically manages the development of new standards and revisions to standards, in areas of highest need and importance, through its rolling three-year *Reliability Standards Development Plan*. The *Reliability Standards Development Plan* identifies and prioritizes the Reliability Standards development projects in the immediate three-year time horizon. The three-year *Reliability Standards Development Plan* is revised annually, based on input from NERC staff, standards grading activities, the standard drafting teams, the NERC technical committees and subgroups, other industry participants, and government authorities. The three-year rolling *Reliability Standards Development Plan*, as revised each year, is submitted to the NERC Board for approval and then filed with the Commission for information. The *Reliability Standards Development Plan 2019-2021* was approved by the NERC Board on November 7, 2018 and recognizes the diligent work over the last few years in transforming the body of NERC Reliability Standards into a mature state while shifting the focus of the standards program to periodic reviews of existing Reliability Standards, addressing Commission directives, emerging risks, and any SARs that are submitted, and implementing the standards grading initiative.[20]

The plan also addresses projects related to the Standards Efficiency Review. In 2018, NERC and industry completed a comprehensive review of the Operations & Planning Reliability Standards to measure their effectiveness and ability to mitigate the risks to the reliability and security of the BPS, compared to the industry burden for their implementation. This review has informed the need to retire or enhance requirements based on operational experience, and included an analysis of reliability risk, particularly emerging risks, and and any identified cost-effective alternatives were considered. NERC is planning a second phase to examine CIP Reliability Standards.

Enforcement of Reliability Standards

NERC's program for monitoring and enforcing compliance with Commission-approved Reliability Standards is implemented through its *Compliance Monitoring and Enforcement Program* ("CMEP") (§ 400 and Appendix 4C to the ROP), its Organization Registration and

[20] The *Reliability Standards Development Plan 2019-2021*, along with previous versions of the plan, are available at http://www.nerc.com/pa/Stand/Pages/ReliabilityStandardsDevelopmentPlan.aspx.[21] The delegation agreements were originally approved by the Commission in an order issued April 19, 2007 (*Order Accepting ERO Compliance Filing, Accepting ERO/Regional Entity Delegation Agreements, and Accepting Regional Entity 2007 Business Plans*, 119 FERC ¶ 61,060 (2007)), subject to various compliance requirements, which have been addressed in subsequent compliance filings and Commission orders. The currently-effective delegation agreements will expire on December 31, 2020.

Certification Programs (§ 500 to the ROP), its *Sanction Guidelines* (Appendix 4B to the ROP), and its delegation agreements with the Regional Entities.[21]

Section 6(a) of NERC's delegation agreements with the Regional Entities specifies that the Regional Entity shall enforce Reliability Standards within its geographic boundaries through the compliance enforcement program set forth in Exhibit D to the agreement, and that the Regional Entity's compliance monitoring and enforcement program meets all applicable requirements of the FPA, Commission Order No. 672, and the Commission's regulations, including, *inter alia*, the requirement for an audit program pursuant to 18 C.F.R. § 39.7(a), the assessment of penalties pursuant to 18 C.F.R. § 39.7(c) through 39.7(g), and the requirements for due process. Additionally, § 6(f) of the delegation agreements requires the Regional Entity to maintain the capability to conduct investigations of potential violations of Reliability Standards and to conduct such investigations in a confidential manner. It also requires the Regional Entity to maintain a program of proactive enforcement audits, including procedures for spot checks of self-reported compliance and periodic audits of all registered entities.

Through the NERC Organization Registration and Certification Programs, NERC and the Regional Entities have identified users, owners, and operators of the BPS that are obligated to comply with Commission-approved NERC Reliability Standards.[22] Section 500 of the ROP governs the registration of users, owners, and operators of the BPS as responsible for compliance with the requirements of Reliability Standards that are applicable to the reliability function for which the entity is registered. The purpose of the NERC Compliance Registry, established pursuant to § 501 of the ROP, is to clearly identify those entities that are responsible for compliance with Reliability Standards. The NERC Compliance Registry identifies the reliability functions to be performed by each organization responsible for meeting the requirements of Reliability Standards. Organizations listed in the NERC Compliance Registry are responsible for knowing the contents of, and complying with, Reliability Standards applicable to the reliability function(s) for which the entity is registered.[23] The criteria upon which users, owners and operators of the BPS will be registered for one or more reliability functions are specified in § 501 of the ROP and in NERC's FERC-approved *Statement of Compliance Registry Criteria* (Appendix 5B to the ROP). The purpose of the *Organization Registration and Certification Manual* (Appendix 5A) is twofold: (i) to define the process utilized in the Organization Registration Program by identifying which functional entities must register as users, owners and operators, and users of the BPS for

[21] The delegation agreements were originally approved by the Commission in an order issued April 19, 2007 (*Order Accepting ERO Compliance Filing, Accepting ERO/Regional Entity Delegation Agreements, and Accepting Regional Entity 2007 Business Plans*, 119 FERC ¶ 61,060 (2007)), subject to various compliance requirements, which have been addressed in subsequent compliance filings and Commission orders. The currently-effective delegation agreements will expire on December 31, 2020.

[22] Section 215(b)(2) of the FPA requires all users, owners and operators of the BPS to comply with Reliability Standards approved by the Commission. Similarly, the Commission's regulations at 18 C.F.R. § 39.2 and § 40.2 require all users, owners, and operators of the BPS to comply with applicable Reliability Standards and applicable rules of the ERO and Regional Entities approved by the Commission.

[23] ROP § 501. The current categories of reliability functional entities are listed in ROP Appendix 5B, *Statement of Compliance Registry Criteria*. *See also supra* n.6.

compliance with Reliability Standards; and (ii) to define the process utilized in the Organization Certification Program for certifying the following entities: Reliability Coordinator, Balancing Authority, and Transmission Operator.

Typically, a user, owner or operator of the BPS is identified, in the first instance, for placement on the NERC Compliance Registry by the Regional Entity in whose territory the user, owner or operator is located. Upon the entity being notified by NERC that it is being placed on the NERC Compliance Registry, the entity may challenge its inclusion on the NERC Compliance Registry by filing a written objection with NERC.[24] If the entity whose registration is at issue does not agree with the initial determination of the NERC-led review panel, the entity may file an appeal with the NERC Board Compliance Committee ("BOTCC").[25] NERC may remove a registered entity from the NERC Compliance Registry for one or more of the reliability functions for which the entity is listed, based on changed circumstances. As of December 31, 2018, there were 1,416 organizations listed on the NERC Compliance Registry, registered for 3,396 reliability functions.

Monitoring and enforcement of compliance with Reliability Standards is conducted primarily by NERC's Regional Entities, pursuant to § 401.4 of the ROP and the delegation agreements between NERC and the Regional Entities. Each Regional Entity is responsible for compliance monitoring and enforcement activities within its regional footprint.[26] The ROP provide for NERC to take responsibility for CMEP activities where a Regional Entity is unable to perform those functions, as well as to be responsible for overseeing the CMEP activities of the Regional Entities.[27] Section 403 of the ROP describes in detail the required attributes of Regional Entity compliance programs, covering compliance program structure, compliance program resources, and compliance program design. Section 403 emphasizes the requirement that the Regional Entity's governance of its compliance program, and its compliance program staff, be independent.[28] Each Regional Entity must develop an annual Regional Entity Compliance and Enforcement Implementation Plan that identifies the regional risk assessment processes and results, Reliability Standards and Requirements associated with regional risk assessment results, the methods to be used by the Regional Entity for reporting, monitoring, evaluating,

[24] A user, owner, or operator of the BPS may be listed on the NERC Compliance Registry for several reliability functions. A registered entity may challenge its listing for one or more of the reliability functions for which it has been registered while accepting its listing for other reliability function(s).

[25] The registration, challenge, and appeal process described in this paragraph is set forth in § 501.1.3 of the ROP as well as Appendix 5A.

[26] ROP § 401.4.

[27] ROP §§ 401.5, 402, and 404. The Commission has also approved the practice of one Regional Entity entering into an agreement with another Regional Entity to administer the compliance processes in the NERC CMEP with respect to the Regional Entities' registered functions. *See, e.g., Order Conditionally Accepting Compliance Monitoring and Enforcement Program Agreements and Revised Delegation Agreements, and Ordering Compliance Filing*, 132 FERC ¶ 61,024 (2010).

[28] ROP §§ 403.1 and 403.6.

and assessing performance criteria and the Regional Entity's Annual Audit Plan.[29] These plans must be developed on an annual basis and submitted to NERC for approval. In its annual Implementation Plan, each Regional Entity must also report to NERC how the Regional Entity carried out its delegated compliance enforcement authority in the previous year, the effectiveness of its CMEP, and changes expected to correct any identified deficiencies.[30]

NERC is required to conduct an audit, at least once every five years, to evaluate how each Regional Entity implements the NERC CMEP.[31] The evaluation is based on the ROP including the NERC CMEP, the delegation agreement with the Regional Entity, the approved Regional Entity annual CMEP Implementation Plans, the required CMEP attributes, and the CMEP procedures. NERC must provide its evaluations to the Commission and other appropriate ERO governmental authorities to demonstrate the effectiveness of each Regional Entity in compliance monitoring and enforcement.[32]

The controlling document for NERC's compliance monitoring and enforcement activities is the Uniform CMEP, Appendix 4C to the ROP. Pursuant to Exhibit D to its delegation agreement with NERC, each Regional Entity has either adopted the Uniform CMEP or a modified version of the CMEP; in the latter case, the modified CMEP, or an enumeration of any deviations in the Regional Entity's CMEP from the uniform CMEP, is included in Exhibit D to the Regional Entity's delegation agreement. All CMEPs have been approved by the Commission.[33]

The NERC CMEP (as well as each of the modified Regional Entity CMEPs) provide for the following compliance monitoring processes: (i) audits of registered entities for compliance with Reliability Standards;[34] (ii) self-certifications by registered entities of their compliance with

[29] ROP § 403.16.

[30] ROP § 403.16.

[31] ROP § 402.1.1.3.

[32] ROP § 402.1.3. The audit procedure for NERC's audits of the Regional Entity CMEPs is contained in *Audit of Regional Entity Compliance Programs*, Appendix 4A to the ROP.

[33] The Commission initially approved the NERC CMEP and modified CMEPs adopted by certain Regional Entities in their respective delegation agreements, subject to various compliance requirements, in its Order issued April 19, 2007. *Order Accepting ERO Compliance Filing, Accepting ERO/Regional Entity Delegation Agreements, and Accepting Regional Entity 2007 Business Plans*, 119 FERC ¶ 61,060 (2007). Subsequent Commission orders have approved modifications to the NERC CMEP and Regional Entity CMEPs (both modifications in response to Commission directives and modifications initiated by NERC and/or Regional Entities). *See, e.g., Order Conditionally Approving Revised Pro Forma Delegation Agreement, Revised Delegation Agreements with Regional Entities, Amendments to Rules of Procedure and Certain Regional Entity Bylaws*, 133 FERC ¶ 61,061 (2010); *Order Conditionally Accepting Compliance Monitoring and Enforcement Program Agreements and Revised Delegation Agreements, and Ordering Compliance Filings*, 132 FERC ¶ 61,024 (2010); *Order Conditionally Approving Revisions to North American Electric Reliability Corporation Rules of Procedure*, 141 FERC ¶ 61,241 (2012).

[34] ROP, Appendix 4C.

standards;[35] (iii) spot checks of registered entities' compliance with Reliability Standards;[36] (iv) compliance investigations ("CIs"), which may be conducted and led by the Regional Entity or by NERC;[37] (v) self-reports by registered entities of violations of Reliability Standards;[38] (vi) self-logging; (vii) periodic data submittals by registered entities as requested by the CEA;[39] (viii) complaints; and (ix) preliminary screens.[40] The NERC CMEP sets forth detailed process steps for each of the seven compliance monitoring methods, including requirements for the results of the processes to be reported by the Regional Entity to NERC and ultimately to the Commission. The NERC CMEP provides for due process for a registered entity by including provisions that address avoidance of conflicts of interest,[41] preservation of confidentiality,[42] provision of notice, and opportunities to respond.[43]

As specified by § 4.1 of the CMEP, NERC develops and posts an annual CMEP Implementation Plan each year which focuses on risks for the upcoming year. The ERO Enterprise has a consolidated Implementation Plan which provides ERO-Enterprise-wide guidance while preserving Regional Entity differences by appending Regional Entity-specific Implementation

[35] ROP, Appendix 4C § 3.2.

[36] ROP, Appendix 4C § 3.3.

[37] ROP, Appendix 4C § 3.4.

[38] ROP, Appendix 4C § 3.5.

[39] ROP, Appendix 4C § 3.6. The CEA is the entity (either NERC or the Regional Entity, as applicable) responsible for monitoring and enforcing the registered entity's compliance with Reliability Standards. CMEP § 1.1.7.

[40] ROP, Appendix 4C § 3.7.

[41] For example, the registered entity is notified in advance of a compliance audit as to the members of the audit team (who are required to be free of conflicts of interest) and their backgrounds and is given the opportunity to object to individual members of the audit team on grounds of a conflict of interest or other circumstance that could interfere with the team member's impartial performance of his or her duties. *See* CMEP § 3.1.5. Similar notice and opportunity to object is provided with respect to spot checking teams (*id*. § 3.3.1) and CI teams (*id*. § 3.4.1). In addition, §6 of the NERC-Regional Entity delegation agreements requires the Regional Entity to maintain a conflict of interest policy that assures the integrity of its compliance enforcement program and the independence of the compliance program staff from those subject to enforcement actions.

[42] ROP, Appendix 4C §§ 2.0 and 9.3. In addition, § 6 of the NERC-Regional Entity delegation agreements specifies that each violation or alleged violation of a Reliability Standard shall be treated as nonpublic until the matter is filed with the Commission as a notice of penalty or resolved by an admission that the owner, operator, or user of the BPS violated a Reliability Standard or by a settlement or other negotiated disposition.

[43] For example, the CEA must notify the registered entity in advance of a compliance audit as to the Reliability Standards to be covered by the audit, and must provide a pre-audit questionnaire to the registered entity at least two months before commencement of the audit. NERC uniform CMEP § 3.1.1. At the conclusion of the audit, the compliance audit team is required to provide a draft audit report to the registered entity for comment. *Id*. § 3.1.6. Similarly, in the spot check and periodic data submittal processes, the CEA is required to provide its draft assessment of compliance to the registered entity for comment. *Id*. §§ 3.3.1 and 3.6.1.

Plans. The Regional Entity-specific Implementation Plans describe risk assessments that identify the risks that the REs will consider as part of their monitoring activities for registered entities..

The NERC CMEP also specifies the processes to be followed when an alleged violation of a Reliability Standard by a registered entity is identified,[44] including notification to the registered entity of an alleged violation and the required contents of the notice;[45] the registered entity's response to the notification of alleged violation;[46] the opportunity for the registered entity to obtain a hearing on the alleged violation and/or proposed penalty or sanction before the CEA hearing body;[47] the process the registered entity may engage in to negotiate a settlement with the CEA;[48] the registered entity's right to appeal a hearing body decision to NERC;[49] and the process for reporting a penalty or sanction to the Commission for confirmation.[50]

The NERC CMEP requires that a registered entity found to be in violation of a Reliability Standard must file a mitigation plan with the CEA to correct the violation, or a description of how the violation has been mitigated.[51] The NERC CMEP describes the required contents of the registered entity's proposed mitigation plan;[52] the processes for submittal of the proposed mitigation plan,[53] for review and acceptance or rejection of the proposed mitigation plan and for review and approval or disapproval by NERC (and, in the latter event, modification of the mitigation plan by the registered entity);[54] the timetable for completion of an accepted mitigation plan;[55] and the process for completion and confirmation by the CEA of implementation of the registered entity's mitigation plan.[56] Key components required by the NERC CMEP to be in any

[44] ROP, Appendix 4C § 5.0.

[45] ROP, Appendix 4C §§ 5.1 and 5.3.

[46] ROP, Appendix 4C § 5.4.

[47] ROP, Appendix 4C § 5.5 and Attachment 2, *Hearing Procedures*. The *Hearing Procedures* set forth the detailed procedures for the hearing to be conducted before the CEA hearing body should a registered entity dispute a notice of alleged violation, proposed penalty or sanction, proposed mitigation plan, or a remedial action directive.

[48] ROP, Appendix 4C § 5.6.

[49] ROP, Appendix 4C § 5.7. The NERC appeal process is addressed in §§ 408 and 409 of the ROP.

[50] ROP, Appendix 4C § 5.9.

[51] ROP, Appendix 4C § 6.1.

[52] ROP, Appendix 4C § 6.2.

[53] ROP, Appendix 4C § 6.4.

[54] ROP, Appendix 4C § 6.5.

[55] ROP, Appendix 4C § 6.3.

[56] ROP, Appendix 4C § 6.6.

mitigation plan are the registered entity's action plans to correct the violation(s) and to prevent recurrence.[57]

Not all instances of noncompliance with Reliability Standards require the same type of processing and documentation as described for violations of Reliability Standards. Noncompliance that does not pose a serious or substantial risk to the reliability of the BPS may be resolved through streamlined processes. The Find, Fix, Track and Report and the Compliance Exception processes were developed as alternatives to the above outlined process.[58]

Additionally, the NERC CMEP provides the procedure for the CEA to issue a remedial action directive to a registered entity.[59] A remedial action directive may be issued, when immediately necessary to protect the reliability of the BPS from an imminent threat, to a registered entity the CEA believes is committing or has committed a violation of a Reliability Standard. The remedial action directive may include, but is not limited to, specifying operating or planning criteria, limits or limitations; requiring specific system studies; defining operating practices or guidelines; requiring confirmation of data, practices or procedures through inspection, testing or other methods; requiring specific training for personnel; requiring development of specific operating plans; directing a registered entity to develop and comply with a plan to remediate a violation; imposing increased auditing or additional training requirements; and requiring the registered entity to cease an activity that may constitute a violation of a Reliability Standard.[60]

As a key component of the enforcement of compliance with mandatory Reliability Standards, a violation of a standard can result in the imposition of a financial penalty or other penalty or sanction on the registered entity. NERC has established, and is applying, rules and procedures for determining the amount of financial penalties, or other penalties or sanctions, to be imposed on registered entities for violations of Reliability Standards. These rules and procedures are embodied in the NERC *Sanction Guidelines*, Appendix 4B to the ROP. The *Sanction Guidelines* must be followed by the Regional Entities in the implementation of their CMEPs.[61] Penalties and sanctions must bear a reasonable relation to the seriousness of the violation and take into consideration timely remedial efforts by the registered entity.[62] NERC's rules and procedures

[57] ROP, Appendix 4C § 6.2.

[58] ROP, Appendix 4C § 3A.0.

[59] ROP, Appendix 4C § 7.0. A remedial action directive is "[a]n action (other than a [p]enalty or sanction) required by a Compliance Enforcement Authority that (1) is to bring a [r]egistered [e]ntity into compliance with a Reliability Standard or to avoid a Reliability Standard violation, and (2) is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat." NERC CMEP § 1.1.27.

[60] ROP, Appendix 4C § 7.0.

[61] ROP §§ 403.14 and 407.

[62] ROP § 401.7.

for determining appropriate penalties and sanctions for violations of Reliability Standards are discussed in greater detail under criterion 4.[63]

In order to carry out their responsibilities to monitor and enforce compliance with Reliability Standards, NERC and the Regional Entities have developed substantial professional staffs for, and are devoting substantial resources to, their CMEP and Organization Registration Programs. The following table shows the expenses and the numbers of full-time equivalent (FTE) staff budgeted by NERC and each Regional Entity in 2014 and in 2019 for the CMEP and registration program functions.[64]

Regional Entity	**2014 Budgeted FTEs**	2019 Budgeted FTEs
NERC	41.28	22.56
FRCC	19.26	12.18
MRO[65]	21.26	32.35
NPCC	16	17
ReliabilityFirst	43	44
SERC	42.50	34
Texas RE	40	35.75
WECC	58	60

Regional Entity	**2014 Total Funding ($)**	**2019 Total Funding ($)**
NERC	15,891,537	11,878,714
FRCC	4,702,351	4,984,329
MRO[66]	6,697,593	10,763,709
NPCC	8,079,371	8,816,687
ReliabilityFirst	13,584,946	16,163,392
SERC	11,875,409	13,373,347

[63] The ERO has established rules that provide fair and impartial procedures for enforcement of Reliability Standards through the imposition of penalties in accordance with 18 C.F.R. § 39.7, including limitations on activities, operations, or other appropriate sanctions or penalties.

[64] *See* 2014 Business Plans and Budgets https://www.nerc.com/gov/bot/FINANCE/Pages/2014RegionalEntityBusinessPlansandBudgets.aspx; https://www.nerc.com/gov/bot/FINANCE/Pages/2019-NERC-Regional-Business-Plans-and-Budget.aspx. *See also* 2019 Business Plans and Budgets https://www.nerc.com/gov/bot/FINANCE/Pages/2019-NERC-Regional-Business-Plans-and-Budget.aspx;https://www.nerc.com/gov/bot/FINANCE/Pages/2019-NERC-Business-Plan-and-Budget.aspx.

[65] The figures for MRO do not include registration as that function is budgeted with Reliability Standards and Certification.

[66] The figures for MRO do not include registration as that function is budgeted with Reliability Standards and Certification.

Texas RE	9,336,233	10,068,946
WECC	14,763,348	14,966,474

B. Criterion 2 - The ERO has established rules that assure its independence of users, owners and operators of the BPS while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organizational structure.

This criterion encompasses three distinct considerations: (i) independence of NERC from users, owners and operators of the BPS; (ii) fair stakeholder representation in the selection of NERC's directors (trustees); and (iii) provision for balanced decision-making in any NERC committee or subordinate organizational structure.

Independence of Users, Owners, and Operators of the BPS

NERC's Bylaws provide that NERC's business and affairs shall be managed by a Board of Trustees.[67] The Bylaws provide that the Board of Trustees shall consist of ten independent trustees plus the President of NERC.[68] The Bylaws define "independent trustee" as follows:

> An independent trustee is a person (i) who is not an officer or employee of the Corporation [i.e., NERC], a member or an officer, director, or employee of a member of the Corporation, or an officer, director, or employee of any entity that would reasonably be perceived as having a direct financial interest in the outcome of board decisions and (ii) who does not have any other relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a trustee. Provided, that upon initial election to the board, an independent trustee shall within ten (10) days terminate any employee, officer, or director position that conflicts with this subparagraph and shall within sixty (60) days terminate any financial interest or other relationship that conflicts with this subparagraph, and prior to such termination shall not participate in discussion of or voting on any matter involving the entity of which the trustee is an employee, officer or director or in which the trustee has the financial interest or other relationship giving rise to the conflict.[69]

[67] NERC Bylaws, Article III § 1.

[68] NERC Bylaws, Article III § 1. On October 14, 2009, the Commission approved in a letter order, in Docket No. RR09-8-000, new §§ 1a and 1b that allows the Board of Trustees to exercise the authority to increase the number of trustees from eleven to twelve, and decrease from twelve to eleven, respectively.

[69] NERC Bylaws, Article III § 3a. The last sentence of § 3a, providing for brief time periods for a newly-elected trustee to terminate any employment, officer or director position or financial interest or other relationship that would prevent the trustee from being independent, is a 2008 amendment to the Bylaws that was approved by the Commission by a letter order issued October 7, 2008 in Docket No. RR08-5-000.

