NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda
Board of Trustees

February 6, 2020 | 8:30 a.m.–12:00 p.m. Pacific

(Please note the Schedule may be adjusted real-time should meetings conclude early and/or extend past their scheduled end time.)

westdrift Manhattan Beach, Autograph Collection
1400 Park View Avenue
Manhattan Beach, California 90266

Conference Room: Loftlight – Lobby Level

Call to Order

NERC Antitrust Compliance Guidelines

Introductions and Chair's Remarks

Consent Agenda – Approve

1. **Minutes***
   a. December 12, 2019 Conference Call
   b. November 5, 2019 Meeting
2. **Committee Membership and Charter Amendments***
   a. Reliability Issues Steering Committee Membership
   b. Critical Infrastructure Protection Committee Membership
   c. Personnel Certification Governance Committee Membership

Regular Agenda

3. **Remarks and Reports**
   a. Welcome Remarks – Pedro Pizarro, President and CEO, Edison International
   b. Remarks by Neil Chatterjee, Chairman, FERC
   c. Remarks by Chuck Kosak, Deputy Assistant Secretary, DOE
   d. NIAC Update and Recommendations to the President, William Fehrman, Vice Chair, MEC
   e. Remarks by by David Morton, CAMPUT Representative to NERC
   f. President's Report
   g. Report on Board of Trustees January 13-14 and February 4, 2020 Closed Sessions and January 14-15 ISO New England Joint Board Meeting
4. **Election and Appointment of Board Chair and Chair-Elect/Vice Chair, Board of Trustees Committee Assignments and NERC Officers – Approve**

5. **Board Self-Assessment and MRC Assessment of Board of Trustees Effectiveness Survey and Board Committee Self-Assessments – Discussion**
6. **Board Committee Reports**
   a. Corporate Governance and Human Resources
      i. 2020 Work Plan Priorities – **Approve**
   b. Compliance
   c. Finance and Audit
      i. 2019 Year-End Unaudited Results of Operations – **Accept**
   d. Enterprise-wide Risk
   e. Technology and Security
   f. Nominating
   g. Report by Rob Manning on Standards Quarterly Activities
7. **Standards Quarterly Report and Actions***
   a. Project 2017-07 Standards Alignment with Registration – **Adopt**
   b. Project 2018-04 Modifications to PRC-024-2 – **Adopt**
   c. Project 2019-01 Modifications to TPL-007-4 – **Adopt**
   d. BAL-001-TRE-2 Primary Frequency Response in the ERCOT Region – **Adopt**
8. **Other Matters and Reports***
   a. Policy Input and Member Representatives Committee Meeting – **Discussion**
   b. Reliability and Security Technical Committee Membership*– **Approve**
   c. EMP Report Recommendations*– **Approve**
   d. Supply Chain Recommendations*– **Approve**
   e. CCCPP-002 Compliance Monitoring Program for Reliability Standards Applicable to NERC – Retirement*– **Approve**
   f. CCCPP-010 Criteria for Annual Regional Entity Program Evaluation Revisions*– **Approve**
   g. 2019 and 2020 ERO Enterprise Dashboards* – **Update**
   h. Reliability Coordinator Function in the Western Interconnection* – **Update**
9. **Committee Reports***
   a. Operating Committee
   b. Planning Committee
   c. Critical Infrastructure Protection Committee
   d. Reliability and Security Technical Committee
   e. Member Representatives Committee

f. Personnel Certification Governance Committee

g. Standards Committee

   i. Standards Committee 2020 Work Plan – **Approve**

h. Reliability Issues Steering Committee

i. Compliance and Certification Committee

   i. Compliance and Certification Committee 2020 Work Plan – **Approve**

j. Electricity Subsector Coordinating Council

10. Forum and Group Reports*

a. North American Energy Standards Board

b. North American Transmission Forum

c. North American Generator Forum

11. Adjournment

*Background materials included.