In the *ERO Certification Order*, the Commission found that the NERC Bylaws definition of "independent trustee" was sufficient to provide for independence from users, owners and operators of the BPS, subject to one clarification.[70]

Thus, a NERC trustee cannot be an officer, director, or employee of a member of NERC nor of any other entity that would be perceived as having a direct financial interest in the outcome of board decisions, and may not have any other relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a trustee. The "responsibilities of a trustee" include, among other things, voting on: (i) board approval of proposed Reliability Standards;[71] (ii) board approval of the ROP and amendments to the ROP;[72] and (iii) board approval of NERC and Regional Entity budgets.[73] Committees of the NERC Board, such as the BOTCC, are responsible for decisions such as hearing and deciding challenges by a user, owner or operator of the BPS to placement of the entity on the NERC Compliance Registry,[74] hearing and deciding appeals from a Regional Entity hearing body decision on a registered entity's challenge to a notice of alleged violation of a Reliability Standard and/or proposed penalty or sanction,[75] and approving the imposition of penalties or other sanctions for violations of Reliability Standards on registered entities, including by settlements.

In addition, the NERC *Conflict of Interest and Business Ethics Policy for Trustees, Officers and Employees* specifies that NERC Representatives "shall avoid and refrain from involvement in or situations where there is actually a conflict of interest ("Conflict") . . . [A] Conflict arises where a NERC Representative's personal financial interest is affected or may reasonably appear to be affected by his or her actions or decisions in his or her capacity at NERC." NERC's *Process for Reviewing Conflicts of Interes*t outlines how potential conflicts of interest of the independent

[70] *ERO Certification Order* at P 42. The clarification is that the definition prohibits an independent trustee from having a relationship that would interfere with his or her exercise of independent judgment in carrying out the responsibilities of a trustee, regardless of whether he or she is an officer, director, or employee of an entity with an interest in the outcome of NERC Board of Trustees decisions. NERC confirmed this clarification in a compliance filing dated September 18, 2006, and made a modification, consistent with the clarification, to the definition of "independent trustee" in its Bylaws. *Compliance Filing of the North American Electric Reliability Council and the North American Electric Reliability Corporation Addressing Governance Issues and Request for Expedited Treatment*, Docket No. RR06-1, filed September 18, 2006 (*NERC ERO Governance Compliance Filing*) at 3-4.

[71] NERC Bylaws, Article IX § 1; ROP § 308.2.

[72] NERC Bylaws, Article XI § 2; ROP § 1402.

[73] NERC Bylaws, Article XIII §§ 2, 3, 4, and 5; ROP § 1101. Each of the matters just listed, upon being approved by the NERC Board of Trustees, must then be submitted to the Commission for approval or confirmation. Sections 215(d) and (f) of the FPA and 18 C.F.R. §§ 39.4(b), (c), and (d), and 39.5.

[74] ROP § 501.1.3.

[75] ROP § 409.

trustees, officers and employees are evaluated beginning in December of each calendar year.[76] The *NERC Employee Code of Conduct* mandates an "employee's faithful pursuit of the interests of NERC rather than his or her own financial or other interests of another person or organization." Finally, NERC's *Policy on Reporting Complaints Regarding Accounting and Code of Conduct Matters* prohibits retaliation against any NERC employee who lodges a code of conduct complaint about fraud, unethical business conduct, questionable accounting, problems with internal accounting controls, financial reporting or auditing, violations of NERC's codes of conduct for trustees and employees, or violations of law occurring within NERC.

Fair Stakeholder Representation in the Selection of NERC's Trustees

NERC's Bylaws provide for fair stakeholder representation in the selection of NERC's trustees. Candidates for election as a trustee are selected by a nominating committee. The nominating committee is appointed annually (or more frequently if needed in the event of a special election to fill a board vacancy) by the board. The nominating committee is to consist of those independent trustees whose terms do not expire during the current year and such number of other persons with such qualifications as the board shall specify, including at least three members of the NERC Member Representatives Committee ("MRC").[77] The procedures to be followed by the nominating committee must include a means of permitting members of NERC to recommend to the nominating committee candidates for consideration as nominees for independent trustees.[78] NERC's Bylaws specify that the nominating committee "shall also endeavor to nominate candidates for election to the board consistent with the objectives that the board as an entirety reflects expertise in the areas of technical electric operations and reliability, legal, market, financial, and regulatory matters, and familiarity with regional system operations issues; and reflects geographic diversity."[79]

NERC's Bylaws provide that the independent trustees shall be elected by the NERC MRC, from nominees proposed by the nominating committee. To be elected an independent trustee, a nominee must receive the affirmative vote of two-thirds of the members of the MRC.[80] The MRC

[76] On February 6, 2014, the NERC Board of Trustees approved *Governance Guidelines*, which consolidated NERC's (i) *Conflict of Interest and Business Ethics Policy for Trustees, Officers and Employees* and (ii) *Process for Reviewing Conflicts of Interest* into a single cohesive document.

[77] NERC Bylaws, Article III § 5.

[78] NERC Bylaws, Article III § 5.

[79] NERC Bylaws, Article III § 5.

[80] NERC Bylaws, Article III § 6. The NERC Bylaws also require that the number of trustees from Canada shall not be less than the percentage of the net energy for load ("NEL") of Canada to the total NEL of the United States and Canada, times 11 (or12 if the number of trustees has been increased to twelve pursuant to NERC Bylaws Article III, § 1a), rounded up to the nearest whole number, with the management trustee (i.e., the president of NERC) counted as a trustee from Canada if he or she is a Canadian citizen. NERC Bylaws Article III, § 2a. In the *ERO Certification Order*, the Commission approved this provision as "adequately provid[ing] for an international ERO," stating that "appropriate country representation helps to ensure that the ERO is truly international in addressing Bulk-Power

is comprised of representatives from the various sectors of the NERC membership.[81] As specified by Article II § 4 of the NERC Bylaws, the sectors of the NERC membership are: (i) investor-owned utilities; (ii) state/municipal utilities; (iii) cooperative utilities; (iv) federal or provincial utilities/federal power marketing administrations; (v) transmission-dependent utilities; (vi) merchant electricity generators; (vii) electricity marketers; (viii) large end-use electricity customers; (ix) small end-use electricity customers; (x) independent system operators/regional transmission organizations; (xi) regional entities; and (xii) government representatives.[82] The composition of the MRC, as specified in Article VIII § 2 of the NERC Bylaws, is as follows:

(1) Two representatives from each sector except the government representative sector and the regional entity sector;

(2) Two voting representatives from the regional entity sector, with the remaining members of that sector being non-voting members of the MRC;[83]

(3) The chairman and vice chairman of the MRC;[84]and

(4) Any additional Canadian representatives as are selected pursuant to Article VIII § 4 of the Bylaws;[85] and

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System reliability and considering the concerns of stakeholders in each of the three countries." *ERO Certification Order* at P 47.

[81] Membership in NERC is voluntary and is open to any person or entity that has an interest in the reliable operation of the North American BPS, registers as a member, and complies with the other conditions and obligations of membership specified in the NERC Bylaws (which do not include payment of any membership or initiation dues or fees). NERC Bylaws Article II, § 1. In the *ERO Certification Order*, the Commission stated the availability of membership to any person or entity with an interest in the reliable operation of the North American BPS created an open membership structure that is consistent with the statutory requirement that the ERO establish rules that assure fair stakeholder representation. *ERO Certification Order* at P 54. Each member is assigned to one of the 12 membership sectors of NERC. NERC Bylaws Article II § 4.

[82] Article II § 4a of the NERC Bylaws specifies the types of persons or organizations that would be included in each of the membership sectors.

[83] The representation of Regional Entities in the MRC reflects changes made by NERC to the originally-proposed composition of the MRC in response to concerns expressed by the Commission in P 75 of the *ERO Certification Order*. *See NERC ERO Governance Compliance Filing* at 6-9. The Commission accepted these changes in an Order issued October 30, 2006. The Commission also accepted the overall structure and composition of the MRC in that Order. *North American Electric Reliability Corporation, Order on Petitions for Rehearing and Clarification; Order on Compliance Filing*, 117 FERC ¶ 61,126, at PP 30 and 44 (2006).

[84] The chairman and vice chairman of the MRC are selected annually by majority vote of the members of the MRC, and may not be from the same membership sector. Upon being selected as chairman and vice chairman, these individuals cease to be representatives of the MRC sectors to which they were originally elected, and are thereafter responsible to act in the best interests of the members of NERC as a whole. NERC Bylaws Article VIII, § 5.

[85] Article VIII, § 4 of the Bylaws contains provisions for the election of additional Canadian members to the MRC as and when necessary to ensure that the percentage of Canadian members on the MRC is approximately equal to the

(5) The following representatives of the government representatives sector: two representatives of the United States federal government, one representative of the Canadian federal government, two representatives of state governments, and one representative of a provincial government, all of whom shall be nonvoting members of the MRC except the two representatives of state governments.

The MRC is therefore comprised of 28 voting members when at full complement (or more if the election of additional Canadian members has been necessary in accordance with Article VIII § 4 of the Bylaws). The members of the MRC from each sector are nominated from, and elected by, the NERC members in that sector pursuant to the processes specified in Article VIII § 3 of the NERC Bylaws, which generally call for election of the two candidates from each sector receiving the highest numbers of votes in the sector. The members of the MRC are elected annually (or between annual elections if needed to fill a vacancy).[86]

In summary, NERC's trustees are nominated by a nominating committee comprised of independent trustees whose terms are not expiring, members of the MRC, and possibly others. NERC's trustees are elected by a two-thirds vote of the MRC, which is a committee established pursuant to the Bylaws to fairly represent the sectors of NERC's membership and is open to any person or entity with an interest in reliable operation of the North American BPS. Thus, the NERC Bylaws provide for fair stakeholder representation in the selection of NERC's trustees.

Balanced Decision-Making in any NERC Committee or Subordinate Organizational Structure

NERC's Bylaws authorize the Board of Trustees to create standing committees of NERC and such other committees as the Board deems necessary to carry out the purposes of NERC:

> In addition to those committees specified by these Bylaws, to which the board shall appoint members in accordance with the requirements of these Bylaws, the board may by resolution create standing committees of the Corporation; and may in addition by resolution appoint such other committees as the board deems necessary to carry out the purposes of the Corporation. *The board shall appoint standing committees and other committees of the Corporation that are representative of members, other interested parties and the public, that provide for balanced decision making, and that include persons with outstanding technical knowledge and experience. All appointments of committees of the Corporation shall provide the opportunity for an equitable number of members from the United States and Canada (and from Mexico after the Corporation receives recognition by appropriate governmental authorities in Mexico as its electric reliability*

percentage the NEL of Canada is of the total NEL of the United States and Canada. *See* page 24 below for the definition of NEL.

[86] NERC Bylaws, Article VIII, § 3.

> *organization) to be appointed to each committee in approximate proportion to each country's percentage of the total NEL*. All committees shall have such scope and duties, not inconsistent with law, as are specified in these Bylaws and the Rules of Procedure of the Corporation or otherwise determined by the board.[87]

Section 1300 of the ROP provides additional criteria for the creation and appointment of NERC standing committees. In creating a standing committee, the NERC Board of Trustees must approve the charter of the committee and assign specific authority to each committee necessary to conduct business within its charter.[88] Each committee shall have a defined membership composition that is explained in its charter. The specified committee membership composition can provide for balanced decision-making (i) by providing for representatives from each sector of the NERC membership, or (ii) where sector-based membership will not bring together the necessary diversity of opinions, technical knowledge and experience in a particular subject area, by bringing together a wide diversity of opinions from industry experts with outstanding technical knowledge and experience in a particular subject area.[89] Committee membership shall also provide the opportunity for an equitable number of members from the United States and Canada, based approximately on proportionate NEL.[90]

The ROP require that committee members shall be selected in a manner that is open, inclusive, and fair.[91] Unless otherwise stated in the ROP or approved by the NERC Board of Trustees, all committee member appointments are to be approved by the board, and committee officers are to be appointed by the Chairman of the Board.[92]

Further, the ROP require that all NERC committees and other subgroups (except for those organized on other than a sector basis because sector representation will not bring together the necessary diversity of opinions, technical knowledge, and experience in a particular subject area)

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[87] NERC Bylaws, Article VII § 1 (emphasis added). "Committees specified by these Bylaws" include the MRC and the Nominating Committee for the NERC Board of Trustees (discussed above under "fair stakeholder representation in the selection of NERC's trustees"), and the Personnel Certification Governance Committee ("PGCC") provided for in Article XII of the Bylaws. The purpose of the PGCC is to provide oversight to the policies and processes used to implement and maintain the integrity and independence of the NERC System Operator Certification Program. NERC Bylaws, Article XII § 1. The members of the PGCC are appointed by the Board from candidates nominated by a nominating task force; nominations and appointments are to take into account the need to include representatives of all geographic regions of North America on the PGCC. *Id*., Article XII §2. In addition to the aforementioned committees, NERC standing committees include the Standards Committee, Compliance and Certification Committee, Critical Infrastructure Protection Committee, Operating Committee, Planning Committee, and the Reliability Issues Steering Committee.

[88] ROP § 1301.

[89] ROP § 1302.

[90] ROP § 1302.

[91] ROP § 1303.

[92] ROP § 1303.

must ensure that *no two stakeholder sectors are able to control the vote on any matter, and no single sector is able to defeat a matter*.[93] Any committees and subgroups organized on other than a membership-sector basis must be reported to the NERC Board of Trustees and the MRC, along with the reason for constituting the committee or subgroup in the manner chosen. The ROP provide that for any committee or subgroup organized on other than a membership-sector basis, a reasonable opportunity for additional participation (as members or observers) shall be provided for sectors not represented on the committee or subgroup (subject to any reasonable restrictions as may be necessary to accomplish the mission of the committee or subgroup).[94] Additionally, a reasonable opportunity must be provided for membership from sectors desiring to participate in any committees and subgroups pertaining to development of, interpretation of, or compliance with Reliability Standards.[95]

The ROP provide that NERC standing committees may appoint subgroups using the same principles as specified in § 1302 of the ROP (summarized in the immediately preceding paragraph).[96]

The provisions of §§ 1301 and 1302 of the ROP regarding committee composition reflect revisions to these provisions that were approved or directed by the Commission in its October 30, 2006 order on the *NERC ERO Governance Compliance Filing*.[97]

The requirement for balanced decision-making is also applicable to the Reliability Standards development process, and is discussed below under criterion 5.,

C. Criterion 3 - The ERO has established rules that allocate equitably reasonable dues, fees and charges among end users for all statutory activities.

NERC's Bylaws require that the funding mechanism used to recover its net annual budget requirement (i.e., net of fees and other revenues received by NERC from users and purchasers of NERC products and services, and net of prior-period funding surplus or deficiency) "shall consist of such assessments as determined by the [NERC] board that result in an equitable allocation of the Corporation's funding requirement among end users of the North American electric utility system as established in the Corporation's Rules of Procedure."[98] Section 1102 of the ROP,

[93] ROP § 1302.

[94] ROP § 1302.

[95] ROP § 1302.

[96] ROP § 1305.

[97] *See North American Electric Reliability Corporation, Order on Petitions for Rehearing and Clarification; Order on Compliance Filing*, 117 FERC ¶ 61,126, at PP 75-87 (2006).

[98] NERC Bylaws, Article XIII § 3. NERC charges users/purchasers of some of its products and services directly for the products and services, at prices that cover some or all of the cost of providing the product or service. Examples include charges to purchasers of data sets from the Generating Availability Data System, charges to candidates for

"NERC Funding and Cost Allocation," prescribes the allocation methods to be used to recover NERC's funding requirements among regions of the United States and among countries in the North American BPS. Section 1102 specifies that NEL shall be used to allocate funding requirements among interconnections and Regional Entities except in those instances in which direct assignment of costs to a particular interconnection, Regional Entity, or group of entities is appropriate; however, in the case of direct assignment, NEL must be used to allocate the directly-assigned costs within the interconnection, Regional Entity, or group of entities:

> (1) In order that NERC's costs shall be fairly allocated among Interconnections and among Regional Entities, the NERC funding mechanism for all statutory functions shall be based on NEL.
>
> (2) NERC's costs shall be allocated so that all load (or, in the case of costs for an Interconnection or Regional Entity, all load within that Interconnection or Regional Entity) bears an equitable share of such costs based on NEL.
>
> (3) Costs shall be equitably allocated between countries or Regional Entities thereof for which NERC has been designated or recognized as the Electric Reliability Organization.
>
> (4) Costs incurred to accomplish the statutory functions for one Interconnection, Regional Entity, or group of entities will be directly assigned to that Interconnection, Regional Entity, or group of entities provided that such costs are allocated equitably to end-users based on NEL.

The ROP defines NEL as:

> [N]et generation of an electric system plus energy received from others less energy delivered to others through interchange. It includes system losses but excludes energy required for the storage of energy at energy storage facilities.[99]

In business plan and budget filings with the Commission, actual assessments for Canadian and Mexican entities vary after taking into account polices regarding the allocation of certain compliance and enforcement costs.

D. Criterion 4 - The ERO has established rules that provide fair and impartial procedures for enforcement of Reliability Standards through the imposition of penalties in accordance with 18 C.F.R. § 39.7, including limitations on activities, operations, or other appropriate sanctions or penalties.

NERC has established rules that provide fair and impartial procedures for monitoring and enforcement of compliance with Reliability Standards. These rules and procedures are embodied

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certification as NERC-certified operators for examinations and for renewal of credentials, and charges to continuing education providers for certification of their education programs.

[99] ROP, Appendix 2.

primarily in § 400 of the ROP, the NERC CMEP (Appendix 4C to the ROP), and individual Regional Entity CMEPs (which conform generally to the NERC CMEP), all of which have been approved by the Commission. These rules and procedures were discussed in detail above under criterion 1, relating to the ERO's ability to develop and enforce Reliability Standards that provide for an adequate level of reliability of the BPS. As discussed above under criterion 1, § 400 of the ROP, and the NERC uniform CMEP, include provisions for avoidance of conflicts of interest on the part of the CEA personnel conducting compliance monitoring processes, provisions for notice to registered entities and opportunity to respond to compliance monitoring processes, and provisions allowing registered entities to engage in settlement discussions with the CEA concerning notices of alleged violations, proposed penalties or sanctions, and mitigation plans.

Each Regional Entity shall adopt either the Regional Entity Hearing Process (ROP § 403.15A) or the Consolidated Hearing Process (ROP § 403.15B) and conduct all hearings pursuant to the selected process. In either case, the selected hearing process shall be a fair, independent, and nondiscriminatory process for hearing contested violations and any Penalties or sanctions levied, in conformance with Attachment 2 (*Hearing Procedures*) to Appendix 4C to theROP. Attachment 2 contains detailed due process procedures for the conduct of hearings before the CEA hearing body, when requested by the registered entity, concerning a disputed notice of alleged violation and/or proposed penalty or sanction, disputed mitigation plan provisions, or disputed remedial action directive. The *Hearing Procedures*, which were initially approved by the Commission in two orders, subject to various specific compliance requirements,[100] are based on, and in most respects are quite similar to, the Commission's Rules of Practice and Procedure[101] and to the rules of practice and procedure used by many state public utility commissions.

Section 215(e)(6) of the FPA, and § 39.7(g) of the Commission's regulations,[102] requires that any penalty imposed for violation of a Reliability Standard shall (a) bear a reasonable relation to the seriousness of the violation; and (b) take into consideration the efforts of the user, owner or operator to remedy the violation in a timely manner.[103] This fundamental requirement is embodied in § 401.7 of the ROP and in § 3.8 of the NERC *Sanction Guidelines*, Appendix 4B to the ROP. Section 39.7(c) of the Commission's regulations[104] requires that NERC or a Regional Entity may, after notice and opportunity for hearing, impose a penalty on a user, owner or operator of the BPS for a violation of a Reliability Standard if NERC files a notice of penalty and record of the proceedings with the Commission and serves a copy on the user, owner or operator. The notice of

[100] *Order Addressing Revised Delegation Agreements*, 122 FERC ¶ 61,245 (2008); *Order Accepting Compliance Filings, Subject to Conditions*, 125 FERC ¶ 61,330 (2008).

[101] 18 C.F.R. Part 385.

[102] 18 C.F.R. § 39.7(g).

[103] 18 C.F.R. § 39.7(g)(1) also specifies that a penalty may be monetary or non-monetary, and may include, but is not limited to, a limitation on an activity, function, operation, or other appropriate sanction, including being added to a reliability watch list composed of major violators that is established by the ERO, a Regional Entity or the Commission.

[104] 18 C.F.R. § 39.7(c).

penalty must contain: (i) the name of the entity on whom the penalty is imposed; (ii) identification of each Reliability Standard violated; (iii) findings of fact with respect to any act or practice resulting in violation of the standard; (iv) a description of the penalty imposed; (v) the record of the proceeding; and (vi) any other matters NERC or the Regional Entity may find relevant.[105] The penalty may not take effect earlier than the 31st day after NERC files the notice of penalty and record of proceeding with the Commission,[106] and it is subject to review by the Commission on its own motion or on application of the user, owner or operator.[107] Section 5.9 of Appendix 4C provides for the filing of a notice of penalty with the Commission, and for a 30-day period to run before the penalty becomes effective, in accordance with 18 C.F.R. § 39.7(d) through (e).[108]

Section 39.7(g) of the Commission's regulations[109] requires the ERO to submit for Commission approval penalty guidelines that set forth a range of penalties for violations of Reliability Standards, and specifies that a penalty imposed by the ERO or a Regional Entity must be within the range set forth in the penalty guidelines. The NERC *Sanction Guidelines* comprise the penalty guidelines established by NERC, which the Commission has approved pursuant to § 39.7(g).

Under the *Sanction Guidelines*, penalties are to be commensurate to the reliability impact of the violation and to those levied for similar violations, while still reflecting unique facts and circumstances related to the violation or the violator. NERC is charged with ensuring "acceptable similarity" in penalties for comparable violations.[110]

Significantly, however, the *Sanction Guidelines* also state, "Any provisions within a settlement regarding Penalties or sanctions can supersede any corresponding Penalties or sanctions that would otherwise be determined pursuant to these Sanction Guidelines."[111] As such, the negotiation of settlements and determination of penalties involve compromise and the weighing of multiple considerations to arrive at a penalty agreeable to the Regional Entity and the registered entity. Even with this available flexibility, NERC still evaluates the facts and circumstances of every violation that is part of a settlement to ensure that the penalty for that violation, and for the group of violations in the settlement, is within a range of reasonableness that displays consistency.

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[105] 18 C.F.R. § 39.7(d).

[106] 18 C.F.R. § 39.7(e).

[107] 18 C.F.R. § 39.7(e).

[108] Certain instances of noncompliance with the Reliability Standards may be resolved outside of the notice of penalty process set forth in the NERC CMEP. *See* NERC ROP, Appendix 4C §§ 3A.0, 5.2A.

[109] 18 C.F.R. § 39.7(g)(2).

[110] *Sanction Guidelines* § 1.

[111] *Sanction Guidelines* § 2.1.

When evaluating every violation, NERC starts with a base penalty amount that is provided by the VRF/VSL matrix. If the registered entity has a previous violation of a same or similar Reliability Standard Requirement, then the penalty may be aggravated.[112] NERC next considers the violation time horizon for the violation, with multipliers applied to the penalty based on the effect on operations. The highest multiplier applies to real-time operations, while long-term planning is on the opposite end of the spectrum. The registered entity's ability to impact reliability determines the next multiplier, with small facilities or entities having their penalty reduced by a significant amount. A multiplier can be applied based on the condition of the BPS at the time of the violation, with aggravation for a violation occurring during stressed conditions.[113] Among the mitigating factors in penalty determination are the quality of the registered entity's internal compliance program, the degree of the registered entity's cooperation in resolution of the violation, and whether the registered entity self-reported the violation.[114]

NERC will aggregate the results of the violation-by-violation analysis for comparison with the penalty included in the settlement submitted by the Regional Entity. NERC also evaluates how the penalty for the violations in the instant settlement compares to penalties for similar violations included in settlements that have already been approved by NERC and subject to review by the Commission. The evaluation of settlements provides an evolving store of knowledge to use when considering new settlements submitted to NERC. In the end, if the penalty included in the settlement falls within a range of reasonableness for penalties associated with violations involving similar reliability risks, similar entities, and similar facts and circumstances, then the penalty is deemed consistent enough for approval by NERC.

E. Criterion 5 - The ERO has established rules that provide reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing Reliability Standards, and otherwise exercising its duties.

NERC has established rules that provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing Reliability Standards, and otherwise exercising its duties. With respect to the development of Reliability Standards, NERC's Bylaws require that:

> The Corporation shall develop Reliability Standards pursuant to procedures and processes that shall be specified in the Rules of Procedure of the Corporation. The Rules of Procedure shall provide for the development of Reliability Standards through an open, transparent, and public process that provides for reasonable notice and opportunity for public comment, due process, and balancing of interests and is designed to result in Reliability Standards that are technically sound. Participation

[112] *Sanction Guidelines* §§ 3.1 and 3.2.

[113] *Sanction Guidelines* § 2.7; *see also* § 3.2.

[114] *Sanction Guidelines* § 3.3.

> in the process for developing Reliability Standards shall not be limited to members of the Corporation but rather shall be open to all persons and entities with an interest in the reliable operation of the [BPS].[115]

NERC's process for developing and modifying Reliability Standards, which the Commission accepted as meeting the criteria for certifying NERC as the ERO pursuant to § 215 of the FPA and § 39.3(b) of the Commission's regulations,[116] is embodied in § 300 of the NERC ROP and the SPM, Appendix 3A to the ROP. Section 304 of the ROP states that NERC shall develop Reliability Standards in accordance with the NERC SPM. The SPM sets forth the detailed process steps for development and approval of a new Reliability Standards or revision to a Reliability Standard.

Section 304 of the ROP sets forth NERC's "Essential Principles for the Development of Reliability Standards," which include openness, transparency, consensus-building, fair balance of interests, due process, and timeliness:

1. **Openness** — Participation shall be open to all persons who are directly and materially affected by the reliability of the North American BPS. There shall be no undue financial barriers to participation. Participation shall not be conditional upon membership in NERC or any other organization, and shall not be unreasonably restricted on the basis of technical qualifications or other such requirements.

2. **Transparency** — The process shall be transparent to the public.

3. **Consensus-building** — The process shall build and document consensus for each standard, both with regard to the need and justification for the Reliability Standard and the content of the Reliability Standard.

4. **Fair Balance of Interests** — The process shall fairly balance interests of all stakeholders and shall not be dominated by any two segments as defined in Appendix 3D, *Development of the Registered Ballot Body*, of these Rules of Procedure, and no single segment, individual or organization shall be able to defeat a matter.

5. **Due Process** — Development of Reliability Standards shall provide reasonable notice and opportunity for any Person with a direct and material interest to express views on a proposed Reliability Standard and the basis for those views, and to have that position considered in the development of the Reliability Standards.

6. **Timeliness** — Development of Reliability Standards shall be timely and responsive to new and changing priorities for reliability of the BPS.

[115] NERC Bylaws, Article IX § 2.

[116] *ERO Certification Order* at PP 239, 241, 250.

Section 305 of the ROP specifies that "NERC Reliability Standards shall be approved by a Registered Ballot Body prior to submittal to the [NERC] Board and then to [a]pplicable [g]overnmental [a]uthorities for their approval," and that "[a]ny person or entity may join the Registered Ballot Body to vote on Reliability Standards." The RBB is organized on an industry segment basis, and persons or organizations joining the RBB must select membership in the appropriate segment (subject to periodic review by NERC).[117] The RBB segments and the criteria for membership in each segment are set forth as follows:[118]

- Segment 1: Transmission Owners
- Segment 2: Regional Transmission Organizations and Independent System Operators
- Segment 3: Load-Serving Entities
- Segment 4: Transmission Dependent Utilities
- Segment 5: Electric Generators
- Segment 6: Electricity Brokers, Aggregators, and Marketers
- Segment 7: Large Electricity End Users
- Segment 8: Small Electricity Users
- Segment 9: Federal, State, and Provincial Regulatory or other Government Entities
- Segment 10: Regional Entities

Section 306 of the ROP provides for the standards development process to be overseen by a Standards Committee, which is an elected body comprised of two members of each segment of the RBB and two officers elected to represent the interests of the industry as a whole.[119] The Standards Committee is to ensure stakeholder interests are fairly represented in the Reliability

[117] ROP § 305.

[118] ROP Appendix 3D at 2-3. The segments of the RBB are different from the NERC membership segments established by Article II, § 4 of the NERC Bylaws (discussed above under criterion 2). The Commission approved the use of segments for the RBB that are different from the NERC membership segments. *North American Electric Reliability Corporation, Order on Petitions for Rehearing and Clarification, Order on Compliance Filing*, 117 FERC ¶ 61,126, at P 30 (2006).

[119] Election of the members of the Standards Committee is governed by the *Procedures for Election of Members of the Standards Committee*, Appendix 3B to the ROP.

Standards development process. Section 308.2 of the ROP specifies that proposed Reliability Standards or revisions to Reliability Standards shall be submitted to the NERC Board of Trustees for approval after being approved by the RBB pool voting on the standard.

The NERC SPM sets out the detailed steps in the process for developing and approving Reliability Standards or revisions to Reliability Standards. The process is based on the procedures of the ANSI and other standards-setting organizations in the United States and Canada.[120] The standards development process is intended to develop consensus on both the need for and content of a proposed standard.[121] As detailed in the SPM, the process includes the following key elements:

- Nomination of a proposed standard, revision to a standard, or withdrawal of a standard, using a SAR, which may entail appointing a SAR drafting team.[122]

- Public posting of the SAR to allow interested persons and entities to review and comment on the need for the proposed standard and the expected outcomes and impacts from implementing it, and to identify if there is stakeholder consensus on the need, scope and applicability of the standard proposed by the SAR.[123]

- Review of the public comments in response to the SAR and prioritization of proposed standards, leading to authorization to develop standards for which there is a stakeholder consensus-based need.[124]

- Appointment of a standard drafting team to draft the new or revised standard. The appointed standard drafting team is to have the expertise, competencies and diversity of views needed to develop the standard. The appointment process includes a public solicitation for nominees.[125]

- Drafting the new or revised standard. The standard will be drafted by the standard drafting team with the assistance and administrative support of the NERC standards process manager (a NERC professional staff member), who will review the draft standard for consistency of quality and

[120] SPM §§ 1.4, 10.0, 13.0, and 16.0. ANSI accredited NERC's Reliability Standards development process in 2003.

[121] SPM §§ 1.4. 3.8, 3.10, and 4.0.

[122] SPM §§ 4.0, 4.2, and 4.3.

[123] SPM §§ 4.0, 4.1, and 4.2.

[124] SPM §§ 4.0, 4.1, 4.2, and 4.3.

[125] SPM §§ 4.0, 4.3, and 4.4.

completeness and to ensure the standard is within the scope and purpose identified in the SAR.[126]

- Public posting of the draft standard to allow interested parties to review and comment on it, to receive specific comments from interested parties on the text of the standard, to assess stakeholder consensus on the draft standard, and to determine if the draft standard should be modified to increase consensus.[127]

- Field testing (if any) of the draft standard and its measures.[128]

- Analysis of public comments and field test results (if any) by the standard drafting team, giving consideration to the written views and objections of all participants, to determine if there is consensus the proposed standard should go to ballot, or requires further work.[129]

- Balloting of the standard by the industry stakeholder ballot pool formed from the RBB for purposes of balloting the new or revised standard.[130] (The voting process is described below.)

- Re-balloting of the standard to consider specific comments by those submitting negative votes with comments.[131]

- Vote by the NERC Board of Trustees to approve or reject the standard that has been approved by the ballot pool. The NERC Board of Trustees may adopt or reject a Reliability Standard that has been approved by the ballot pool, but may not modify the standard; however, if the NERC Board of Trustees chooses not to adopt a proposed standard, the board shall provide its reasons.[132]

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[126] SPM §§ 4.0 and 4.4.

[127] SPM §§ 4.0, 4.5, and 4.7.

[128] SPM §§ 4.0 and 6.0.

[129] SPM §§ 4.0, 4.5, 4.6, 4.7, 4.12, and 6.0.

[130] SPM §§ 4.0, 4.7, 4.8, and 4.9.

[131] SPM §§ 4.0, 4.13, and 4.14. Voters on the first ballot are allowed to submit comments with affirmative ballots and reasons for their votes with negative ballots (although inclusion of a statement of reasons with a negative ballot is not required).

[132] SPM §§ 4.0, 4.15, and 4.16.

- Submission of the RBB-approved and board-approved Reliability Standard to the Commission and other applicable governmental authorities for approval.[133]

As provided in the SPM, voting on a proposed Reliability Standard or revision to a standard is done by the RBB ballot pool formed for that standard, and is tallied on a weighted segment basis. At least 30 days prior to the start of a ballot, the NERC standards process manager issues a notice to the entities in the RBB advising them of the upcoming ballot on the new or revised standard, so that entities may elect to join the ballot pool for balloting the standard. Any member of the RBB may join (or leave) the ballot pool for the standard until the ballot period begins.[134] The balloting is conducted electronically with voting allowed during a specified ballot period, typically 10 days.[135] Approval of a proposed standard or revision to a standard requires both (i) a quorum, which is established by at least 75 percent of the members of the ballot pool submitting a response with an affirmative vote, a negative vote, or an abstention,[136] and (ii) affirmative votes by a two-thirds majority of the weighted segment votes.[137] The calculation of the weighted segment voting results is described in detail in the SPM.[138]

The foregoing demonstrates that NERC's rules provide reasonable notice and opportunity for public comment, due process, openness, and balance of interests in the development of Reliability Standards. In finding that NERC met the statutory and regulatory criteria to be certified as the ERO, the Commission found NERC's Reliability Standards development process met the ERO certification requirement that the ERO candidate have rules providing for reasonable notice and opportunity for public comment, due process, openness, and balancing of interests in developing Reliability Standards.[139]

Other NERC rules provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in the exercise of NERC's duties other than developing Reliability Standards. As discussed under criterion 2 above, NERC's Bylaws provide for its trustees to be elected by the MRC, which (again per the NERC Bylaws) is comprised of representatives of the sectors of the NERC membership as defined in the Bylaws. The Bylaws also provide that amendments to the Bylaws must be adopted by majority vote of both the Board of Trustees and the MRC, conducted after at least 10 days and no more than 60 days' notice of the

[133] SPM §§ 4.0, 4.16, and 4.17.

[134] SPM § 4.8.

[135] SPM §§ 4.0 and 4.9.

[136] SPM § 4.10.

[137] SPM §§ 4.10 and 4.11. For this purpose the number of votes cast is the sum of the affirmative and negative votes cast by the ballot pool, excluding abstentions, non-responses and negative votes without comments.

[138] SPM §§ 4.10 and 4.11.

[139] *ERO Certification Order* at P 250.

vote on the proposed amendment. Additionally, the NERC membership may adopt new Bylaws, or alter, amend, or repeal amendments adopted by vote of the NERC Board of Trustees and the MRC, by vote of two-thirds of the sectors voting on the alteration, amendment, repeal or adoption.[140]

The NERC Bylaws further provide that revisions to the ROP may be proposed by: (i) any 50 members of NERC, which must include members from at least three membership sectors; (ii) the MRC; (iii) a committee of NERC to whose function and purpose the ROP to be amended pertains; or (iv) an officer of NERC. A proposed revision to the ROP must be posted on the NERC website for public comment for a minimum of 45 days prior to the NERC Board of Trustees vote on the proposed revision.[141]

The NERC Bylaws require that notice of meetings of the NERC Board of Trustees and of the MRC, and notice of calls for action without a meeting by the board or the MRC, along with all non-confidential materials to be considered by the board or MRC at a meeting or in an action without a meeting, shall be posted on the NERC website at least 24 hours prior to the meeting or within 24 hours after the call for action without a meeting.[142] The ROP provide that notice of meetings of NERC committees, and all non-confidential materials relating to the meeting, shall be posted on the NERC website at approximately the same time(s) the notice and materials are provided to the committee members.[143] Additionally, the Bylaws require that, except for discussions of certain specified non-public topics, meetings of the NERC Board of Trustees and of the MRC shall be open to the public (subject to reasonable space limitations).[144] Similarly, the ROP require that, except for discussions of certain specified non-public topics, meetings of NERC standing committees shall be open to the public (subject to reasonable space limitations).[145]

The NERC Bylaws also create an exception to the five day prior notice requirement for Board of Trustee meetings.[146] NERC allows a 24 hour prior notice for special board meetings that are held in closed session. This does not affect the need to provide notice to the public and to members of any meetings, whether closed or open, 24 hours after notice is given to trustees. The shortened notice period permits the Board to address matters that may be considered in closed session in a more timely way when necessary, while not changing the notice provided to stakeholders of any Board meeting.

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[140] NERC Bylaws, Article XIV §1.

[141] NERC Bylaws, Article XI §2.

[142] NERC Bylaws. Article V §§ 4 and 6; Article VIII, §§ 10 and 12.

[143] ROP § 1304.1.

[144] NERC Bylaws, Article V § 4; Article VIII, § 10.

[145] ROP § 1304.1.

[146] NERC Bylaws, Article V § 2.

With respect to the preparation of NERC's annual business plan and budget, the NERC Bylaws provide that NERC shall post a draft business plan and budget for comment by the NERC membership, the MRC, and the NERC standing committees for at least 30 days prior to the board meeting at which the annual business plan, budget and funding requirement is to be approved for submission to the Commission. The Board shall also consult with the members of the MRC on the proposed business plan and budget before it is adopted.[147] Should a supplemental or modified budget or assessment be considered for adoption during the course of the year, the Bylaws require that the procedures for posting, receipt of comments, and consultation with the MRC shall be followed to the extent possible in the board's judgment in light of the exigency of the circumstances necessitating preparation and approval of the supplemental or modified budget, funding and assessment.[148]

With respect to compliance monitoring and enforcement, as discussed above under **Criteria 1** and **4**, the NERC CMEP and Regional Entity CMEPs, the NERC *Hearing Procedures* (Attachment 2 to the CMEP), and the NERC *Sanction Guidelines*, provide for reasonable notice to and due process for users, owners, and operators of the BPS in the conduct of compliance monitoring and enforcement activities of NERC and the Regional Entities. These activities include the implementation of the compliance monitoring processes, the conduct of hearings on disputed notices of alleged violations, proposed penalties, disputed mitigation plan components and disputed remedial action directives, and the imposition of penalties and sanctions for violations of Reliability Standards.

Finally, as discussed above under criterion 2, the NERC Bylaws and ROP require members to be selected for NERC standing committees and other committees and subgroups so as to (subject to specified exceptions) provide for balanced decision making, such that no two stakeholder sectors can control the voting on the committee and no single stakeholder sector is able to defeat a matter; and to provide the opportunity for an equitable number of members from the United States and Canada.

F. Criterion 6 - The ERO has established rules that provide appropriate steps to gain recognition in Canada and Mexico.

To remain certified as the ERO for North America, federal regulations require NERC to take appropriate steps to gain recognition in Canada and Mexico. The efforts of NERC to seek recognition in Canada and Mexico are described below.

Canada

Under the Constitution of Canada, regulation of electricity is primarily within the jurisdiction of each province. Canada does not have a "FERC-equivalent" with plenary jurisdiction over electricity matters, although the National Energy Board ("NEB") does have

[147] NERC Bylaws, Article XIII § 4; *see also* ROP § 1103.1.

[148] NERC Bylaws, Article XIII § 5.

jurisdiction over international power lines. Accordingly, beginning before its certification as the ERO for the United States and continuing to the present time, NERC has devoted significant efforts to developing relationships with each of the relevant provincial authorities, as well as the NEB. Where possible, NERC has devoted efforts attempting to obtain recognition as the ERO. NERC's progress in this regard is described below.

Alberta

Reliability Standards

The Alberta Electric System Operator ("AESO") is the independent system operator, a statutory corporation pursuant to Alberta's *Electric Utilities Act*, *2003* (EUA).[149] AESO's statutory mandate requires that it direct the operation of the Alberta interconnected electric system, plan for the future of the transmission system, and operate the wholesale electricity market in the province.

Pursuant to the Alberta *Transmission Regulation* (made pursuant to the EUA),[150] Alberta Reliability Standards include reliability standards[151] enacted by WECC, NERC, or any similar entity that is recognized by the AESO, to the extent that these reliability standards are adopted by the AESO in accordance with the *Transmission Regulation*. The AESO also has the authority under the *Transmission Regulation* to adopt other reliability standards subject to certain process requirements.

In order for a reliability standard to be adopted in Alberta, the *Transmission Regulation* requires that the AESO consult with those market participants that it considers likely to be directly affected by one or more reliability standards and make a recommendation to the Alberta Utilities Commission to approve or reject the reliability standards being considered for approval. The Alberta Utilities Commission must follow the AESO's recommendation unless an interested person satisfies the Alberta Utilities Commission that the recommendation of the AESO is either "technically deficient" or "not in the public interest." When the AESO considers NERC Reliability Standards for adoption in Alberta, the AESO is required to determine whether the NERC Reliability Standards can be applied in Alberta, including whether approval would be appropriate for the Alberta electric energy market framework.[152]

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[149] Alberta's EUA is available at: http://www.qp.alberta.ca/documents/Acts/E05P1.pdf.

[150] Alberta's *Transmission Regulation* is available at: http://www.qp.alberta.ca/documents/Regs/2007_086.pdf.

[151] In this context, where not capitalized, the phrase "reliability standards" refers to standards relating to reliability generally, whether or not they were developed or approved by NERC.

[152] Alberta has developed an Alberta Functional Model that integrates with the Alberta regulatory and market framework. The Alberta Functional Model defines entity types that perform functions that impact the reliability of the transmission system. Functional entity types are used to identify if an Alberta Reliability Standard is applicable to that functional type.

The AESO's *Alberta Reliability Standards Program Work Plan* is intended to help manage and track the adoption of NERC Reliability Standards in Alberta. It was last revised in June 2014, and it reflects a risk-based prioritization approach.[153] The Alberta Reliability Standards, as approved, bear the same identifiers as the original NERC Reliability Standards (COM, BAL, FAC, etc.), but have an "AB" added to the name.[154]

An Alberta Reliability Standard may incorporate modifications from the original NERC Reliability Standard to recognize the physical characteristics of the Alberta system or for other reasons.[155]

When presented to the Alberta Utilities Commission by the AESO for approval, a proposed Alberta Reliability Standard will contain an explanation for any proposed modifications, which are not intended to change the intent or substance of the NERC Reliability Standards. Where there have been changes from a NERC Reliability Standard to an Alberta Reliability standard, it is noted in a quarterly update report that is provided to WECC and to NERC.

Effective January 1, 2014, the AESO assumed all responsibilities related to the functions of a Reliability Coordinator. Additional Alberta Reliability Standards will be adopted, and this work is underway.

Data Sharing

Under § 8.4 of the WECC/AESO membership and operating agreement ("MOA"), if WECC determines that the AESO is not in compliance with an Alberta Reliability Standard, WECC must promptly refer the matter to the Market Surveillance Administrator ("MSA"). Pursuant to the WECC/MSA services agreement, WECC, on behalf of the MSA, will monitor AESO's compliance with Alberta Reliability Standards and report its findings to the MSA.

Sections 2.13, 6.1, and 6.5 of the WECC/MSA services agreement address WECC's ability to report possible violations[156] to NERC. Under § 2.13, NERC and FERC are not allowed to participate in or observe WECC's actions taken according to the WECC/MSA services agreement, without the express approval of the MSA. Section 6.1 establishes that all records pertaining to

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[153] The *Alberta Reliability Standards Program Work Plan* can be found at: http://www.aeso.ca/rulesprocedures/25052.html. Alberta Reliability Standards currently in effect and their effective dates are listed on the AESO website at: http://www.aeso.ca/rulesprocedures/17006.html. A number of NERC Reliability Standards have been rejected as not being applicable to entities in Alberta. These are listed at: http://www.aeso.ca/rulesprocedures/16426.html.

[154] An example of a current Alberta Reliability Standard is BAL-001-AB-0a, Real Power Balancing Control Performance.

[155] *See* Project Charter for Alberta Reliability Standards Implementation at p.1, http://www.aeso.ca/downloads/ARS_Project_Charter_2011-12-05_final.pdf.

[156] The terms "possible violation," confirmed violation," and "violation" are not defined in Alberta. Rather, Alberta uses the terms "suspected contravention" and "contravention."

WECC's services will be considered confidential and should be treated as strictly confidential at all times.[157]

Based on its agreement with the MSA, WECC is prohibited from disclosing information related to the AESO's compliance with Alberta Reliability Standards without the permission of the MSA. However, as noted in the NERC/WECC/AESO memorandum of understanding ("MOU"),[158] disclosing information related to confirmed contraventions would occur as such information is made public by the Alberta Utilities Commission. In addition, as there is value to the North American electric industry of receiving information on lessons learned from such contraventions, the AESO will work with NERC and WECC to provide information on lessons learned as made public by the Commission.

Compliance

The NERC/WECC/AESO MOU commits the AESO to appropriate compliance monitoring and enforcement "in a manner determined in Alberta." With regard to entities (other than the AESO) that are subject to Alberta Reliability Standards, the AESO carries out its mandate to monitor compliance according to a compliance monitoring plan. Matters of noncompliance with an Alberta Reliability Standard must be referred by the AESO to the MSA for consideration and possible action.

The Alberta Utilities Commission adopted specified penalties for contraventions of Alberta Reliability Standards effective November 2010. If warranted, the MSA is empowered by § 52 of the *Alberta Utilities Commission Act* to issue a notice of specified penalty for contravention of an Alberta Reliability Standard. Specified penalties are defined in AUC Rule 027 and range from $500 to $25,000, depending upon the severity of the contravention and the applicable Alberta Reliability Standard.[159] Specified penalties can be appealed to the Alberta Utilities Commission. Alternatively, the MSA can pursue an administrative penalty before the Alberta Utilities Commission. The maximum administrative penalty amount is $1 million per day on which a contravention occurs or continues.

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[157] Section 6.5 is even more explicit with respect to WECC's authority to share information with NERC and mandates the following:

> WECC further acknowledges that this Agreement clearly stipulates that in no event will Confidential Records received or generated by WECC in respect of the Services or this Agreement be disclosed or made available to persons outside WECC, including to any representative of FERC, NERC or any other person, without the express written approval of the MSA.

[158] MOU between NERC, WECC, and AESO, effective July 15, 2010, at p. 7, http://www.nerc.com/files/NERC-WECC-AESO_MOU_Executed%20Version_071510.pdf.

[159] The specified penalties for contravention of Alberta Reliability Standards are available at http://www.auc.ab.ca/rule-development/rule-027-specified-penalties-for-reliability-standards/Pages/default.aspx.

British Columbia

Reliability Standards

The British Columbia Utilities Commission ("BCUC") is an independent, quasi-judicial regulatory agency that operates under and administers the *Utilities Commission Act*.[160] The BCUC adopts or rejects reliability standards in British Columbia and is responsible for the administration of the Mandatory Reliability Standards Program. The British Columbia Hydro and Power Authority ("BC Hydro"), a provincial crown corporation, is a regulated integrated utility and transmission provider that acts as a balancing authority and applicant for Reliability Standards to the BCUC.