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Antitrust Compliance Guidelines

I. General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

II. Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants' expectations as to their future prices or internal costs.
- Discussions of a participant's marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.

- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

III. Activities That Are Permitted

From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
- Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

DRAFT Minutes
Board of Trustees

December 12, 2019 | 2:00 – 3:00 p.m. Eastern

Conference Call

Roy Thilly, Chair, called to order the duly noticed open meeting of the Board of Trustees (Board) of the North American Electric Reliability Corporation (NERC) on December 12, 2019, at 2:00 p.m. Eastern, and a quorum was declared present. The agenda is attached as Exhibit A.

Present at the meeting were:

Board of Trustees Members
Roy Thilly, Chair
Janice B. Case, Vice Chair
Kenneth W. DeFontes
Frederick W. Gorbet
George S. Hawkins
Suzanne Keenan
Robin E. Manning
James B. Robb, President and Chief Executive Officer
Jan Schori
Colleen Sidford

Board of Trustees Members Not Present
Robert G. Clarke

NERC Staff
Tina Buzzard, Associate Director
Howard Gugel, Vice President and Director of Engineering and Standards
Mark G. Lauby, Senior Vice President and Chief Reliability Officer
Sônia Mendonça, Vice President, General Counsel, Corporate Secretary, and Director of Enforcement
John Moura, Director of Reliability Assessment and Technical Committees
Lauren Perotti, Senior Counsel

NERC Antitrust Compliance Guidelines
Mr. Thilly directed the participants' attention to the NERC Antitrust Compliance Guidelines included with the advance meeting materials, and directed that any questions regarding antitrust compliance or other related matters be directed to Ms. Mendonça.

Introduction and Chair's Remarks

Mr. Thilly welcomed the attendees to the meeting and noted that all Board members were present on the line, with the exception of Mr. Clarke.

2019 Long-Term Reliability Assessment

Mr. Moura introduced the 2019 Long-Term Reliability Assessment (LTRA), noting that it was the 51st LTRA prepared by NERC. He provided an overview of the report and key issues. Mr. Moura also outlined the key findings and reviewed the LTRA recommendations. The Board discussed the LTRA, including the recommendations and overall body of the report. Mr. Moura noted that work is underway on the development of a mechanism to track LTRA recommendations and progress made in implementing them.

After discussion, and upon motion duly made and seconded, the Board accepted the LTRA, endorsed the recommendations contained therein, and authorized its publication.

ERO Enterprise Long-Term Strategy

Mr. Robb presented ERO Enterprise Long-Term Strategy, referring to the materials in the advance agenda package. He noted that the Long-Term Strategy is the culmination of a year of collaborative work between NERC and the Regional Entities, and he reported that prior drafts had been presented to the Member Representatives Committee and others for input. Mr. Robb noted that some editorial changes were made to the Long-Term Strategy since the prior draft was presented to the Board in November. He reported that each Regional Entity board has, or soon will, recognize the Long-Term Strategy, whether by endorsement or other show of support. Mr. Robb noted that efforts were already underway to implement elements of the Long-Term Strategy.

Mr. Thilly noted that NERC staff had incorporated comments previously provided by the Board. He stated that the Long-Term Strategy was concise and clear and thanked ERO Enterprise staff for their work.

After discussion, and upon motion duly made and seconded, the Board approved the ERO Enterprise Long-Term Strategy.

Supply Chain Effectiveness Evaluation

Mr. Gugel provided information to the Board on NERC's plan to measure the effectiveness of the Supply Chain Standards during the first two years of implementation, referring to materials included in the advance agenda package. He highlighted the key elements of the plan, including: (i) conducting surveys on supply chain awareness and compiling statistics on key risk indicators; (ii) soliciting comparative contractual language from entities on a voluntary basis; and (iii) analyzing supply chain communications, education, outreach, and training.