To provide the necessary information required for determinations and in accordance with the *Utilities Commission Act*, BC Hydro submits a *Mandatory Reliability Standard Assessment Report* to the BCUC assessing the new and revised reliability standards adopted in the United States by FERC within the annual assessment period (December 1 to November 30). The purpose of this effort is to examine suitability for application in British Columbia. The assessment report is developed in consultation with Registered Entities in the Mandatory Reliability Standards Program. Further, in consultation with stakeholders regarding the estimated time required for the entities to implement and come into compliance with the reliability standards, BC Hydro suggests effective dates for each of the Reliability Standards assessed. After a public comment process, the BCUC reviews BC Hydro's analysis and then may either approve or reject Reliability Standards. The provincial process can lead to delays before a FERC-approved Reliability Standard is adopted.

In Order G-171-10, issued on November 25, 2010, the BCUC approved an annual Implementation Plan created by WECC for 2011 that includes "a list of minimum [R]eliability [S]tandards to be actively monitored, methods to be used for monitoring, an Audit Plan, Self-Certification Program and Schedule, Periodic Information Submittal requirements and Exception Reporting process."[161] The BCUC has also issued orders approving annual Implementation Plans for subsequent years.[162]

The standards in effect in British Columbia are generally listed in an attachment to the most recent order approving new or amended standards. NERC Reliability Standards and WECC regional Reliability Standards effective in British Columbia are also listed on the WECC website.[163] British Columbia has vested the BCUC with authority to levy monetary penalties for violations. BCUC now has authority to assess fines of up to $1 million per day. The process for imposing penalties for confirmed violations of reliability standards is under development.

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[160] The *Utilities Commission Act*,http://www.bclaws.ca/Recon/document/ID/freeside/00_96473_01.

[161] Order No. G-171-10, issued by the BCUC, at p. 1, http://www.bcuc.com/Documents/Orders/2010/DOC_26511_G-171-10_MRS-2011-Implementation-Plan.pdf.

[162] *See*, e.g., Order No. R-39-13, http://www.bcuc.com/Documents/Orders/2013/DOC_38047_R-39-13_BC-Reliability_2014-Implementation-Plan.pdf (approving the Implementation Plan for the 2014 calendar year).

[163] *See* http://www.wecc.biz/Standards/BCApproved%20Standards/Forms/AllItems.aspx.

In 2018, NERC, BCUC and WECC entered into their first MOU which is intended to supplement and to be read in conjunction with the *Utilities Commission Act*, *Mandatory Reliability Standards Regulation*, and the *Administration Agreement* between BCUC and WECC, dated September 8, 2009, and renewed August 21, 2014, which addresses the development, approval and enforcement of reliability standards applicable to British Columbia.

Data Sharing

WECC's relationship with the BCUC is governed by the *Administration Agreement* between the parties (dated October 8, 2009), the BCUC's *Rules of Procedure for Reliability Standards in British Columbia* ("BCUC ROP"), and BCUC's compliance monitoring program.[164] Under §3.2 of the *Administration Agreement*, WECC is required to immediately advise the BCUC and an applicable entity who has provided information to WECC if that information has been requested by NERC or a foreign government agency, unless disclosure of the request is prohibited by law. Therefore, WECC can only disclose confidential information related to possible violations if the BCUC approves the disclosure or by compulsion of law.

Under § 6.3.1 of the BCUC ROP, the BCUC, in its discretion and upon request, may designate information as restricted.[165] If such designation is made, § 3.6 of the *Administration Agreement* and the BCUC ROP prohibit WECC from transmitting the information outside of British Columbia. WECC can review the restricted information only at the offices of the applicable entity or at the BCUC. The applicable entity is not required to give WECC a copy of the restricted documents.

Under §3.1 of the *Administration Agreement*, WECC shall not disclose such information except as provided in the Rules of Procedure, namely with BCUC approval. Section 3.1.1(ii) also prohibits WECC from disclosing documents or portion of documents that would potentially identify the source of the information. Finally, WECC cannot disclose any information if the BCUC directs WECC to keep it confidential. The MOU does, however, clarify that the signatories of the MOU may share Confidential Information and Non-Public information amongst each other.

Compliance

Under the *Administrative Agreement* with the BCUC, WECC performs compliance oversight for the province, including registration, monitoring and auditing functions and activities. However, the violations, enforcement, and penalty assessment functions remain with BCUC.

Manitoba

Reliability Standards

[164] *See* Attachments 1 and 2 to Order No. G-123-09, issued by the BCUC, available at http://www.bcuc.com/Documents/Orders/2009/DOC_23219_G-123-09_BCUC%20MRS.pdf.

[165] *See* http://www.bcuc.com/Documents/MRS/Rules-of-Procedure.pdf.

The *Manitoba Hydro Act* establishes the framework for Manitoba Hydro to adopt NERC Reliability Standards by authorizing Manitoba Hydro, subject to Lieutenant Governor in Council approval, to adopt:

> in whole or in part, any standards, rules, terms, conditions, guidelines or schedules, which are related to the planning, design or operation of generation or transmission facilities within an integrated regional power grid, established by [the North American Electric Reliability Council, Mid-Continent Area Power Pool or…] an industry organization, regional transmission group, regulatory body or other association or group or any other person.[166]

The *Manitoba Hydro Amendment and Public Utilities Board Amendment Act (Electricity Reliability)*[167] and its implementing regulations, which came into force on April 1, 2012, set the basis for the adoption of mandatory and enforceable NERC Reliability Standards in Manitoba. This legislation gives the Public Utilities Board of Manitoba (PUB) the authority to make determinations of noncompliance with Reliability Standards, to impose sanctions, and to remand a standard to NERC for reconsideration. The enforceable standards in Manitoba are listed in Schedule 1 to the *Reliability Standards Regulation.*[168]

In 2018, Manitoba Hydro, NERC and NPCC entered into an MOU for the limited purpose of Manitoba Hydro and MRO establishing a program for monitoring the compliance of Manitoba entities with reliability standards developed by Manitory Hydro pursuant to *The Manitoba Hydro Act* (C.C.S.M. v. H190).

Compliance

The *Compliance Monitoring and Enforcement Program Province of Manitoba*, based on the NERC CMEP, was adopted as Schedule 2 to the *Reliability Standards Regulation.* MRO and NERC, as compliance bodies, will monitor Manitoba Hydro's compliance with NERC Reliability Standards. If a compliance body alleges that a violation of standards has occurred in Manitoba, it must apply to the PUB with a recommended enforcement action for a determination on whether a standard has been violated. MRO also makes recommendations to PUB regarding the imposition of associated penalties or sanctions. The PUB will decide whether a violation of a standard has taken place and the penalty, if any, which should apply for noncompliance. The PUB can impose a penalty, with enforcement through a board order. When the PUB issues an order confirming a

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[166] *See The Manitoba Hydro Act*, C.C.S.M. c.H190, s.16.3(1)(a), http://web2.gov.mb.ca/laws/statutes/ccsm/h190e.php. The bracketed language above was stricken in *The Manitoba Hydro Amendment and Public Utilities Board Amendment Ac*t (dated June 11, 2009), and replaced with "an industry organization."

[167] Statutes of Manitoba 2009, c. 17.

[168] Available at: http://web2.gov.mb.ca/laws/regs/annual/2014/098.pdf.

violation, NERC may make this fact and any attached penalties public. A similar process is followed for standards develop by Manitoba; however, audit processes and audit reports for Manitoba-developed standards must be maintained separately from audit processes and audit reports prepared for NERC/MRO Reliability Standards.

NERC or MRO, in advising the PUB that they believe a violation has occurred, is also to advise on appropriate remedial actions, sanctions, or penalties.

Data Sharing

All findings by PUB related to electricity reliability proceedings are made public through the issuance of orders. These orders will include the name of the registered entity, the Reliability Standard(s) and requirements(s) violated, whether the PUB agrees with MRO's findings and recommendations, and any penalties or sanctions imposed.

When the PUB issues an order confirming a violation, NERC may make this fact and any attached penalties public. The mitigation plan will not be made public until there is a confirmed violation. Similarly, final audit reports will be released to the public, but only after any alleged violations have become confirmed violations. Lastly, while compliance investigations are confidential, confirmed violations resulting from a compliance investigation will be made public.

For Manitoba-developed standards, all written or verbal information provided by a monitored entity or about a monitored entity, including MRO's and NERC's working papers and documentation are deemed confidential and may be shared between NERC and MRO.

New Brunswick

Reliability Standards

New Brunswick Power Corporation ("NBPC") performs system operation functions. In addition to its responsibility to comply with reliability standards applicable to its function, NBPC is also responsible for making filings to the New Brunswick Energy and Utilities Board ("NBEUB") to update Reliability Standards, maintain a list of BPS elements, and to make recommendations on compliance registrations. NBEUB now also adopts, monitors, and enforces FERC-approved NERC Reliability Standards that have been filed by NBPC. NERC Reliability Standards are filed and adopted with an accompanying NB Appendix to describe the specific application of the standard in New Brunswick. The NBEUB posts proposed Reliability Standards on its website for a 60-day review period prior to adoption. If the proposed Reliability Standard contains substantive revisions to the FERC-approved version, or if there are substantive comments received during the review period, the NBEUB may hold a hearing and may determine to approve, not approve, or remand the proposed Reliability Standard back to NBPC. A list of enforceable Reliability Standards is available on the NBEUB's website.[169] This change is reflected in a new MOU executed in 2016 between NBEUB, NPCC and NERC.

[169] *See* http://www.nbeub.ca/index.php/en/electricity/reliability-compliance/118.

Data Sharing

Confidentiality and public disclosure is governed by Part 7 of the *New Brunswick Compliance Monitoring and Enforcement Program* ("NB CMEP") – Schedule A to the *Reliability Standards Regulation – Electricity Act*.[170] Any information that a registered entity provides to the NBEUB, NPCC, or NERC may be marked as confidential and may not be released to a third party without the written consent of the registered entity. The regulation provides for the public disclosure of finalized audit reports, confirmed violations, penalties, sanctions, and settlement agreements, including the name of the registered entity. The NBEUB is required to keep all CIP information confidential in accordance with § 1500 of the ROP.

Pursuant to the MOU, the parties agree to share Confidential Information and Non-Public Information amongst signatories.

Compliance

The NBEUB implements a compliance monitoring system for reliability standards that is based on the requirements of the NERC compliance program. The NB program is documented as the NB CMEP – Schedule A to the *Reliability Standards Regulation – Electricity Act*. As a recognized compliance body under the regulations, NPCC assists the NBEUB with compliance monitoring activities according to a service agreement the NBEUB has executed with NPCC. The NBEUB will initiate enforcement action if it has reason to believe that a violation of a reliability standard has occurred. NBEUB requires that the entity take action to remove the risk the violation poses to the reliability of the BPS and to implement a plan that will prevent a future occurrence of the violation. Registered entities are subject to financial penalties and sanctions for violations of adopted reliability standards. A penalty matrix, provides ranges for penalties corresponding to VRFs and VSLs, is provided in the *Reliability Standards Regulation*.

Nova Scotia

Reliability Standards

The Nova Scotia Utility and Review Board ("NSUARB") is an independent, quasi-judicial body which exercises general supervision over all electric utilities operating as public utilities within the Province of Nova Scotia, pursuant to the *Nova Scotia Public Utilities Act*.[171] Nova Scotia Power Incorporated ("NPSI") is a public utility in Nova Scotia and is a member of NERC and NPCC. The Nova Scotia Department of Energy is responsible for energy and electricity policy in the province.

[170] New Brunswick's *Reliability Standards Regulation – Electricity Act* is available at http://laws.gnb.ca/en/ShowPdF/cr/2013-66.pdf.

[171] The *Nova Scotia Public Utilities Act*, http://nslegislature.ca/legc/statutes/public%20utilities.pdf.

NERC has signed two separate MOUs with entities in Nova Scotia: one with NSUARB, and one with NSPI.[172]

NERC submits standards to NSUARB and NSPI for approval; each organization may approve, modify, remand or dismiss the standard as not applicable, though final approval authority rests with NSUARB. NSUARB has a quarterly review process allowing the submission, by NERC, of standards already approved by FERC. NSUARB will only process an application after FERC has approved or remanded the Reliability Standard in the United States.[173] NERC made an initial filing of Reliability Standards on June 30, 2010 along with the *Glossary of Terms Used in NERC Reliability Standards*. Nova Scotia approved this filing on July 20, 2011. None of the proposed standards were changed or rejected.

On September 2, 2011, NERC made its first quarterly filing to Nova Scotia that included a list of Standards approved by FERC in the period of time since the June 30, 2011 filing. This filing was approved.

In August 2012, the NSUARB began implementing an expedited process for its review of NERC quarterly filings. With respect to the quarterly filing, NSPI and NPCC have 10 days to comment if they wish. At the end of the comment period, the NSUARB will decide if, based on any comments, a more rigorous review is required. If a more rigorous review is deemed required it will be undertaken; otherwise, the NSUARB will issue its decision. To date, all filings have been approved without additional review.

Under the MOU with NSPI, NSPI agrees to comply with NERC's Reliability Standards. NSPI also committed to review and provide recommendations on the adoption of Reliability Standards in the province to NSUARB.

Data Sharing

The MOU states that NSPI will provide NPCC all information respecting reporting requirements in the CMEP for NERC Reliability Standards.

Under the MOU, NERC has agreed to share relevant information on issues related to reliability compliance with the NSUARB. Examples of such information include:

(1) Compliance audits and spot checks;

(2) Readiness evaluations;

[172] The NSUARB and NERC signed an MOU on December 22, 2006, in which NERC and the NSUARB agreed to a cooperative relationship to improve the reliability of the North American BPS. On May 11, 2010, NERC, NPCC, and NSPI signed an MOU which memorializes the working relationship between the three entities to improve reliability of the grid in Nova Scotia and North America. Both MOUs are available at http://www.nerc.com/filingsorders/ca/pages/canadian-mous.aspx.

[173] The date of the order is considered the effective date for the adopted Reliability Standards.

(3) Disturbance reports;

(4) Reliability assessments and benchmarking information; and

(5) Reports by regional reliability organizations, where applicable.[174]

There is also a data sharing requirement relevant to the Reliability Standards process. The MOU with NSUARB calls for NERC to submit all NERC Board of Trustees-approved Reliability Standards to the NSUARB. NERC also agreed to notify NSUARB immediately if a Reliability Standard has been remanded in another jurisdiction.

Compliance

Compliance is mandatory in Nova Scotia. NPCC is designated to perform compliance and enforcement activities in Nova Scotia upon NPSI, the only entity subject to the NERC Reliabiltiy Standards in Nova Scotia. The NSUARB retains the ultimate authority to determine whether a violation occurred. Penalties are not permitted in Nova Scotia.

Ontario

Reliability Standards

The Ontario Minister of Energy is responsible for the legislation that governs the Ontario Energy Board ("OEB") and the Independent Electricity System Operator ("IESO") and for energy and electricity policy in the province. The IESO of Ontario is a not-for-profit corporate entity established under the Ontario *Electricity Act, 1998*,[175] and is subject to the oversight authority of the OEB. The OEB is responsible for regulating the electricity sector, and it has the legislative authority to stay or revoke the operation of a reliability standard in Ontario and refer it back to NERC or NPCC for further consideration.

On October 25, 2006, the OEB and NERC signed an MOU[176] setting forth the mutual understanding of each party's responsibilities with respect to reliability in the Province of Ontario. The MOU states that Ontario's legislative framework does not expressly contemplate approval of NERC Reliability Standards, By-laws or Rules of Procedure. The MOU recognizes that, under the Ontario Electricity Act, one of the IESO's objectives is to participate in the development of standards relating to the transmission system and to enforce those standards. The MOU confirms that NERC Reliability Standards are referenced generically in the Market Rules written and administered by the IESO, and they are considered in effect in Ontario upon expiration of the

[174] *See* MOU between the NSUARB and NERC at pp. 2-3.

[175] Ontario's *Electricity Act, 1998* is available at http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_98e15_e.htm.

[176] Both the 2006 MOU and the 2010 MOU described in the following paragraph are available at http://www.nerc.com/filingsorders/ca/pages/canadian-mous.aspx.

remand period. On November 28, 2006, the Ontario Ministry of Energy formally recognized NERC as the entity named as a "standards authority" in the *Electricity Act, 1998*. Subsequently, in 2008, the *Electricity Act, 1998* was amended, allowing for NPCC to be recognized as a standards authority.

An MOU between the IESO, NPCC, and NERC was signed on November 29, 2006 and amended on February 5, 2010. This MOU documents the roles of the parties in conformance with the Ontario reliability framework and commits the IESO to carry out a compliance enforcement program for Ontario entities. The MOU also acknowledges that the NERC Rules of Procedure have effect in Ontario, provided they do not conflict with the established reliability and compliance framework in Ontario. The amended MOU includes provisions for investigations, organization registration, and NERC certification.[177] The IESO is subject to NERC's CMEP processes in accordance with the MOU. Monitoring and enforcement activities for IESO, with the exception of financial sanctions, are performed by NPCC. The parties contemplate revising this MOU in 2019.

Ontario has a process which provides for market participants, the IESO, or the OEB itself to initiate a review that could result in a standard being remanded or revoked for application in the province. Only Reliability Standards approved by the NERC Board of Trustees on or after May 14, 2008 are subject to this process.

Ontario was the first jurisdiction in North America to adopt NERC Reliability Standards as mandatory and enforceable. Until July 2011, a NERC Reliability Standard became effective on the date specified by the NERC Board of Trustees when it approved the standard. Because of the uncertainties in the timing of FERC approvals, a standard typically came into effect earlier in Ontario than in adjoining U.S. jurisdictions. An Ontario Market Rule amendment effective July 8, 2011 addressed this mismatch. Under this Market Rule,[178] a NERC Reliability Standard will become effective when it is declared mandatory and enforceable in the U.S., unless the OEB remands the Reliability Standard or otherwise stays its enforceability. In addition, any Reliability Standard approved by the NERC Board of Trustees under NERC Rule 321 (i.e., a standard responsive to a regulatory directive that has not been approved by the NERC RBB) must be approved by IESO before it can comes into effect in Ontario.

To date, Ontario has neither remanded nor modified any NERC Reliability Standards. Information regarding Reliability Standards in Ontario can be found on the IESO's website.[179]

Data Sharing

Under the MOU, NERC will provide the OEB with information relevant to Ontario on issues related to compliance with NERC Reliability Standards, including reports on:

[177] In general, such NERC compliance processes do not involve direct participation by Ontario market participants.

[178] *See Market Rules for the Ontario Electricity Market*, ch. 5, Bulk Power System Reliability, available at: http://ieso-public.sharepoint.com/Documents/marketRules/mr_marketRules.pdf.

[179] *See* https://www.ieso.ca/imoweb/ircp/reliabilityStandards.asp.

(1) Compliance audits and spot checks;

(2) Readiness audits;

(3) Disturbance reports;

(4) Reliability assessments and benchmarking information; and

(5) Reports by regional reliability organizations, where applicable.

The MOU also calls for NERC to inform the OEB of Reliability Standards approved by NERC and submitted to appropriate regulatory authorities, and to notify the OEB of NERC Reliability Standards that are remanded to NERC in any jurisdiction outside of Ontario. The MOU states that the IESO is the only Ontario entity directly accountable to NERC for its own compliance and will be accountable to NERC for compliance by all Ontario entities with NERC Reliability Standards.

In the MOU, there is also an undertaking that, subject to confidentiality requirements, the IESO will advise NERC of the functional responsibilities of Ontario entities.

The parties are contemplating updating the MOU in 2019.

Compliance

The MOU stipulates that the IESO is the only Ontario entity that is subject to oversight under NERC's CMEP by NPCC, with the additional caveat that the IESO is not subject to any financial sanctions.

Compliance enforcement within Ontario for the Ontario electricity market participantsnot subject to oversignt by NPCC is conducted by the IESO's Market Assessment and Compliance Division, which is "ring-fenced" from the rest of the organization. The IESO is subject to assessments of compliance with NERC Reliability Standards, including audits performed by NPCC. The completion of mitigation associated with noncompliance is overseen by NPCC as well.

For the remainder of Ontario market participants, the IESO carries out a compliance enforcement program and can issue a monetary order, finding, or remedial action with respect to a violation of a Reliability Standard in Ontario, subject to appeal to the OEB. The IESO has delegated enforcement accountability to the Market Assessment and Compliance Division, which exercises independent discretion in terms of enforcement decision-making.

The Market Assessment and Compliance Division establishes and executes procedures and programs for monitoring, investigating, and imposing sanctions, including financial penalties, against market participants and the IESO itself. The MOU acknowledges the Market Assessment and Compliance Division as the enforcement body in Ontario for Reliability Standards with full sanctioning powers as afforded under the Market Rules for breaches committed by the IESO and Ontario market participants.

In the event that a violation is confirmed under the Market Rules, the name of the responsible entity is made public. The Market Assessment and Compliance Division has the authority to levy sanctions for reliability violations. These sanctions may include financial penalties and are subject to appeal to the OEB. The Market Assessment and Compliance Division has established sanctions guidelines similar to those of NERC using severity/impact criteria. It has authority for "Extraordinary Financial Penalties" under certain circumstances to assess penalties of up to $1 million per occurrence. The OEB can impose administrative penalties of up to $20,000 per day.

Québec

Reliability Standards

The Régie de l'énergie du Québec ("Régie") is an independent agency established under the *Act Respecting the Régie de L'Énergie* ("Régie Act") to regulate the province's electricity and natural gas sectors. On December 8, 2006, NERC and the Régie signed an MOU that contemplated a future amendment to Québec's reliability legislation to grant the Régie the power to adopt and enforce NERC standards and allow for NERC funding and oversight in the province of Québec.[180] The MOU noted that § 73.1 of the Régie Act provides that the "electric power carrier," or Hydro-Québec, will establish reliability standards for its electric power transmission system and submit them to the Régie for approval. According to the MOU, the standards will become mandatory after approval by the Régie.

On December 13, 2006, Québec implemented *An Act Respecting the Implementation of the Québec Energy Strategy and Amending Various Legislative Provisions*,[181] which grants the Régie jurisdiction over a mandatory reliability standards framework in the Province of Québec. This act formalizes the ability of the Régie to approve reliability standards after reviewing an evaluation of the relevance and impact of the proposed standards. Under the act, the Régie may request that the Reliability Coordinator modify a standard or submit a new one. Further, the Reliability Coordinator must submit guidelines to the Régie describing criteria to be taken into account in determining sanctions for noncompliance with reliability standards and identify owners or operators that will be subject to the standards approved by the Régie.

Data Sharing

Under the MOU, NERC has agreed to share relevant information on issues related to reliability compliance with the Régie. The MOU further states NERC will be invited to participate in compliance audits and readiness evaluations done in Québec. Under the MOU, NERC and the Régie also agreed to discuss issues relating to: (i) Reliability Standard approval and remand; (ii) penalties for noncompliance with standards; and (iii) funding. For instance, NERC has agreed to notify the Régie when a new or modified standard is approved in the U.S. or remanded by any other jurisdiction outside of Québec. Additionally, although it is recognized that NERC cannot

[182] Available at http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/P19.pdf.

[182] Available at http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/P19.pdf.

impose financial penalties for violations of Reliability Standards in Québec, NERC has agreed to inform the Régie of any violations and of the corresponding amount of penalties associated with such a violation in the United States.

Compliance

The regulatory structure in Québec is governed by Chapter R-6.01, an Act respecting the Régie, a May 8, 2009 MOU between NPCC, the Régie, and NERC, a September 24, 2014 MOU between NPCC, the Régie, and NERC, several Régie decisions, and a Québec specific CMEP ("QCMEP"). Based on these governing documents, NPCC performs compliance and enforcement activities in Québec on all Québec registered entities. The Régie retains the ultimate authority to determine whether a violation occurred. NERC and Québec are contemplating consolidating and updating the MOU and QCMEP agreements into a single agreement in 2019. Under the provincial regime, the Régie may impose, if appropriate, a sanction that may not exceed $500,000 per day and set a deadline for payment.

Saskatchewan

Reliability Standards

Pursuant to *The Power Corporation Act*,[182] Saskatchewan Power Corporation ("SaskPower") has the authority to adopt, set, and administer standards for the planning, design, or operation of transmission lines, equipment, or other facilities within the Saskatchewan integrated regional power grid, and to maintain a membership in an integrated regional power organization. NERC, MRO, and SaskPower entered into an MOU that became effective on February 3, 2009 and was amended on January 15, 2012.[183] The MOU reflects the intent of Saskatchewan to support common North American BPS standards and to describe the protocols to achieve such a goal. For purposes of the MOU, NERC, and MRO are recognized to be Saskatchewan's electric Reliability Standard setting bodies.

In 2015, the parties amended the MOU to reflect SaskPower's Board of Directors creating Saskatchewan Electric Reliability Authority ("SERA") which has the mandate to approve BES standards, to monitor and enforce compliance, and to report to the SaskPower Board of Directors on reliability management. It establishes SERA as the standard setting body as well as the monitoring, compliance and enforcement authority; however, SERA may use MRO, NERC or other resources in exercising its authority.

Reliability Standards approved by the NERC Board of Trustees are automatically adopted in Saskatchewan, unless one of the following two conditions applies. First, if a particular standard has been remanded by any jurisdiction, the Reliability Standard will not be applicable in Saskatchewan. Second, a Reliability Standard will not be applicable in Saskatchewan if is

[182] Available at http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/P19.pdf.

[183] NERC-Canadian MOUs are available at http://www.nerc.com/filingsorders/ca/pages/canadian-mous.aspx.

remanded, set aside, or a variance has been requested. Under the MOU, once the Reliability Standard is adopted, compliance with the standard is required in Saskatchewan.

Compliance

As mentioned above, SERA has the mandate to monitor and enforce compliance. SERA provides a report on its activities on an annual basis to SaskPower.

National Energy Board

Reliability Standards

NERC and the NEB signed an MOU in 2006. The MOU recognizes NERC as the ERO. In the MOU, NERC and the NEB commit to coordinate in the promotion of a reliable North American BPS.

The NEB regulates the construction and operation of international power lines in accordance with, among other things, the *National Energy Board Act* and the *National Energy Board Electricity Regulations*.[184] The NEB has authority under its legislative framework to take certain enforcement measures in the case of noncompliance to the conditions of a permit or a certificate that was issued for an international power line.

NEB's *General Order MO-036-2012 for Electricity Reliability Standards* and five amending orders for Electricity Reliability Standards in December 2012 (NEB General Order) gave NEB the authority to make Reliability Standards mandatory and enforceable on international power lines.[185]

Data Sharing

NERC and the NEB have committed to exchange experience, information and data relating to the development and compliance with Reliability Standards as applicable to international power lines. The MOU commits NERC to informing and seeking input from the NEB on proposed changes to NERC's Bylaws or ROP. The MOU also commits NERC to inform the NEB when a SAR has been approved and assigned to a drafting team, and to notify NEB when a Reliability Standard is approved.

Under the MOU, NERC commits to notify the NEB at the stage of its development process where the Standards Committee approves a SAR and assigns it for development by a drafting team. The NEB agrees to inform NERC about any changes in its regulatory processes to allow formal approval of NERC Reliability Standards.

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[184] NEB maintains a list of acts and regulations that set forth its mandate, responsibilities, and powers at: http://www.neb-one.gc.ca/clf-nsi/rpblctn/ctsndrgltn/lstctsndrgltn-eng.html.

[185] The NEB General Order is available at: http://www.neb-one.gc.ca/clf-nsi/rpblctn/ctsndrgltn/rrggnmgpnb/lctrcty/lctrcty-eng.html.

Compliance

Consistent with its approach to adopting standards, the NEB has not imposed its own additional compliance monitoring and enforcement regime. The NEB General Order requires international power line permit holders to provide the NEB with certain compliance information, based on the compliance program of the jurisdiction where the international power line is located. In 2012, legislation was passed to provide the NEB with authority to establish a system of Administrative Monetary Penalties (AMP) through regulations in order to promote compliance with the *National Energy Board Act*. The penalties can be up to $100,000 per day for violations levied on companies. Lesser amounts can be levied on individuals. The NEB's regulations on how the AMP would be applied came into force in mid-2013.

There currently is no specific provision that violations would be made public.

Mexico

Baja California

Reliability Standards

In 2013 and 2014, Mexico enacted significant energy reforms that include restructuring of the Mexican electricity industry, increased opportunity for private investment and a competitive electricity market. With these reforms, the roles of several key players in Mexico have changed.

Comisión Reguladora de Energia ("CRE") is the federal energy regulator in Mexico. On March 3, 2016, CRE commissioners approved Resolución RES/151/2016, containing the first Grid Code (Codiga de Red) under Mexico's 2013–2014 electricity reforms. Under these reforms, CRE has many new responsibilities and authorities, including establishing regulations for electric reliability and security. The Grid Code contains the criteria for "efficiency, quality, reliability, continuity, security, and sustainability of the National Electric System" in Mexico, and the initial version incorporates ten NERC Reliability Standards.

CRE is required to update the Grid Code. In June 2016, NERC and WECC conducted a workshop for Mexican subject matter experts to provide a comprehensive overview of NERC and WECC Reliability Standards in order to assist them in providing technical advice to CRE during the development of the second Grid Code. Pursuant to a membership operating agreement between WECC and CFE, WECC has been monitoring CFE's compliance with certain NERC Reliability Standards in the portion of CFE's system in Baja California Norte that is interconnected to California.

Data Sharing

Mexico signed two agreements signifying intent to cooperate with the United States on reliability and participate in the international ERO: a set of bilateral reliability principles between Mexican and U.S. energy officials; and a MOU between NERC, the Mexican Energy Regulatory Commission ("CRE"), and the Mexican electricity system and market operator ("CENACE"). The parties to the MOU agree to share information in furtherance of the activities spelled out in the

MOU which include identifying risks related to critical infrastructure protection, assessing reliability performance and risks, and developing practices and tools for system events.

Compliance

WECC uses a compliance monitoring program to monitor and assess compliance with Mexico Reliability Standards applicable to Designated Entities,[186] consistent with the applicable law of Mexico and relevant agreements. If there is any conflict between the MOA and the CMP, the MOA prevails. WECC and Mexican counterparts are developing an agreement to supersede and replace the MOA under which WECC performs certain functions in Baja California Norte.

WECC does not have enforcement or registration/designation authority for CFE. WECC provides compliance monitoring, reviews mitigation plans and completed mitigation plans, and provides assessment recommendations with respect to alleged violations.

[186] "Designated Entities" are the Mexican equivalent of registered entities in the United States.

FEDERAL ENERGY REGULATORY COMMISSION
DOCKET NO. RR19-___

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

EXHIBIT B

TO

FIVE-YEAR ELECTRIC RELIABILITY ORGANIZATION PERFORMANCE ASSESSMENT REPORT

HOW THE REGIONAL ENTITIES SATISFY THE STATUTORY AND REGULATORY REQUIREMENTS FOR DELEGATION

JULY 22, 2019

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I. INTRODUCTION

NERC is the Electric Reliability Organization ("ERO") certified by the U.S. Federal Energy Regulatory Commission ("FERC" or the "Commission") to develop and enforce mandatory Reliability Standards under § 215 of the Federal Power Act.[1] Under § 215(e)(4) of the Federal Power Act[2] and § 39.8 of FERC's regulations,[3] the ERO is permitted to delegate authority to one or more Regional Entities "for the purpose of proposing Reliability Standards to the [ERO] and enforcing Reliability Standards," provided that certain criteria are met. Consistent with § 39.3 of the Commission's regulations[4] and the Commission's September 16, 2010 Order on NERC's *Three-Year ERO Performance Assessment Report*,[5] this section of NERC's Five-Year Performance Assessment Report demonstrates that each of the Regional Entities has satisfied the relevant statutory and regulatory criteria.

II. BACKGROUND

A. The Regional Delegation Agreements

As provided under the authorities noted above, NERC delegates certain ERO functions to the Regional Entities, including the authority to develop and enforce Reliability Standards subject to NERC oversight, by means of a Regional Delegation Agreement ("RDA") between NERC and each Regional Entity. As a condition of delegation, the RDA requires each Regional Entity to comply with applicable ERO Rules and Reliability Standards. These RDAs, which are periodically revised and renewed, must be approved by the Commission prior to becoming effective.

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1 16 U.S.C. § 824(o) (2018).
2 16 U.S.C. § 824(o)(e)(4).
3 18 C.F.R. § 39.8 (2018).
4 18 C.F.R. § 39.3.
5 *North American Electric Reliability Corporation, Order on the Electric Reliability Organization's Three-Year Performance Assessment*, 132 FERC ¶ 61,217, at P 36 (2010).

In its July 20, 2006 order certifying NERC as the ERO, the Commission accepted NERC's proposed *pro forma* RDA, subject to further modifications to be reflected in the final individual RDAs with the Regional Entities.[6] In April 2007, the Commission approved NERC's RDAs with eight Regional Entities.[7] Since 2007, the Commission has approved revised RDAs between NERC and the Regional Entities, including revisions to the *pro forma* and individual RDAs in 2010[8] and 2015.[9]

From 2007 until 2018, NERC maintained RDAs with the following Regional Entities:

- Florida Reliability Coordinating Council ("FRCC");
- Northeast Power Coordinating Council, Inc. ("NPCC");
- Midwest Reliability Organization ("MRO");
- ReliabilityFirst Corporation ("ReliabilityFirst");
- SERC Reliability Corporation ("SERC");
- Southwest Power Pool Regional Entity ("SPP RE");
- Texas Reliability Entity, Inc. ("Texas RE"); and
- Western Electricity Coordinating Council ("WECC").

In July 2017, NERC and the Southwest Power Pool mutually agreed to terminate the responsibilities of the SPP RE as a Regional Entity. On May 4, 2018, the Commission approved the termination of the SPP RE RDA, proposed transfers of registered entities to the SERC and MRO footprints as of July 1, 2018, and revisions to the SERC and MRO RDAs to reflect the

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[6] *North American Electric Reliability Corp.*, 116 FERC ¶ 61,062, (ERO Certification Order), *order on reh'g and compliance*, 117 FERC ¶ 61,126 (2006), *order on compliance*, 118 FERC ¶ 61,030, *order on compliance*, 118 FERC ¶ 61,190, *order on reh'g*, 119 FERC ¶ 61,046 (2007), *aff'd sub nom. Alcoa Inc. v. FERC*, 564 F.3d 1342 (D.C. Cir. 2009).

[7] *See North American Electric Reliability Corp.*, 119 FERC ¶ 61,060, *order on reh'g*, 120 FERC ¶ 61,260 (2007).

[8] *North American Electric Reliability Corp.*, 133 FERC ¶ 61,061 (2010), *order denying reh'g*, 134 FERC ¶ 61,179 (2011), *order on compliance filing*, 137 FERC ¶ 61,028 (2011).

[9] *North American Electric Reliability Corp.*, 153 FERC ¶ 61,135 (2015) (approving *pro forma* and individual RDAs, subject to compliance filing) and *North American Electric Reliability Corp.*, Docket No. RR15-12-001 (Mar. 23, 2016) (delegated letter order) (accepting final *pro forma* and individual RDAs) (collectively, "2015 RDA Order").

changed geographic footprints of those Regional Entities.[10] The termination of the SPP RE RDA became effective August 31, 2018.

Similarly, in October 2018, the Florida Reliability Coordinating Council ("FRCC") Board voted to dissolve FRCC RE. On February 27, 2019, NERC, FRCC and SERC filed a joint petition with the Commission for approval of the dissolution of FRCC RE. The petition was approved by the Commission on April 30, 2019, which specified that the registered entities in FRCC were to be transferred to SERC on July 1, 2019, and a complete wind down of FRCC RE on August 31, 2019.[11]

The currently-effective RDAs between NERC and the remaining six Regional Entities are due for renewal by December 31, 2020.

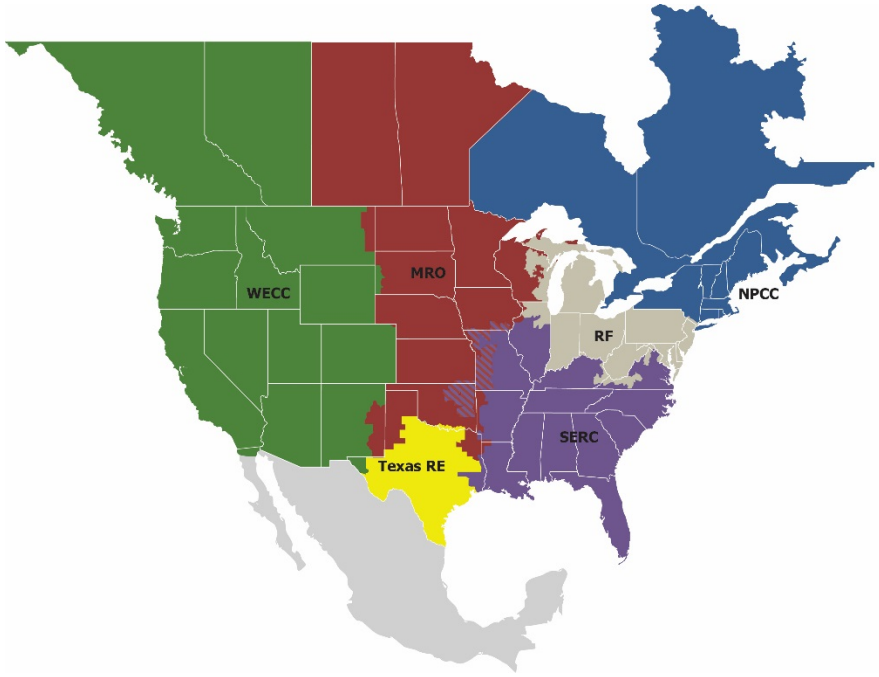
B. Geographic Footprints of the Regional Entities

As shown in **Figure 1** below, the six Regional Entities provide full geographic coverage for the jurisdictional scope of NERC as the ERO for North America.

[10] *North American Electric Reliability Corp., Midwest Reliability Organization, and SERC Reliability Corporation*, 163 FERC ¶ 61,094 (2018).

[11] *North American Electric Reliability Corporation, Florida Reliability Coordinating Council, Inc., SERC Reliability Corporation,* 167 FERC ¶ 61,095 (2019).

Figure 1 — Map of Regional Entities within NERC



C. Statutory and Regulatory Criteria for Delegation

Section 215(e)(4) of the Federal Power Act,[12] as reiterated in § 39.8 of the Commission's regulations,[13] provides that a Regional Entity must satisfy the following criteria to be delegated "authority for the purpose of proposing reliability standards to the ERO and enforcing reliability standards":

1. The Regional Entity is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board.

2. The Regional Entity meets the requirements otherwise applicable to the ERO in § 215(c)(1)(2) of the Federal Power Act,[14] namely that it:

    a. has the ability to develop and enforce reliability standards that provide for an adequate level of reliability of the Bulk-Power system ("BPS"); and

[12] 16 U.S.C. § 824o(e)(4).
[13] 18 C.F.R. § 39.8.
[14] 16 U.S.C. § 824o(c)(1)(2).

b. has established rules that:

i. assure its independence of the users and owners and operators of the BPS, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any committee or subordinate organization structure;

ii. allocate equitably reasonable dues, fees, and other charges among end users for all activities;

iii. provide fair and impartial procedures for enforcement of Reliability Standards through the imposition of penalties;

iv. provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing Reliability Standards and otherwise exercising its duties; and

v. provide for taking appropriate steps to gain recognition in Canada and Mexico.

3. The Regional Entity operates under a delegation agreement that promotes effective and efficient administration of BPS reliability.

During the Assessment Period, each of the Regional Entities has continued to meet the statutory and regulatory criteria to be delegated authority under the RDAs, as discussed in the following section.

III. THE REGIONAL ENTITIES CONTINUE TO SATISFY THE STATUTORY AND REGULATORY CRITERIA FOR DELEGATION

This section provides a description of each of the six[15] Regional Entities and describes in detail how each of these Regional Entities has met and continues to meet the relevant statutory and regulatory criteria.

A. Northeast Power Coordinating Council, Inc. ("NPCC")

NPCC was established as the voluntary, international regional reliability organization for Northeastern North America in January 1966. NPCC is a not-for-profit corporation with a Regional Entity division that performs the statutory functions delegated by NERC and a Criteria

[15] NERC terminated the RDAs with SPP RE and FRCC RE during the Assessment period.

Services division that establishes, monitors, and enforces compliance with regionally-specific criteria. The NPCC geographic region includes the State of New York and the six New England states as well as the Canadian provinces of Ontario, Québec and the Maritime provinces of New Brunswick and Nova Scotia.

NPCC continues to meet the relevant statutory and regulatory criteria for delegation as follows:

1. **NPCC "is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board."** NPCC's hybrid board of directors consists of seven stakeholder voting sectors that each consist of a maximum of two directors per sector, an independent sector consisting of two independent directors, an independent board chair with voting rights to preclude board deadlocks, and the President and CEO. Within NPCC, no two sectors can control and no one sector can block action.

2. **NPCC meets the requirements of § 215(c)(1)(2) of the Federal Power Act, because:**

    a. NPCC is able to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system. NPCC participates in, and supports the development of, all NERC continent-wide Reliability Standards. NPCC also has developed a Regional Standard Processes Manual ("RSPM") that provides the design-basis approach to a consensus building process by which NPCC may develop Regional Reliability Standards and regional variances to be proposed to the ERO for adoption, under delegated authority by the FERC and the Canadian provincial regulatory and/or governmental authorities. This procedure contains common attributes that provide for an adequate level of reliability to provide for an open, balanced, fair, transparent, and inclusive standards development process. NPCC's RSPM sets forth the structure for developing Reliability Standards that provide for an adequate level of reliability. NPCC revised its RSPM for better alignment with the NERC standards development process and NPCC Regional stakeholders' needs. FERC approved the NPCC RSPM on December 23, 2014. In 2018 NPCC has also initiated a revision to the RSPM to identify further opportunities to align the standards development processes with NERC and explicitly clarify the process and authority provided by NERC to develop any further Québec interconnection-wide Variances required for NERC continent-wide standards.

    Illustratively, during the assessment period, NPCC was able to initiate the successful retirement of Regional Reliability Standard PRC-002-NPCC-01 – Disturbance Monitoring. The regional standard was no longer needed to ensure that adequate disturbance data is available to facilitate Bulk Electric System (BES)

event analyses. NPCC participated and led the development of continent-wide Reliability Standard PRC-002-2 Disturbance Monitoring and Reporting Requirements, to facilitate retirement of the regional standard. FERC approved the retirement in a letter order (RD16-8-000) dated August 16, 2016.

In addition, as allowed by the NERC Rules of Procedure, NPCC developed a revision to the Québec variance for Reliability Standard NERC PRC-006-3 - Automatic Underfrequency Load Shedding. The Québec Interconnection-wide Variance was developed in accordance with the NPCC RSPM and approved by the NPCC Board of Directors on May 13, 2017 and the NERC Board of Trustees on August 10, 2017.

NPCC is also engaged in a revision of the Regional Reliability Standard, PRC-006-2 Automatic Underfrequency Load Shedding ("UFLS"). The revision is necessary to remove redundancies with the latest version of the continent-wide Reliability Standard PRC-006-3 and will incorporate the Regional Reliability Criteria contained in Directory 12, allowing retirement of that Directory. The revision will enhance the efficient completion of UFLS studies within NPCC and clarify BES system performance and UFLS program requirements.

Compliance and enforcement activities are carried out by the NPCC compliance and enforcement staff and are independent of all users, owners and operators of the North American BPS. Compliance and enforcement activities are governed in the U.S. by the RDA between NERC and NPCC, delegating portions of NERC's authority as the ERO to NPCC.

NPCC has the requisite compliance and enforcement staff to identify users, owners and operators of the bulk electric system and to monitor and enforce the Reliability Standards. NPCC's compliance staff is divided into four sub-program areas: (i) Compliance Implementation, Registration, and Certification; (ii) Compliance Entity Risk Assessment; (iii) Compliance Monitoring; and (iv) Compliance Enforcement. Compliance Implementation, Registration, and Certification personnel carry out the entity registration and certification activities, administer the compliance tools and portals, and perform entity outreach and education. The Entity Risk Assessment conducts IRAs and ICEs, assists with the development of annual implementation plans, and provides the basis for each registered entity's COP. Compliance Monitoring conducts all compliance monitoring activities to oversee compliance with the NERC Reliability Standards. Monitoring activities include audits, spot checks, and self-certifications. Enforcement determines the relevant facts and circumstances, evaluates the risk, evaluates mitigation, assesses compliance history, determines a disposition method for each noncompliance, and determines penalty sanctions in consistent fashion. When necessary, enforcement works with the registered entity on understanding the noncompliance, determining the root cause, and appropriately mitigating the noncompliance.

b. NPCC has established rules that:

i. **Assure its independence of the users and owners and operators of the BPS, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organization structure.** The rules and procedures contained in the RDA, Rules of Procedure, amended and restated NPCC bylaws, and other NPCC committee governance documents assure the independence of the users and owners and operators of the BPS while assuring fair stakeholder representation and balanced decision-making at the same time. Fair stakeholder representation and participation is assured by NPCC's committees, subcommittees, task forces and other groups as the board of directors may deem appropriate. Industry technical experts from within the membership also provide valuable input to the board through various working groups and task forces as well as the committees.

ii. **Allocate equitably reasonable dues, fees, and other charges among end users for all activities.** The allocation of dues, fees, and other charges by NPCC is governed by Article XIII of its bylaws. Funding of Regional Entity division activities are undertaken pursuant to § 215 of the Federal Power Act in accordance with the funding provisions and procedures of that law and related FERC regulations and orders. After review and endorsement by the NPCC Finance and Audit Committee, the NPCC Board of Directors approves the annual Business Plan and Budget in time for submission to the ERO and to FERC for approval. NPCC funds reliability activities in Canadian provinces pursuant to the mechanisms established by the applicable Canadian provincial regulatory authority. Budgets for the costs of reliability activities are allocated equitably based on the NEL and other relevant factors consistent with applicable law, the RDA, and any agreements with Canadian provincial authorities. NPCC members are not assessed an annual membership fee. For NPCC's Criteria Services division, which establishes and monitors regional-specific non-statutory criteria, Full Members that perform the Balancing Authority function are assessed and pay based upon NEL. Special assessments for Criteria Services may be separately budgeted to Full Members that perform the Balancing Authority function or upon Full Members with Full Members' consent.

iii. **Provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties**. The NERC ROP is the primary document that NPCC uses to guide its fair and impartial procedures for enforcement. With respect to penalties, NPCC consistently uses the NERC provided penalty calculator tool for consistency in penalty calculation determinations. NPCC has in place a *Conflict of Interest Policy* that requires each NPCC director, officer, and employee to avoid and refrain from involvement in situation where there is an actual conflict of interest, annually disclose any actual or potential conflicts of interest that may arise, recuse himself or herself from participation in any action involving an actual

or potential conflict of interest, and refrain from voting on any actions where there is an actual or potential conflict of interest. In addition, NPCC's *Code of Conduct*, which applies to its officers, board of directors, employees, and all participants of NPCC committees, task forces, and working groups, requires each individual to recognize conflicts of interest that may arise and to take steps to disclose such conflicts of interest and to refrain from voting and/or influencing others with respect to such conflicts of interest.

iv. **Provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties.** NPCC follows a RSPM that provides that participation in the development of a Regional Reliability Standard shall be open to all organizations that are directly and materially affected by the NPCC BPS reliability, that there shall be no undue financial barriers to participation, and that participation shall not be conditioned upon membership in NPCC or unreasonably restricted on the basis of technical qualifications or other such requirements. Meetings of drafting teams are open to the NPCC members and others.

Compliance and enforcement activities are carried out by the NPCC compliance staff and are independent of all users, owners and operators of the North American BPS. Compliance and enforcement activities are governed in the U.S. by the RDA between NERC and NPCC, delegating portions of NERC's authority as the ERO to NPCC. In August 2018, NPCC notified NERC that it elected to conduct all hearings pursuant to NERC's consolidated hearing process.

v. **Provide for taking appropriate steps to gain recognition in Canada and Mexico**. There are various regulatory structures in which NPCC is recognized in the Northeastern Canadian provinces of New Brunswick, Nova Scotia, Ontario, and Québec

New Brunswick – Through the New Brunswick Electricity Act and implementing regulations, NPCC is designated as a Compliance Body within New Brunswick. On August 10, 2016, as contemplated in the NB Electricity Act, NPCC and the New Brunswick Energy and Utilities Board ("NBEUB") updated and renewed a Service Contract whereby NPCC provides compliance monitoring and enforcement activities and other services for the NBEUB. Additionally, the NBEUB, NPCC, and NERC entered into a Memorandum of Understanding ("MOU") on August 10, 2016, which describes the roles and responsibilities of the three entities and facilitates data sharing. These two documents, along with the NB Electricity Act, are the governing documents with respect to conducting CMEP and other reliability related activities in New Brunswick. Based on these governing documents, NPCC performs compliance and enforcement activities in New Brunswick on all New Brunswick registered entities. The

NBEUB retains the ultimate authority to determine whether a violation occurred.

Nova Scotia – The regulatory structure in Nova Scotia is based upon a May 9, 2010 MOU between NPCC, Nova Scotia Power, Inc.("NPSI"), and NERC and a July 2011 Order from the Nova Scotia Utility and Review Board ("NSUARB"). Based on these governing documents, NPCC is designated to perform compliance and enforcement activities in Nova Scotia upon NPSI. The NSUARB retains the ultimate authority to determine whether a violation occurred.

Ontario – The regulatory structure in Ontario stems from the Ontario Electricity Act, the Independent Electricity System Operator ("IESO") Market Rules, and a February 5, 2010 MOU between NPCC, the IESO, and NERC. In Ontario, the IESO is the subject to the NERC Reliability Standards through NPCC. NPCC performs compliance and enforcement activities on the IESO.

Québec – The regulatory structure in Québec is governed by Chapter R-6.01, an Act respecting the Régie de l'énergie ("Régie"), a May 8, 2009 MOU between NPCC, the Régie, and NERC, a September 24, 2014 MOU between NPCC, the Régie, and NERC, several Régie decisions, and a Québec specific CMEP ("QCMEP"). Based on these governing documents, NPCC performs compliance and enforcement activities in Québec on all Québec registered entities. The Régie retains the ultimate authority to determine whether a violation occurred.

NPCC has also testified before the Régie in regulatory proceedings related to the designation of the Reliability Coordinator for Québec.

3. **NPCC operates under a delegation agreement that promotes effective and efficient administration of BPS reliability.** On November 2, 2015,[16] the Commission approved the amended and restated NPCC RDA which incorporated benefits of NERC's and NPCC's mutual experience and lessons learned while operating under the predecessor agreement. The revised RDA provides for more efficient and effective execution of responsibilities that promote the reliability of the BPS. These responsibilities include: (i) development and proposal of Reliability Standards; (ii) enforcement of compliance with Reliability Standards; (iii) certification of BPS entities; (iv) registration of owners, operators, and users of the BPS; (v) reliability assessment and performance analysis; (vi) event analysis and reliability improvement; (vii) training and education; and (viii) situation awareness and infrastructure security.

[16] 2015 RDA Order, *supra* n.9.

B. Midwest Reliability Organization ("MRO")

MRO was formed from the former Mid-Continent Area Power Pool Regional council and a portion of Mid-America Interpool Network as a new corporation for the purpose of becoming a Regional Entity under the Energy Policy Act of 2005 and the Bilateral Principles. The region now spans all or part of 16 states and two Canadian provinces. MRO's bylaws provide for members from the following industry sectors: transmission system operators, generators and power marketers, municipal utilities, cooperatives, investor-owned utilities, federal power marketing agency, and Canadian utilities. MRO's bylaws also allow for adjunct members that are not eligible to belong to an industry sector and have a material interest in reliability issues in the MRO region. Membership is at no cost. MRO is independent of all BPS owners, operators, and users, and has no shared employees with any third party. MRO performs only responsibilities delegated from the ERO and similar functions in the Canadian provinces of Saskatchewan and Manitoba. MRO's board of directors ("MRO Board") represents a hybrid governance structure with both independent and stakeholder directors. Currently, MRO's hybrid board consists of 23 directors. Seventeen directors are elected by and represent the industry sectors noted above. Two directors are nominated by the board and elected by all Members to serve as regional directors. A regional director is an employee of a Member and meets the qualifications for directors elected from an Industry Sector. Four independent directors are elected by all Members. On June 4, 2018, NERC filed a petition with FERC for approval of MRO's amended bylaws, under which MRO would add four board positions consisting of two independent directors and two regional directors.[17] MRO's hybrid board is structured so that no two sectors can control a vote. The MRO Board has adopted

[17] *Petition of the North American Electric Reliability Corporation for Approval for Amendments to Midwest Reliability Organization Bylaws*, Docket No. RR18-8-000 (Jun. 4, 2018).

procedures to ensure that it carries out its responsibilities in a non-discriminatory manner, free of conflicts.

MRO continues to meet the relevant statutory and regulatory criteria for delegation as follows:

1. **MRO "is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board."** Throughout the five-year assessment period, MRO was governed by a combination independent and balanced stakeholder board.

2. **MRO meets the requirements of § 215(c)(1)(2) of the Federal Power Act, because:**

    a. **MRO is able to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system.** MRO has a Regional Reliability Standards Process Manual ("RRSPM") and a stakeholder CMEP Advisory Council comprised of subject matter experts is available to fulfill its obligation to develop a regional standard should there be a need for a regional Reliability Standard in the future.

    MRO also has the requisite staff both in terms of number of people and expertise, and adequate processes and procedures, to enforce the Reliability Standards. MRO splits the CMEP function into three distinct steps with their own assigned personnel— (i) Compliance Monitoring, (ii) Risk Assessment and Mitigation, and (iii) Enforcement. Compliance Monitoring staff develops compliance oversight plans and conducts monitoring activities to oversee compliance with reliability standards by registered entities. Risk Assessment and Mitigation staff conduct inherent risk assessments (IRAs) for registered entities, and complete risk determinations for each noncompliance, which includes an independent review of the facts and circumstances. Risk Assessment and Mitigation staff also works with the registered entities to develop effective and comprehensive mitigation. Enforcement staff review recommendations made by Risk Assessment and Mitigation staff, verify all relevant facts, and resolve noncompliances through appropriate processing methods.

    The factual review conducted by the Risk Assessment and Mitigation and Enforcement staff is intended to ensure a consistent, accurate application of the NERC reliability standards. The three-step process also provides for segregation of duties, establishing independence among those making the findings, those assessing risk, and those determining and negotiating penalties and sanctions. As a result of this approach, registered entities in the MRO region accept responsibility for roughly 95% of all noncompliance.

b. MRO has established rules that:

i. **Assure its independence of the users and owners and operators of the** BPS**, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organization structure.** In particular, MRO assures the independence of the users and owners and operators of the BPS by establishing processes and procedures for the conduct of its work. For example, by having a three-step process to implement the CMEP, MRO assures that its internal work is subjected to review and validation. MRO also has specific policies that prevent stakeholder conflicts of interest and prevent stakeholders from participating in its CMEP work. In addition, all MRO members elect the two Regional Directors and four Independent Directors; the remaining directors are elected by industry sectors.

ii. Allocate equitably reasonable dues, fees, and other charges among end users for all activities. MRO's funding requirements are equitably allocated in a manner similar to the one used by the other Regional Entities. Each year, MRO develops an annual business plan and budget that describes in detail the resources MRO needs to carry out its delegated functions. The annual business plan and budget is reviewed and approved by the MRO Board and then submitted to NERC and ultimately filed with the Commission for approval. Assessments are made to MRO's LSEs through a formula which is based on NEL. MRO does not charge additional fees to be a member or to participate in its training. The annual business plan and budget as well as annual audits by independent auditors and periodic audits by FERC help ensure that MRO's expenses and assessments to end users are reasonable.

iii. **Provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties**. To ensure fair and impartial procedures, as described above, MRO has implemented a three-step approach to fulfill its delegated responsibilities under the CMEP. Risk and Mitigation staff completes a risk determination for each noncompliance based on an independent analysis of the unique facts and circumstances. MRO Enforcement staff reviews any recommendations from MRO Risk Assessment and Mitigation staff, verifying that all relevant facts have been gathered, and evaluates the noncompliance for the appropriate enforcement action and penalty, if any.

Assessment of a penalty is reserved for noncompliances that pose greater risk to the reliability of the bulk power system. As a result of the extensive risk assessment conducted by MRO Risk Assessment and Mitigation staff, Enforcement is able to make fair, accurate and reasonable enforcement decisions considering the facts and circumstances coupled with the risk

posed by the noncompliance – the greater the risk, the greater the potential for penalty and scrutiny of review and approval.

In addition, MRO has policies and procedures to avoid conflicts of interest in its CMEP work. Those policies and procedures provide:

(1) MRO's President and CEO and MRO board members do not directly participate in compliance violation investigations, compliance audits, reports, sanction determinations, or other matters within the CMEP.

(2) A MRO director or member of an MRO organizational group may engage in actions on behalf of his or her employer regarding a compliance monitoring and enforcement matter undertaken by MRO; however, that director or member of an MRO organizational group must recuse himself or herself from any board or organizational group decisions, meetings, and actions related to that compliance monitoring and enforcement matter. Potential concerns about the participation of a MRO director or member of an MRO organizational group are brought to the attention of the President and CEO who will seek an appropriate resolution of the matter with the advice and counsel of the independent directors.

iv. **Provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties.** MRO has a RRSPM which has been approved by NERC and FERC. This RRSPM is based on the set of common attributes that provide for an open, balanced, fair, transparent and inclusive standard development process, and includes specific provisions relating to the process for the opportunity to comment and be heard. Additionally, MRO organizational group and board meetings are open to the public, and announcements to these meetings are widely disseminated in advance, providing entities an opportunity to provide input to MRO's processes.

v. **Provide for taking appropriate steps to gain recognition in Canada**. MRO operates under provincial Manitoba regulations which were adopted in 2012. MRO and NERC have a memorandum of understanding with Manitoba Hydro that was executed in 2018.

MRO and NERC have a memorandum of understanding with Saskatchewan Power Corporation governing MRO's work in Saskatchewan, Canada that was executed in 2015.

3. **MRO operates under a delegation agreement that promotes effective and efficient administration of BPS reliability.** On December 11, 2018,[18] the Office of Energy Market Regulation approved the requests of Wisconsin Public Service Corporation and Upper Michigan Energy Resources Corporation to transfer their registrations from MRO to ReliabilityFirst and the revision of MRO's RDA to reflect this transfer. Previously, on May 4, 2018,[19] the Commission approved the amended and restated MRO RDA to reflect the changed geographic footprint of MRO to be effective July 1, 2018. The 2018 RDA maintained the RDA provisions from the 2015 RDA (approved by the Commission on November 2, 2015,[20]) which incorporated benefits of NERC's and MRO's mutual experience and lessons learned while operating under the predecessor agreement. The RDA provides for efficient and effective execution of responsibilities that promote the reliability of the BPS. These responsibilities include: (i) development and proposal of Reliability Standards; (ii) enforcement of compliance with Reliability Standards; (iii) certification of BPS entities; (iv) registration of owners, operators, and users of the BPS; (v) reliability assessment and performance analysis; (vi) event analysis and reliability improvement; (vii) training and education; and (viii) situation awareness and infrastructure security.

   MRO has adopted high reliability organization principles in its approach to its delegated responsibilities, an approach that supports risk-based compliance monitoring and enforcement. These principles recognize risk, and emphasize self-monitoring with strong corrective action programs. The approach has fostered greater engagement with registered entities to solve technical problems and resulted in a corporate theme—clarity, assurance, and results. Clarity sets clear expectations for registered entities on the technical requirements of the standards. Assurance measures performance against these key requisites. Results can be seen in improved reliability. For example, MRO leverages the technical expertise of subject matter experts on stakeholder-led organizational groups to develop application guides for NERC standards that provide clear expectations of compliance. While these application guides are not authoritative, they provide much needed direction on compliance requirements, and many have been endorsed by the ERO Enterprise as Implementation Guidance. As a result, MRO has seen a measurable drop in the frequency and severity levels of violations in higher risk standards, beginning with the most violated Reliability Standard several years ago, PRC-005.

   Additionally, an MRO stakeholder-led organizational group developed an internal controls and procedures framework for use by registered entities to strengthen their internal compliance programs. These types of guidelines provide the necessary clarity to industry to assure that key reliability requirements are met.

   Registered entities, too, need to provide assurance to MRO staff that they understand the requirements and have established sustainable management practices to detect, correct, report, and prevent problems. Registered entities that have demonstrated their ability to identify their own noncompliances, accurately assess the risk, mitigate the noncompliances

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18 *Letter Order Approving Registration Request of WPSC and UMERC (2018).*

19 *North American Electric Reliability Corporation*, 163 FERC ¶ 61,094 (2018).

20 2015 RDA Order, *supra* n.9.

and put actions in place to prevent recurrence, as provided in the NERC guide for the ERO Enterprise Self-Logging Program, are eligible to participate in the Self-Logging Program in the MRO Region. Through the assessment period, MRO has 24 registered entities participating in the program.

C. ReliabilityFirst Corporation ("ReliabilityFirst")

ReliabilityFirst was formed from parts of the former East Central Area Reliability Council, Mid-America Interpool Network, and the Mid-Atlantic Area Council regional reliability councils on January 1, 2006. The organization was specifically designed to address changes required by the Energy Policy Act of 2005 and to support the ERO in a self-regulating model by which the industry participants establish their own standards and independent Regional Entities determine compliance to those standards. The organization was modified from top to bottom compared to the legacy reliability councils it replaced, and exists solely to serve as a FERC-approved Regional Entity performing only those functions delegated to it by NERC as the ERO. All ReliabilityFirst staff are independent of registered entities, the organization is governed by a hybrid board of directors, which includes both independent and balanced industry sector directors, and the organization is funded (through the ERO) by all load-serving entities in the footprint as opposed to members.

ReliabilityFirst continues to meet the relevant statutory and regulatory criteria for delegation as follows:

1. **ReliabilityFirst "is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board."** ReliabilityFirst is governed by a combination independent and balanced stakeholder board, which consists of 14 directors: (i) three are independent directors; (ii) three are at-large directors elected by all the industry sectors voting together as a single class; and (iii) eight are elected by their industry sectors (suppliers elect two directors, transmission companies elect two directors, Regional Transmission Organizations elect one director, small LSEs elect one director, medium LSEs elect one director, and large LSEs elect one director).

2. **ReliabilityFirst met the requirements of § 215(c)(1)(2) of the Federal Power Act, because:**

   a. **ReliabilityFirst is able to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system.** Although ReliabilityFirst no longer develops Regional Reliability Standards in order to avoid duplication with the NERC continent-wide Reliability Standards, ReliabilityFirst has adopted a regional RRSDP, and has otherwise proved its ability to develop Regional Reliability Standards, as illustrated by its development of ReliabilityFirst Regional Reliability Standard BAL-502-RFC-02 - Planning Resource Adequacy Analysis, Assessment and Documentation, which was approved by the Commission on March 17, 2011. The purpose of the regional standard is to establish common criteria, based on "one day in ten" loss of load expectation principles, for the analysis, assessment, and documentation of resource adequacy for load in the ReliabilityFirst footprint. During the assessment period, ReliabilityFirst revised this Regional Standard (now titled BAL-502-RF-03) to add time horizons to its requirements, and to include a requirement for planning coordinators to identify any gap between the needed amount of planning reserves defined in Requirement R1.1 and the planning reserves determined from the resource adequacy analysis. FERC approved the revised Regional Standard on October 16, 2017.

      ReliabilityFirst has sufficient staff with the requisite expertise to conduct compliance audits, investigations, spot checks, and other compliance reviews, and to enforce Reliability Standards as demonstrated in part by its performing over 200 audits and 28 spot checks during the assessment period, and ensuring the mitigation of over 1300 alleged violations of those standards. These activities have resulted in tangible improvements to the reliability of the BPS. ReliabilityFirst develops a Compliance Oversight Plan for each entity, based on the key Risk Elements identified by NERC and ReliabilityFirst, and the unique risks posed by the entity. It then tailors compliance monitoring activities around these Compliance Oversight Plans, to provide a customized, risk-based approach. To enhance its risk-determination process in enforcement, ReliabilityFirst developed a "Risk-Harm" process which, among other things, provided for technical experts to answer a series of questions about the risk and harm posed by each violation using a common scale to ascertain a quantified risk assessment for each violation. Additionally, for serious violations of the NERC Reliability Standards, ReliabilityFirst works with registered entities to implement substantial reliability enhancements beyond baseline compliance, to improve reliability on their system and on the BPS.

   b. ReliabilityFirst has established rules that:

      i. **Assure its independence of the users and owners and operators of the BPS, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organization structure.** As described earlier, ReliabilityFirst is governed by a combination independent and balanced stakeholder board. Pursuant to ReliabilityFirst's bylaws, no two industry sectors can control

any ReliabilityFirst decision and no single industry sector can veto any ReliabilityFirst decision. This hybrid board structure assures ReliabilityFirst's independence, while still assuring fair stakeholder representation and balanced decision-making. To further assure ReliabilityFirst's independence of the users, owners and operators of the BPS, ReliabilityFirst has the following protections in place:

- First, ReliabilityFirst adopted the NERC CMEP, Appendix 4C to the NERC ROP, which provides fair and impartial procedures for the monitoring and enforcement of Reliability Standards.

- Second, all ReliabilityFirst employees, contractors, and directors sign and must adhere to non-disclosure and confidentiality agreements and conflict of interest forms, and ReliabilityFirst employees, contractors, and directors are governed by the ReliabilityFirst *Conflict of Interest Policy*, the ReliabilityFirst *Code of Business Conduct and Ethics*, and § 1500 of the NERC ROP.

- Third, to ensure the independence of its staff and eliminate any potential conflicts of interest, ReliabilityFirst does not allow stakeholder participation in its compliance or enforcement activities (i.e., a registered entity staff member may not be on a ReliabilityFirst audit or compliance investigation team).

- Fourth, ReliabilityFirst does not allow its industry sector directors to participate in settlement discussions with ReliabilityFirst on behalf of their registered entity.

ii. **Allocate equitably reasonable dues, fees, and other charges among end users for all activities**. The funding for ReliabilityFirst's activities is equitably allocated among its end users and recovered through a formula based on NEL. Each year, ReliabilityFirst develops an annual business plan and budget, which describes the adequate resources needed for ReliabilityFirst to carry out its delegated functions. The annual business plan and budget and the assessments to the end users must be approved by the Commission. The annual business plan and budget process, the Commission's approval of the assessments, and periodic financial audits by the Commission all ensure that ReliabilityFirst's expenses and assessments to end users are reasonable.

iii. **Provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties.** ReliabilityFirst has adopted the NERC CMEP, Appendix 4C to the NERCROP, which provides fair and impartial procedures for the enforcement of Reliability Standards within ReliabilityFirst's geographic boundaries. Additionally, ReliabilityFirst maintains the ReliabilityFirst *Conflict of Interest Policy* and the ReliabilityFirst *Code of Business Conduct and Ethics* to ensure the integrity and independence of its compliance and enforcement staff. To

assess fair, impartial, and consistent penalties, ReliabilityFirst follows the *Sanction Guidelines*, as set out in Appendix 4B to the NERC ROP.

iv. **Provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties.** Although ReliabilityFirst no longer develops new regional Reliability Standards, ReliabilityFirst's RRSDP provides for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in the development of Reliability Standards.

The RRSDP includes public notice and a comment period for any proposed standard, due consideration of those public comments, and a ballot of interested stakeholders. Participation in the standards development process is open to all entities that are directly and materially affected by reliability in the ReliabilityFirst region, and there are no undue financial barriers to participation. The standards development process is balanced: it may not be dominated by any two interest categories, and no single interest category shall be able to defeat a matter.

ReliabilityFirst provides for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in its CMEP activities. A registered entity has the right to receive notice when it is placed on the NERC Compliance Registry, and it may appeal its registration to NERC and to the Commission.

The CMEP requires ReliabilityFirst to provide notice to a registered entity when it determines that the registered entity has violated a Reliability Standard, and the registered entity has an opportunity to respond. If a registered entity wishes to contest an alleged violation of a Reliability Standard or a penalty, it may request and receive a hearing, and may appeal the hearing decision to NERC. A registered entity also has the right to request a hearing to contest a twice-rejected mitigation plan or a remedial action directive.

At the conclusion of an enforcement matter, NERC publicly files a Notice of Penalty with the Commission, which promotes openness and the opportunity for public comment. The ERO balances the interest in openness with the concern for the security of critical infrastructure information, and as such, all sensitive critical infrastructure information is redacted from all public Notice of Penalty filings.

v. **Provide for taking appropriate steps to gain recognition in Canada and Mexico.** This criterion is not applicable to ReliabilityFirst, as its geographic boundaries do not include any portion of Canada or Mexico.

3. **ReliabilityFirst operates under a delegation agreement that promotes effective and efficient administration of BPS reliability**. On November 2, 2015,[21] the Commission approved the amended and restated NERC and ReliabilityFirst RDA which incorporated benefits of NERC's and ReliabilityFirst's mutual experience and lessons learned while operating under the predecessor agreement. The revised RDA provides for more efficient and effective execution of responsibilities that promote the reliability of the BPS. These responsibilities include: (i) development and proposal of Reliability Standards; (ii) enforcement of compliance with Reliability Standards; (iii) certification of BPS entities; (iv) registration of owners, operators, and users of the BPS; (v) reliability assessment and performance analysis; (vi) event analysis and reliability improvement; (vii) training and education; and (viii) situation awareness and infrastructure security.

   ReliabilityFirst only performs those activities delegated to it under the RDA. ReliabilityFirst has promoted effective and efficient administration of the BPS in its footprint during the assessment period through its successful implementation of the CMEP. For example, during the assessment period, ReliabilityFirst successfully processed and ensured the mitigation of over 1300 violations; completed over 200 audits; analyzed over 150 events; and conducted significant outreach efforts. These outreach efforts included a widely used assist visit program (targeted training based on the needs of the entity), bimonthly newsletters, and various risk-based training events and workshops throughout the year.

D. SERC Reliability Corporation ("SERC")

SERC was incorporated in April 2005, replacing the regional reliability council previously in existence since 1969. The new organization was redesigned to meet Federal Power Act § 215 and FERC criteria for delegating statutory authorities and responsibilities. SERC's scope includes only statutory functions delegated by NERC. The organization does not perform any registered entity functions and has no business affiliations with any registered entities. Under SERC's bylaws, SERC has a balanced stakeholder board with seven sectors. All SERC staff are independent of registered entities. The organization is funded through the ERO. Membership is free and open to all owners, operators, and users in the SERC region.

SERC continues to meet the relevant statutory and regulatory criteria for delegation as follows:

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[21] 2015 RDA Order, *supra* n. 9.

1. **SERC "is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board."** SERC is governed by a balanced stakeholder board. Stakeholders are classified by the SERC Board Executive Committee in one of seven sectors (investor-owned utility sector, federal/state sector, cooperative sector, municipal sector, marketer sector, merchant electricity generator sector, and ISO-RTO sector). SERC's bylaws establish voting rules that ensure that no two sectors are able to approve a decision and that no one sector can veto a decision.

2. **SERC met the requirements of § 215(c)(1)(2) of the Federal Power Act, because:**

    a. **SERC is able to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system.**

    Standards: The SERC RRSDP defines the process for the development, revision, reaffirmation, and withdrawal of Regional Reliability Standards. The SERC RRSDP requires any proposed Regional Reliability Standard to be more stringent than a continent-wide Reliability Standard, whether the Regional Reliability Standard addresses matters that the continent-wide Reliability Standard does not or the Regional Reliability Standard is necessitated by a physical difference in the BPS within the SERC region. SERC Regional Reliability Standards are required to provide for as much uniformity as possible with continent-wide reliability standards. Proposed SERC Regional Reliability Standards are subject to approval by NERC and FERC prior to becoming mandatory and enforceable within the SERC region.

    SERC has one FERC-approved Regional Reliability Standard, PRC-006-SERC-02, which addresses automatic underfrequency load shedding requirements. SERC currently is not developing any additional Regional Reliability Standards because the continent-wide NERC Reliability Standards are presently adequate for the SERC region. SERC also participates in the NERC Standards Committee, hosts biannual meetings of the SERC Standards Committee, and hosts specific commenting sessions for NERC Standards Projects as NERC requests comments, all of which involve the discussion of proposed changes to NERC Reliability Standards.

    Compliance: SERC's authority to monitor reliability standards is based on the authority granted in its Delegation Agreement with NERC. SERC has the expertise on staff to conduct compliance audits, investigations, spot checks, and other compliance reviews for the Operating, Planning, and CIP Reliability Standards. SERC develops and posts an annual CMEP implementation plan that is complementary to the NERC CMEP, but also addresses reliability issues specific to the SERC region. SERC utilizes off-site and on-site audits, spot checks, and other compliance monitoring methods to assess registered entity compliance with NERC Reliability Standards. Compliance prepares detailed reports on each audit and makes recommendations to Enforcement about possible violations of NERC Reliability Standards.

Enforcement: Over the past five years, SERC has demonstrated its ability to enforce Reliability Standards by processing approximately 800 alleged violations originating from audits, spot checks, self-certifications, self-reports, and compliance investigations following the requirements of the CMEP and NERC ROP. Enforcement staff conducts a thorough assessment of all possible violations to determine whether there is a sufficient basis to allege a violation. If a sufficient basis exists, Enforcement staff determines the complete scope of the violation and the actual and potential risk to the reliability of the BPS. Enforcement staff reviews the registered entity's mitigating activities to ensure that the entity corrects the noncompliance and prevents recurrence. Enforcement staff also participates in settlement negotiations with the registered entity. SERC's processing of possible violations has improved because of increased resources and improved tools such as Compliance Exceptions, Find, Fix and Track, and the Spreadsheet Notice of Penalty filing mechanisms.

b. SERC has established rules that:

i. **Assure its independence of the users and owners and operators of the BPS, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organization structure**. SERC's bylaws allow each SERC member company to appoint a director to SERC's board. The SERC Board Executive Committee is made up of 12 sector representatives from among the directors. All directors, alternate directors, and board committee representatives are required to comply with SERC's standards of conduct policy that prohibits participation in decisions that could pose a conflict of interest.

SERC's bylaws establish voting rules that ensure that no two sectors are able to approve a decision and that no one sector can veto a decision. These voting rules assure SERC's independence of the users, owners, and operators of the BPS. In addition, SERC has adopted the NERC CMEP, Appendix 4C to the NERC ROP, which provides fair and impartial procedures for the monitoring and enforcement of Reliability Standards. In addition, SERC employees and contractors sign non-disclosure and confidentiality agreements and conflict of interest forms.

ii. **Allocate equitably reasonable dues, fees, and other charges among end users for all activities**. SERC develops a budget annually that will accomplish all delegated duties. The budget is reviewed and approved by SERC's board before going to NERC and FERC. The budget is paid by all registered entities based on their proportionate share, based on the NEL. Pursuant to § 202 of the NERC ROP, NEL is the net generation of an electric system plus energy received from others less energy delivered to others through interchange. It includes system losses but excludes energy required for the storage of energy at energy storage facilities. Each entity

reports the energy generated on an annual basis for the previous year. After verification by SERC, this data is provided to NERC.

iii. **Provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties**. SERC has adopted without exception the NERC CMEP, Appendix 4C to the NERC ROP, and the associated *Sanction Guidelines,* ROP Appendix 4B, which provide fair and impartial procedures for the enforcement of Reliability Standards within the SERC region. SERC maintains a *Conflict of Interest Policy* to ensure the integrity and independence of its compliance and enforcement staff. To ensure consistency and remain fair, unbiased and balanced in assessing penalties, SERC follows the *Sanction Guideline*s of NERC and compares the proposed penalty with similarly situated violations that have been filed with and approved by FERC. All proposed penalties are reviewed and approved by SERC's Managing Counsel, the General Counsel, and the CEO.

iv. **Provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and other exercising its duties.** The SERC RRSDP requires SERC to provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in development reliability standards.

SERC provides for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in its CMEP activities. A registered entity has the right to receive notice when it is placed on the NCR, and may appeal its registration to NERC and to the Commission.

The CMEP requires SERC to provide notice to a registered entity when it determines that the Registered Entity has violated a Reliability Standard, and the registered entity has an opportunity to respond. If a registered entity wishes to contest an alleged violation of a Reliability Standard or a penalty, it may request and receive a hearing, and may appeal the hearing decision to NERC. A registered entity also has the right to request a hearing to contest a twice-rejected mitigation plan or a remedial action directive.

At the conclusion of an enforcement matter, NERC publicly files a NOP with the Commission, which promotes openness and the opportunity for public comment. The ERO balances the interest in openness with the concern for the security of critical infrastructure information, and as such, all sensitive critical infrastructure information is redacted from all public NOP filings.

v. **Provide for taking appropriate steps to gain recognition in Canada and Mexico**. The SERC region does not extend into any part of Canada or

Mexico. Thus SERC has no need to establish rules that provide for taking appropriate steps to gain recognition in Canada or Mexico.

3. SERC operates under a delegation agreement that promotes effective and efficient administration of BPS reliability. On May 4, 2018,[22] the Commission approved the amended and restated SERC RDA to reflect the changed geographic footprint of SERC to be effective July 1, 2018. The 2018 RDA maintained the RDA provisions from the 2015 RDA (approved by the Commission on November 2, 2015[23]) which incorporated benefits of NERC's and SERC's mutual experience and lessons learned while operating under the predecessor agreement. The SERC RDA provides for more efficient and effective execution of responsibilities that promote the reliability of the BPS. These responsibilities include: (i) development and proposal of Reliability Standards; (ii) enforcement of compliance with Reliability Standards; (iii) certification of BPS entities; (iv) registration of owners, operators, and users of the BPS; (v) reliability assessment and performance analysis; (vi) event analysis and reliability improvement; (vii) training and education; and (viii) situation awareness and infrastructure security. SERC only performs those activities delegated to it under the RDA. SERC also performs outreach, included a widely used assist visit program (targeted training based on the needs of the entity), monthly newsletters, and various risk-based training events and workshops throughout the year.

E. Texas Reliability Entity, Inc. ("Texas RE")

Texas RE is a non-profit Texas corporation that was formed to serve as the Regional Entity for the Electric Reliability Council of Texas, Inc. ("ERCOT") region, and to preserve and enhance reliability in the region. Texas RE also performs non-statutory activities as the Reliability Monitor for the ERCOT region pursuant to its January 1, 2016 agreement with the Public Utility Commission of Texas ("PUCT") and ERCOT, the Independent System Operator in the region. As Reliability Monitor, Texas RE monitors and reports to the PUCT regarding market participants' compliance with state electric reliability regulations and reliability-related ERCOT Protocols and Operating Guides. The ERCOT region is the geographic area located within the state of Texas that operates under the jurisdiction of the PUCT and is not synchronously interconnected with any other Interconnection. The ERCOT region includes approximately 90 percent of the state's electric load and 75 percent of the land area in Texas.

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22 *North American Electric Reliability Corporation*, 163 FERC ¶ 61,094 (2018).

23 2015 RDA Order, *supra* n.9.

Texas RE continues to meet the relevant statutory and regulatory criteria for delegation as follows:

1. **Texas RE "is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board."** Texas RE is governed by a combination independent and balanced stakeholder board consisting of nine members: four independent directors; two industry-affiliated directors; the Texas RE CEO; and two ex-officio non-voting directors (the Public Utility Commission of Texas Chairman or delegate, and the Public Counsel from the Office of Public Utility Counsel). The independent directors are elected by Texas RE membership to serve staggered three-year terms. The two industry-affiliated directors may not be from the same market sector and may not concurrently serve on the ERCOT ISO board of directors.

2. **Texas RE met the requirements of § 215(c)(1)(2) of the Federal Power Act, because:**

    a. **Texas RE is able to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system.** Texas RE follows the requirements as defined by the NERC ROP, including the CMEP, and by its RDA with NERC, including Texas RE's current Standards Development Process ("SDP"). Texas RE has used these documents to develop regional standards and to audit and enforce compliance with Reliability Standards. Texas RE's Member Representatives Committee ("MRC") oversees development of Texas RE Regional Standards.

    Standards Development: Texas RE participates in the NERC Standards Committee and develops, comments, and votes on NERC Reliability Standards. Texas RE also facilitates the NERC Standards Review Forum ("NSRF") on a monthly basis. The NSRF, which reports to the Texas RE MRC, is a stakeholder forum in the Texas RE region that discusses current NERC Reliability Standards and upcoming enforceable standards. In 2018, the Texas RE Reliability Standards Department conducted a five-year review of Regional Reliability Standard IRO-006-TRE-1 and, based on stakeholder input, recommended its retirement. In accordance with the SDP, Texas RE followed the steps to retire the regional standard.

    Compliance: Between January 1, 2015, and December 31, 2018, Texas RE successfully completed more than 200 audits or spot checks of registered entities for compliance with Reliability Standards, including Critical Infrastructure Protection Reliability Standards. More than 400 potential instances of noncompliance were discovered by Texas RE staff. Texas RE conducted Inherent Risk Assessments on all registered entities in its region, and used a risk-based approach to determine the scope of each compliance monitoring engagement. Texas RE staff also investigated possible violations of the Reliability Standards arising from BPS disturbances, outages, self-reports, and complaints. Texas RE requires all risk assessment and compliance monitoring employees to, at a minimum, complete NERC training classes for auditors and meet all other

requirements of the Compliance Monitoring Competency Guide of the ERO Enterprise Compliance Monitoring and Enforcement Manual.

Enforcement: In addition to the auditing program, Texas RE has a separate Enforcement group with a dedicated staff. The Enforcement group processes noncompliance identified through audits, spot checks, self-certifications, complaints, and self-reports, including self-logging. The Enforcement group significantly improved case processing efficiencies and by 2017 processed more violations than in 2015 and 2016 combined. Texas RE is committed to handling violations in a clear and transparent manner, with emphasis on establishing mitigation and maintaining reliability.

b. Texas RE has established rules that:

i. **Assure its independence of the users and owners and operators of the BPS, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organization structure.** The Texas RE bylaws and corporate policies assure the organization is independent of users, owners, and operators of the bulk power system, while assuring fair stakeholder representation in selection of its directors and balanced decision-making. The Texas RE bylaws provide that the organization has a combination independent and balanced stakeholder board consisting of nine members: four independent members, two industry-affiliated members, the Texas RE CEO, and two ex-officio, non-voting members representing the Public Utility Commission of Texas and the Office of Public Utility Counsel. The four independent directors are elected by Texas RE membership to serve staggered three-year terms. Texas RE membership is free, voluntary, and open to any entity that is a user, owner, or operator of the ERCOT region BPS or that qualifies for membership with Texas RE and complies with the Texas RE bylaws. In addition to the structure of the board, independent directors and members of their immediate families or households may not: (i) have current or recent status (within the past two years) as a director, officer or employee of an ERCOT region NERC registered entity; or (ii) have direct business relationships, other than as customers, with any NERC registered entity. The two industry-affiliated directors are selected by the Texas RE MRC to serve two-year terms. The Texas RE MRC is made up of stakeholder entities. The two industry-affiliated directors must come from different Texas RE membership sectors: (i) System Coordination and Planning, (ii) Transmission and Distribution, (iii) Cooperative Utility, (iv) Municipal Utility, (v) Generation, or (vi) Load-Serving and Marketing.

ii. **Allocate equitably reasonable dues, fees, and other charges among end users for all activities.** Texas RE's bylaws and its RDA with NERC provide that it will allocate equitably reasonable dues, fees, and other charges among end users for its statutory activities. Each year Texas RE produces a draft budget using templates provided by NERC and posts the

draft on its website for public comment. The budget includes the costs necessary to perform Texas RE's statutory functions under the RDA with NERC and any expected income. The budget is reviewed for reasonableness by the Texas RE MRC and approved by the Texas RE board of directors, NERC, and FERC. Pursuant to Exhibit E to its RDA, assessments to fund Texas RE delegated functions and related activities are allocated to all load-serving entities in the region on the basis of NEL. Penalty monies received by Texas RE are applied as a general offset to its budget requirements for the subsequent fiscal year.

iii. **Provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties.** Texas RE has adopted and implemented the CMEP in accordance with its RDA with NERC. Texas RE strives to be fair, unbiased, and balanced in its enforcement actions and imposition of penalties, and its internal procedures incorporate these concepts. After a possible violation is discovered, either through registered entity self-identification methods or Texas RE compliance monitoring activities, the violation is reviewed and verified by the Enforcement group. Penalties are calculated using the NERC *Sanction Guidelines* and are reviewed in relation to similar penalties assessed in this and other regions. In addition, all penalties are reviewed by the Texas RE Director of Enforcement and by the Chief Operating Officer prior to issuance.

Texas RE also has policies and procedures to ensure its employees act with independence, ethics, integrity, fairness, and openness. All Texas RE employees and contractors must annually sign an ethics agreement, which requires them to conduct Texas RE business and activities ethically, with integrity, and refrain from situations where they have any conflict of interest. A conflict of interest arises when: (i) a person is in a position to derive a personal or financial benefit based on his or her actions or status as a Texas RE representative; or (ii) the action of any Texas RE representative is in any way detrimental to the best interests of Texas RE. A "personal or financial benefit" includes any ownership, investment, or compensation interest by the employee or a member of the employee's household. An employee must immediately inform the Texas RE Legal Department if a conflict of interest or even the appearance of a conflict of interest might exist, to allow the Legal Department to evaluate the situation. After full disclosure by the employee, the Legal Department may agree to conditions that appropriately limit any potential influence from a conflict of interest.

Texas RE also follows the CMEP requirement to provide biographies of all potential audit team members to registered entities prior to a compliance engagement and provide opportunity for entities to object to use of any employee where a potential conflict of interest may exist. At the end of each compliance monitoring engagement, registered entities are also provided a questionnaire which allows them to directly report to NERC any concerns they have with fairness, openness, or objectivity with respect to how Texas

RE conducted the engagement. In addition, Texas RE has an ethics and compliance hotline to allow anyone to report (anonymously if desired) any noncompliance by a registered entity and any ethics complaints they have concerning Texas RE.

iv. **Provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties.** As part of its RDA, Texas RE follows its approved SDP, which provides reasonable notice and opportunity for public comment, due process, and balancing of interests during development of Regional Standards. The SDP requires that proposed regional standards must be drafted by a standards drafting team and be posted for a public comment period prior to any vote on the standard.

Texas RE also conducts its general operations in a manner that is transparent to the public. As required by its bylaws, it posts public notices of its board and committee meetings on its public website and posts meeting materials, including draft budgets, for public review prior to the meetings. The Texas RE public website includes training materials, useful compliance information, and the contact information for key Texas RE personnel.

Texas RE also provides due process to registered entities seeking to contest a violation, penalty, or sanction. Texas RE adheres to the NERC ROP and CMEP, which require Regional Entities to provide registered entities reasonable notice of possible violations, the ability to contest a violation or penalty or sanction, and the ability to appeal such matters.

v. **Provide for taking appropriate steps to gain recognition in Canada and Mexico.** This criterion is not applicable to Texas RE.

3. **Texas RE operates under a delegation agreement that promotes effective and efficient administration of BPS reliability.** Texas RE is a Regional Entity organized on an Interconnection-wide basis.[24] On November 2, 2015,[25] the Commission approved the amended and restated Texas RE RDA which incorporated benefits of NERC's and Texas RE's mutual experience and lessons learned while operating under the predecessor agreement. The revised RDA provides for more efficient and effective execution of responsibilities that promote the reliability of the BPS. These responsibilities include: (i) development and proposal of Reliability Standards; (ii) enforcement of compliance with Reliability Standards; (iii) certification of BPS entities; (iv) registration of owners, operators, and users of the BPS; (v) reliability assessment and performance analysis; (vi) event analysis and reliability improvement; (vii) training and education; and (viii) situation awareness and infrastructure security.

[24] 18 C.F.R. § 39.8(e) ("The Electric Reliability Organization shall and the Commission will rebuttably presume that a proposal for delegation to a Regional Entity organized on an Interconnection-wide basis promotes effective and efficient administration of BPS reliability and should be approved.")

[25] 2015 RDA Order, *supra* n.9.

F. Western Electricity Coordinating Council ("WECC")

WECC is the successor to the Western Systems Coordinating Council ("WSCC"), which was formed in 1967. WECC, established in April 2002, continues to be responsible for promoting and coordinating electric system reliability among industry stakeholders as had been done by WSCC since its formation. WECC's regional area extends from Canada to Mexico. It includes the provinces of Alberta and British Columbia, the northern portion of Baja California, Mexico, and all or portions of 14 Western states. Membership in WECC is open to all entities with an interest in the operation of the BPS in the Western Interconnection. All meetings are open and anyone may participate in WECC's standards development process.

In 2013, the WECC board of directors approved the bifurcation of the company into a Regional Entity (WECC) and a Reliability Coordination Company (Peak Reliability). The bifurcation, which became effective in 2014, was the culmination of significant work and signaled a major landmark in the history of the organization. Under this new structure, the Reliability Coordinator and interchange authority functions in the Western Interconnection were undertaken by Peak Reliability, a separate and independent company from WECC. Peak Reliability provides core and other associated reliability coordination services within the Western Interconnection. In July 2018, Peak Reliability announced its intent to wind down operations by the end of 2019.

WECC continues to meet the relevant statutory and regulatory criteria for delegation as follows:

1. **WECC "is governed by an independent board, a balanced stakeholder board or a combination independent and balanced stakeholder board."** Since bifurcation, WECC has been governed by an independent board of nine directors, who are precluded from having any affiliation with any WECC members or Registered Entities operating in the Western Interconnection.

2. WECC met the requirements of § 215(c)(1)(2) of the Federal Power Act, because:

a. **WECC is able to develop and enforce reliability standards that provide for an adequate level of reliability of the bulk power system.** WECC's authority to enforce Reliability Standards is based on the authority granted in its RDA with NERC. FERC's approval of the RDA conferred authority to WECC to manage and enforce compliance with FERC-approved Reliability Standards. Additionally, WECC develops Regional Criteria and practices to improve the functioning and efficiency of the Western Interconnection. This combination provides a forum for addressing system-wide issues and an oversight role to promote reliable operation of the Western Interconnection.

WECC used its reliability standard development and enforcement abilities to address changes occurring in the Western Interconnection and to further reliable operations in the interconnection. WECC proposed revisions to Regional Standard BAL-002-WECC to change required contingency reserves. The change requires a potentially higher amount of reserves than would be required by the continent-wide standard and provides a calculation method which is much clearer and easier to implement and audit than what was found in the prior version. One two occasions, WECC proposed revisions to Regional Reliability Standard BAL-004-WECC: once to address the application of an Automatic Time Error Correction exemption, and another to specify a calculation methodology. WECC also made revisions to Regional Standard IRO-006-WECC, to address entities' operations related to unscheduled flow relief. WECC proposed changes to Regional Standard VAR-501-WECC addressing use and operation of power system stabilizers within the interconnection. Further, WECC made revisions to Regional Standard FAC-501-WECC to address aspects related to the implementation of transmission maintenance inspection plans. WECC has proposed the retirement of Regional Reliability Standards PRC-004-WECC (dealing with protection systems and remedial action scheme misoperations) and VAR-002-WECC (dealing with automatic voltage regulation), as development of continent-wide reliability standards made the regional standards redundant and/or providing no greater reliability benefits.

WECC demonstrated its ability to enforce reliability standards during the assessment period through continued development and improvement of its CMEP activities and annual implementation plans. WECC worked collaboratively with the other Regional Entities and NERC in coordinating monitoring and enforcement activities for Registered Entities operating in multiple regions.

b. WECC has established rules that:

i. **Assure its independence of the users and owners and operators of the BPS, while assuring fair stakeholder representation in the selection of its directors and balanced decision-making in any ERO committee or subordinate organization structure.** WECC's bifurcation-related institution of an entirely independent board of directors was accompanied

by the creation of a Member Advisory Committee (MAC). While directors are directly elected by the WECC membership, member interests are represented and input is given through the members themselves, but also by the MAC, which provides information and recommendations directly to WECC's Board of Directors regarding WECC policies and proposed board decisions. In addition, WECC staff members, and representatives from WECC member entities, routinely participate in WECC, ERO and ERO Enterprise committees and work groups.

ii. **Allocate equitably reasonable dues, fees, and other charges among end users for all activities**. The allocation of dues, fees and other charges is governed by § 11.1 of the WECC bylaws, Funding of Reliability Activities. WECC funds all activities undertaken pursuant to § 215 of the Federal Power Act in accordance with the funding provisions and procedures of that law and related FERC regulations and orders. The WECC Board approves an annual business plan and budget for submission to NERC and to FERC for their approval. WECC funds reliability activities undertaken outside the United States pursuant to agreements with appropriate Canadian or Mexican authorities in accordance with the provisions of those agreements. WECC has allocated recovery of its reliability activities based upon the NEL of participants in the Western Interconnection. To the extent that WECC elects to engage in activities not eligible for funding pursuant to § 215 of the Federal Power Act, it does so through the use of service fees and charges paid by the persons or entities that voluntarily participate in such activities. Those separate funds wholly support WECC's non-§ 215 activities.

iii. **Provide fair and impartial procedures for enforcement of reliability standards through the imposition of penalties.** WECC's RDA with NERC is based on the NERC *pro forma* Delegation Agreement and has been reviewed and approved by FERC. In coordination with NERC, WECC develops annual CMEP Implementation Plans, which identify how WECC will monitor Registered Entities' compliance with Reliability Standards. Along with NERC and other ERO Regional Entities, WECC has developed monitoring processes which assess individual Registered Entity risks and their potential impact on the BES; WECC tailored its monitoring and enforcement actions accordingly. WECC uses the NERC *Sanction Guidelines* as a framework for assessing fair and reasonable penalties, and considers all facts associated with the registered entity and the alleged violation. Individuals responsible for assessing, recommending, or negotiating penalties are not otherwise involved in compliance monitoring or discovery of violations. In other words, WECC specifically segregates the duties associated with violation discovery or review and violation disposition and penalty assessment. Furthermore, WECC has a layered review approach to penalties, including non-monetary ones. WECC's director of enforcement reviews all cases and proposed sanctions and penalties with the assistance of attorneys from WECC's Legal Department.

WECC management reviews the processes and procedures bi-annually. WECC's director of enforcement and managers within WECC's Enforcement group are Certified Compliance and Ethics Professionals. Finally, WECC's Enforcement staff receives regular training on all aspects of their duties to ensure consistency of application.

iv. **Provide for reasonable notice and opportunity for public comment, due process, openness, and balance of interests in developing reliability standards and otherwise exercising its duties.** WECC uses the FERC-approved WECC Reliability Standards Development Procedures to develop Regional Reliability Standards along with regional criteria and regional business practices. These procedures assure that standards, criteria or practices will be developed in a fair and open manner, with contribution and review by subject matter experts, and that all affected and interested parties will have the opportunity to comment and vote during their promulgation. Illustratively, proposed standards are drafted by a standards drafting team, publicly posted, and subject to a mandatory public comment period prior to any vote.

In regard to the exercise of its other duties, WECC posts on its website notices of, and agendas and materials for board and committee meetings. WECC also adheres to the NERC ROP and the CMEP processes, which provide due process protections to registered entities with respect to compliance obligations and enforcement of standards violations. Accordingly, registered entities are provided reasonable notice of possible violations, and the right to contest a violation, penalty or sanction, and to appeal the Regional Entity's decisions to the NERC Board of Trustees Compliance Committee, and the Commission.

v. **Provide for taking appropriate steps to gain recognition in Canada and Mexico**. WECC has negotiated various agreements with the applicable governmental authorities for British Columbia, Canada, Alberta, Canada, and Baja, Mexico, the three international areas included in the Western Interconnection.

<u>British Columbia (BC):</u>

Under an Administration Agreement between the British Columbia Utilities Commission ("BCUC") and WECC, WECC acts as the administrator for the BCUC in carrying out certain activities relating to the Mandatory Reliability Standards program in British Columbia. Working under this agreement, WECC recommends entity registrations, receives and reviews self-reports, self-certifications, and periodic data submittals; conducts audits; and provides reports relative to the nature, severity and remediation of possible violations. At the BCUC's request, WECC has set up a

separate webCDMS portal, an electronic system to collect compliance data, dedicated to BCUC and its entities.

Alberta:

WECC acts as the Compliance Monitor for the Alberta Market Surveillance Administrator ("Alberta MSA"), under a Services Agreement between the Alberta MSA and WECC, in carrying out certain activities related to Alberta Reliability Standards, specific to the Alberta Electric System Operator ("AESO"), in Alberta, Canada. WECC operates under the Services Agreement with the Alberta MSA in conjunction with a pre-existing membership and operating agreement with the AESO. Similar to BCUC, WECC uses a separate webCDMS portal for the Alberta MSA and AESO.

Mexico:

Under a membership and operating agreement between Comisión Federal de Electricidad ("CFE") and WECC, WECC acted as CFE's compliance monitor for certain activities in Baja California, Mexico, monitoring compliance with CFE's mandatory Reliability Standards. In the latter part of the assessment period, Mexico's electricity market and regulatory structures changed dramatically. Mexico is moving from a fully vertically integrated national electricity company to an open market, permitting both private and public entities to participate in the generation, transmission and distribution of electricity. WECC and NERC negotiated a memorandum of understanding with the new Mexican regulatory agency, Comisión Reguladora de Energía (CRE); and WECC negotiated revisions to or new member and operating agreements and service agreements with the CRE and other Mexican agencies (which now perform different roles and functions under the new Mexican regime). WECC continued to formulate and implement annual Implementation Plans, with CFE or CRE, to establish the scope for standards monitoring, descriptions of monitoring methods, and outreach and training activities WECC undertakes for Mexican agencies and Baja-California-area market participants. As in British Columbia and Alberta, WECC uses a separate webCDMS portal for use by Mexican government agencies and market entities.

WECC does not have enforcement authority for any of the international jurisdictions within the Western Interconnection. WECC provides registration recommendations, compliance monitoring, reviews of mitigation plans and completed mitigation plans, and assessment recommendations with respect to alleged violations.

3. **WECC operates under a delegation agreement that promotes effective and efficient administration of BPS reliability.** WECC is a Regional Entity organized on an Interconnection-wide basis.[26] On November 2, 2015,[27] the Commission approved the amended and restated WECC RDA which incorporated benefits of NERC's and WECC's mutual experience and lessons learned while operating under the predecessor agreement. The revised RDA provides for more efficient and effective execution of responsibilities that promote the reliability of the BPS. These responsibilities include: (i) development and proposal of Reliability Standards; (ii) enforcement of compliance with Reliability Standards; (iii) certification of BPS entities; (iv) registration of owners, operators, and users of the BPS; (v) reliability assessment and performance analysis; (vi) event analysis and reliability improvement; (vii) training and education; and (viii) situation awareness and infrastructure security.

   WECC worked to maintain and improve the reliability and efficient administration of the Western Interconnection through a variety of activities in fulfilment of these responsibilities. WECC took active steps to review WECC regional standards, their interplay with NREC promulgated and FERC approved continent-wide Reliability Standards, and operations within the Western Interconnection. During the assessment period, WECC continued to develop and retire Regional Reliability Standards as deemed appropriate to foster reliable operations in the interconnection. WECC also participated in the development, amendment and retirement of NERC Reliability Standards; and assisted Canadian and Mexican regulatory authorities to adopt identical or similar Reliability Standards as those regulators deemed appropriate for their jurisdictions.

   WECC likewise promoted effective and efficient administration of the BPS in the Western Interconnection during the assessment period through its implementation of NERC's CMEP approved by the Commission. WECC followed and implemented ERO-wide development and advancement of CMEP processes and activities through a risk-based approach; risks *vis a vis* individual Registered Entity risks and regional/Western Interconnection risks. WECC assists Canadian and Mexican authorities, with jurisdiction in the Western Interconnection, to adopt Reliability Standards, to monitor compliance with their adopted standards, to identify and register BPS entities, to conduct reliability assessments, performance analysis, and event analysis, and to train and educate (both regulators and BPS entities) with regards to compliance responsibilities, reliability improvement, situational awareness and infrastructure security.

   WECC undertook assessments of entities within its region to determine whether registration was required pursuant to Commission approved revisions to the definition of the Bulk Electric System (BES) and its exclusions and inclusions. This aided in administering the BPS in identifying entities which were no longer to be registered and through identification of facilities which did and which did not constitute BES facilities for which registered entities would have compliance responsibilities. WECC also took and maintains efforts to associate responsible registered entities with their Planning

[26] 18 C.F.R. § 39.8(e) ("The Electric Reliability Organization shall and the Commission will rebuttably presume that a proposal for delegation to a Regional Entity organized on an Interconnection-wide basis promotes effective and efficient administration of BPS reliability and should be approved.").

[27] 2015 RDA Order, *supra* n.9.

Authorities, Transmission Planners, etc. and to have those entities confirm their respective roles and relationships.

WECC undertook periodic Operational Practices Surveys to review and share best practices of surveyed-entities' operational procedures and practices. Beginning in 2016, WECC conducted Reliability Assurance Visits in partnership with NERC. During these visits, WECC discusses with entities their operational practices, to identify and share with Western Interconnection entities (and beyond) where there are areas of excellence or concerns. WECC produces a public report that provides high level findings and concerns discovered during the Reliability Assurance Visits and holds a workshop to review the general findings.

Further, WECC managed a comprehensive planning database, provided guidance on the analysis and modeling of the transmission system, and developed scenario studies of system performance to establish operating policies and limits, and regional transmission planning. WECC provided forums and means of exchange for regional planners, Transmission Planers, and others involved in the modeling and planning for the systems comprising the Western Interconnection and the interconnection as a whole; thus facilitating their work and WECC's own responsibilities for reliability assessments, performance analysis and reliability improvement. In addition, WECC performed annual assessments of 10-year loads and resources in the Western Interconnection and created a 10-year coordinated plan of system growth. WECC also provided information to NERC for its annual summer and winter assessments of the reliability of the BPS. WECC continued production of an annual *State of the Interconnection* report to provide WECC's members and stakeholders with an independent assessment of data collected annually in the Western Interconnection. WECC studied the impacts the Clean Power Plan could have on electricity generation and transmission in the Western Interconnection. The study provided information to owners and operators of BPS facilities, state and regional authorities and federal agencies concerning the impacts identified and would have enabled them to plan generation and transmission operations and facility expansion and retirements in recognition of the potential impacts. Further, WECC undertook and published an independent study of the relationships between natural gas supply and natural gas transmission and electricity generation and electricity transmission; how natural gas industry operations and capabilities affect electricity industry participants and electricity generation and transmission; and the impacts of possible decisions to be made affecting both the natural gas and electricity markets of the Western Interconnection.

IV. CONCLUSION

For the reasons stated above, each of the six Regional Entities (NPCC, MRO, ReliabilityFirst, SERC, Texas RE, and WECC) continues to meet the Regional Entity delegation criteria provided in § 215 of the Federal Power Act and part 39 of the Commission's regulations.

FEDERAL ENERGY REGULATORY COMMISSION
DOCKET NO. RR19-___

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

EXHIBIT C

TO

FIVE-YEAR ELECTRIC RELIABILITY ORGANIZATION PERFORMANCE ASSESSMENT REPORT

Stakeholder Comments in Response to April 2019 Posting of Draft Five-Year Performance Assessment

JULY 22, 2019

Comments of Large Consumers on NERC Draft Five-Year Electric Reliability Organization Performance Assessment Report
April 15, 2019

ELCON, on behalf of Large End-Use Consumers (Sector 8 of Member Representatives Committee), submits the following comments on NERC's draft "Five-Year Electric Reliability Organization Performance Assessment Report". Large Consumers place a particularly high value on electric reliability and appreciate NERC's diligence in evaluating the risks to Bulk Electric System (BES) security. Large Consumers also place a high value on procurement flexibility and are very sensitive to cost impacts. As such, Large Consumers seek to ensure that NERC actions have demonstrated reliability benefits that justify any added costs, rely on incentives instead of standards where appropriate, and preserve procurement flexibility throughout the supply chain.

Large Consumers concur that NERC continues to satisfy the statutory and regulatory criteria for ERO enterprise certification under 18 C.F.R. § 39.3(b). NERC has been successful in improving the effectiveness and efficiency of ERO Enterprise operations, strengthening operational alignment, and boosting information sharing and analysis.

The ERO Enterprise also effectively identifies and assesses emerging risks to the Bulk Power System (BPS). This function becomes increasingly important as the fuel mix evolves. NERC evaluations such as Special Reliability Assessments and Long Term Reliability Assessments may help inform grid operator procedures and state and regional procurement processes. Large Consumers emphasize that procurement processes are well situated to procure sufficient nameplate capacity, and that the performance of these resources under different contexts is more useful for the ERO Enterprise to examine moving forward.

Large Consumers agree with NERC that its ability to develop reliability standards comport with the achievement of an adequate level of reliability, as conventionally defined. However, what constitutes an adequate level of reliability varies greatly by consumer and specific end use of electricity. Homogenous standards do not reflect heterogeneous consumer preferences and often restrict supplier and consumer procurement flexibility. The imposition of standards treats reliability as exogenous, which restricts the ability of procurement policies to treat reliability as endogenous (e.g., demand response). Endogenous reliability would enable utilities and

wholesale market design to better differentiate services, such that consumers receive a level of service that they are willing to pay for.

Prescriptive standards can also undermine the cost-effectiveness of complying with system-wide reliability standards. For example, capacity market design is intended to achieve a system reliability level by incenting the most efficient and reliable behavior from market participants, including actions to firm fuel supplies. If NERC pursues prescriptive fuel assurance standards, it will undermine market policies, restrict procurement flexibility, and raise costs to consumers unnecessarily. Overall, greater scrutiny on the proper role of standards is important as the ERO Enterprise evolves.

NERC's pursuit of a risk-based approach is well founded. The shift away from "zero tolerance" policy is welcome but requires a definition of an acceptable level of risk, which NERC is yet to address. Large Consumers strongly emphasis that this definition incorporate consumer preferences and basic economic principles as part of the future direction of the ERO Enterprise.

Specifically, where standards are appropriate, they should ensure benefits outweigh costs and evaluate whether more cost-effective alternatives exist. In lieu of or as a compliment to mandatory standards, NERC has a vital role to play in promoting risk-informed decision making. This is especially the case where NERC-registered entities already have incentive to behave in a reliable manner but face an information deficit. Cybersecurity policy is a key case in point.

Cybersecurity Standards and Information Sharing

NERC's work on cybersecurity supply chain risks is a case where the appropriateness, nature, and stringency of standards come into question. NERC's report on cybersecurity supply chain risks recognizes the complex and evolving nature of supply chain risks and contains recommendations for further study and standards development work.

Large Consumers appreciate the report's recognition of differentiated treatment for Electronic Access Control or Monitoring Systems (EACMS) based on risk level: namely that electronic access controls present a higher risk than monitoring and logging systems. Large Consumers agree with supporting NERC Staff's recommendation that only EACS be included and not monitoring and logging systems. In addition, Large Consumers encourage NERC to work with industry to explore opportunities to streamline the verification process for EACMS, protect procurement flexibility, and promote information sharing. Industry does not support prescriptive standards, preferring flexibility in application and implementation.

Large Consumers appreciate the report's recognition that low-impact BES Cyber Systems pose a low risk to the reliability of the BES and support NERC's recommendation that low-impact BES Cyber Systems should not be included in the Supply Chain Standards. Large Consumers underscore the report's recognition that risk is mitigated as organizations with medium and high impact systems implement supply chain standards across their fleet that includes low-impact BES Cyber Systems. The report correctly notes that risk is further mitigated by supply chain vendors who implement supply chain standards across their systems, not knowing whether they will reside in low, medium or high impact systems.

The report recommends the low-impact BES Cyber System issue continue to be monitored. Any perceived deficiencies do not necessarily require modifications to mandatory standards. Doing so may be counterproductive – given the rapid pace that cyber threats and best practices evolve – or, at least, may impose excessive costs or restrictions on operations and procurement flexibility. Large Consumers strongly recommend that NERC account for costs and expected benefits in considering mandatory requirements for low impact systems and recognize that mandatory requirements are unnecessary where the incentives of vendors and low impact entities are aligned with BES security.

Where entities' incentives align with BES security, NERC should explore tools to motivate voluntary improvements by helping entities make better risk-informed decisions tailored to their unique circumstances. As such, additional information collection efforts should be done in mind with enhancing voluntary actions by entities with low-impact BES Cyber Systems.

NERC staff may want to tailor questions in any surveys, questionnaires, or data requests to not only evaluate current practices, but also gauge obstacles to adoption of best practices and cost considerations of changing practices. This would inform next steps on considering modifications to standards affecting low impact systems, such as better accounting of costs and expected benefits, as well as the efficacy of improved guidance and information sharing to improve voluntary practices in lieu of mandatory standards. For example, NERC could issue guidelines for on-site testing and other processes as an alternative to prescriptive management of supply and transport arrangements.

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From:	Lawson, Barry R.
To:	Five Year Performance Assessment
Cc:	Lawson, Barry R.
Subject:	RE: Five-Year Electric Reliability Organization Performance Assessment Announcement
Date:	Monday, April 15, 2019 4:33:48 PM
Attachments:	image001.png image005.png image002.png

**** Please use caution when clicking links or opening attachments ****

NRECA and the Cooperative Sector supports NERC's draft 5-Year ERO Performance Assessment and views the filing as an accurate representation of ERO activities of the last 5 years.

Thanks,

Barry

Barry R. Lawson
Senior Director, Regulatory Affairs
Government Relations Dept.
National Rural Electric Cooperative Association (NRECA)
4301 Wilson Blvd., Mail Code GR11-253
Arlington, VA 22203
PH 703.907.5781
FX 703.907.5517
CELL 703.966.3123
barry.lawson@nreca.coop

From: Marilani Alt <marilani.alt@nerc.net>
Sent: Wednesday, April 3, 2019 4:13 PM
To: Marilani Alt <marilani.alt@nerc.net>
Subject: Five-Year Electric Reliability Organization Performance Assessment Announcement

** Please use caution when clicking links or opening attachments **

Five-Year Electric Reliability Organization Performance Assessment Announcement

Notice of Draft Posting and Request for Comments

April 1, 2019

Comments Due: April 15, 2019

Comment Period for Draft Five-Year ERO Performance Assessment Report

The North American Electric Reliability Corporation ("NERC"), as the Electric Reliability Organization ("ERO") pursuant to Section 215 of the Federal Power Act, is required to submit an assessment of how it meets the statutory and regulatory criteria for ERO certification to the Federal Energy Regulatory Commission ("FERC").

NERC hereby posts its draft Five-Year ERO Performance Assessment Report for industry review and

respectfully requests comments on the posted documents.

Materials Included in this Request for Comments

- Draft Five-Year ERO Performance Assessment Report

Submission of Comments

Comments are due April 15, 2019, and must be submitted electronically to 5YPA@nerc.net. NERC intends to present a revised draft of the proposed Five-Year ERO Performance Assessment Report to the NERC Board of Trustees at its May 8, 2019 meeting. Although the comment period does not close until April 15, 2019, commenters are respectfully requested to submit their comments sooner, if possible, in order to provide additional time for NERC staff and the Regional Entities to consider them.

Please note that all original comments will be included as an exhibit in the Five-Year ERO Performance Assessment Report filed with FERC on or before July 22, 2019.

For further information, please contact Nina Johnston at 5YPA@nerc.net (via email) or at (202) 644-8049.

_____
Marilani Alt
Senior Legal Assistant, Legal & Regulatory
North American Electric Reliability Corporation
1325 G Street NW, Suite 600
Washington, DC 20005
202-400-3021 office | 202-420-1573 cell
Email: marilani.alt@nerc.net
Twitter @NERC_Official | LinkedIn
Reliability | Accountability

Southwest Power Pool, Inc. Comments on

NERC's Five-Year Electric Reliability Organization Performance Assessment
April 15, 2019

Summary

Southwest Power Pool, Inc. (SPP) appreciate the opportunity to comment on the North American Electric Reliability Corporation (NERC)'s Five-Year Performance Assessment (Performance Assessment). Many programs and initiatives detailed in the Performance Assessment have improved the reliability and security of the Bulk Power System (BPS) over the past five years and SPP supports the inclusion of these in the Assessment. SPP asks NERC to consider additional information not contained in the Performance Assessment that will further illustrate the changes to the standards process, and its impact on the successful and expeditious completion of numerous standards projects during the five-year period. Furthermore, SPP reinforces to the Federal Energy Regulatory Commission (Commission) of the need for a technical stakeholder body and an open and transparent process even for projects that have been in development for longer periods. Finally, SPP seeks clarifications in the Performance Assessment's Section IV-Evaluating Regional Entity Performance that will better illustrate the impacts from the SPP Regional Entity.

Developing Reliability Standards and Ensuring Adequate Level of Reliability

SPP supports the efforts of the Standard Efficiency Review (SER) to remove or retire unnecessary reliability standards. Even though the SER process will reduce the number of requirements subject to compliance, the Performance Assessment should mention that the SER process does not degrade the level of BPS reliability. Efficiency gains in Registered Entity staff and resources due to retirement of unnecessary reliability standards will allow improved focus on core reliability needs and place more resources towards ensuring reliability rather than ensuring compliance. The Performance Assessment could also be improved with added explanation about the benefits of NERC reliability guidelines. SPP supports NERC's efforts to create reliability guidelines, particularly around newly identified risks that need attention quickly, such as the inverter-based resources guideline issued in 2018. It should be reported how reliability guidelines not only can expedite solutions to new risks but also how reliability guidelines allow for more flexibility and learning by the industry to innovate solutions to these new risks.

The new programs, tools and changes to the standards committee and standards development process is a commendable achievement in the past five years that has provided substantial results. NERC has achieved success due to its collaboration with industry and SPP encourages NERC to continue to provide open and transparent processes and conduct its operations in an efficient and effective manner. Transparency of processes is especially important for projects that have been open for extended amounts of time. Open and consistent communications regarding the status of delayed or projects on hold will maintain accountability and result in efficient and effective resolution of these projects. The Performance Assessment should remind the Commission that the standards development process is ANSI-accredited, which is the cornerstone of success to achieve consensus on complicated technical requirements and an effective process used to design the requirements that have ensured an adequate level of reliability for the BPS. The process has not only been successfully used to create new requirements, but also has proven effective to revise and improve existing ones as well. NERC also has

confidence that utilizing the same process to reduce the number of requirements will continue to assure that adequate level of reliability are met.

Electric Information Sharing and Analysis Center (E-ISAC)

SPP supports investment in E-ISAC and the Cyber security Risk Information Sharing Program (CRISP), and it is worth mentioning in the Performance Assessment that these programs are new and have been limited in participation due to its cost. The effectiveness of the E-ISAC and CRISP can be improved if existing restrictions that limit access to the information by BPS experts are lifted. Additional access to the information will allow these experts to focus alerts that are more actionable for the BPS.

Regional Entity Performance Data Clarification

Southwest Power Pool Regional Entity (SPP RE) performed Delegated Functions for the majority of the five-year assessment period (2014 – June 2018). It is not clear if the data tables, charts, and statistics throughout the Performance Assessment include or exclude the SPP RE's information. Footnote 44 is the only mention of the SPP RE and is specifically related to the exclusion of GADs and TADs data due to the termination of its RDA with NERC. The SPP RE is included in the Cause Coding charts (Pages 64-65). The Performance Assessment should clearly identify when SPP RE's data is included and when excluded – either globally or in each section. For example, Figure 5 on Page 34 of the report shows that MRO completed 172 IRAs for 198 Registered Entities in 2018. There is no indication in this section as to whether SPP RE's data in included or not. Figure B.3 in the 2017 CMEP Annual Report[1] shows that MRO's completion total was 103 for 113 Registered Entities. 108 Registered Entities were transferred from SPP RE to MRO mid-2018 and the increased total can be seen in the 2018 chart. The 2017 CMEP report also shows that SPP RE completed 109 IRAs for 116 Registered Entities. Since MRO's total number of Registered Entities increased from 113 to 198 from 2017 to 2018, it is unclear if the 172 IRA completion total includes or excludes IRAs completed by SPP RE. SPP would request the Performance Assessment clarify the SPP RE's role in these matters.

Conclusion

SPP appreciates the opportunity to provide comments on NERC's Performance Assessment and urges NERC to consider incorporating the recommendations to the Performance Assessment discussed above. SPP looks forward to working with NERC as it continues to improve the reliability and the security of the BPS.

[1] 2017 Compliance Monitoring and Enforcement Program Annual Report, February 7, 2018, Page 38.