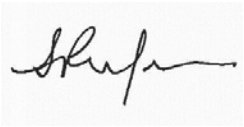
The Board engaged in discussion of the plan. Mr. Gugel clarified that compliance staff will be consulted to determine if any ambiguities or inconsistencies have arisen with the implementation or enforcement of the standard. He also clarified that NERC staff will disseminate information that is shared by industry. Ms. Schori suggested that interim reports be made to the Board, prior to the end of the two-year period

contemplated by the plan, to keep the Board informed of any issues that arise. Mr. Gugel agreed that provisions for Board reporting should be added.

Adjournment

There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,



Sônia Mendonça
Corporate Secretary

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

DRAFT Minutes
Board of Trustees

November 5, 2019 | 4:15 p.m.–5:45 p.m. Eastern

The Whitley
3434 Peachtree Rd NE
Atlanta, GA 30326

Call to Order
Mr. Roy Thilly, Chair, called to order the duly noticed open meeting of the Board of Trustees (the "Board") of the North American Electric Reliability Corporation ("NERC" or the "Corporation") in Atlanta, Georgia on November 5, 2019, at 4:15 p.m. Eastern, and a quorum was declared present. The agenda is attached as **Exhibit A**.

Present at the meeting were:

Board Members
Roy Thilly, Chair
Janice B. Case, Vice Chair
Robert G. Clarke
Kenneth W. DeFontes
Frederick W. Gorbet
George S. Hawkins
Suzanne Keenan
Robin E. Manning
James B. Robb, President and Chief Executive Officer
Jan Schori
Colleen Sidford

Board Members Not Present
David Goulding

NERC Staff
Tina Buzzard, Associate Director
Tom Coleman, Director of Risk Issue Management
Howard Gugel, Vice President and Director of Engineering and Standards
Soo Jin Kim, Senior Manager of Standards Development
Mark G. Lauby, Senior Vice President and Chief Reliability Officer
Sônia Mendonça, Vice President, Interim General Counsel, Corporate Secretary, and Director of Enforcement
Lauren Perotti, Senior Counsel
Janet Sena, Senior Vice President and Director of Policy and External Affairs

NERC Antitrust Compliance Guidelines

Mr. Thilly noted the public nature of the meeting and directed the participants' attention to the NERC Antitrust Compliance Guidelines included with the advance meeting materials. He stated that any additional questions regarding these guidelines should be directed to Ms. Mendonça.

Welcoming Remarks

Mr. Thilly welcomed all of the attendees and thanked them for their participation. He recognized Andrew Gallo and thanked him for his service as Chair of the Standards Committee. Mr. Thilly also recognized Greg Ford for his service as the Member Representatives Committee ("MRC") Chair. Mr. Thilly reported that Agenda item 6.b., 2019 ERO Reliability Risk Priorities Report, would be discussed earlier in the agenda prior to the committee reports.

Consent Agenda

Upon motion duly made and seconded, the Board approved the consent agenda as follows:

Minutes

The draft minutes for the August 15, 2019 meeting were approved as presented to the Board at this meeting.

Committee Membership and Charter Amendments

Personnel Certification Governance Committee Membership

> **RESOLVED**, that the Board hereby appoints Cory Danson (Western Area Power Administration) as chair of the Personnel Certification Governance Committee, for a two-year term effective January 1, 2020.

Standards Committee Membership

RESOLVED, that the Board hereby appoints the following individuals to the Standards Committee, each for a term of two years beginning January 1, 2020:

- Amy Casuscelli, Xcel Energy, to serve as chair; and
- Todd Bennett, Associated Electric Cooperative, Inc., to serve as vice chair.

Critical Infrastructure Protection Committee Membership

RESOLVED, that the Board hereby appoints the following individuals to the Critical Infrastructure Protection Committee for the term beginning January 1, 2020:

- Marc Child, Great River Energy, to serve as chair;
- David Grubbs, City of Garland, to serve as vice chair; and

- David Revill, Georgia Systems Operations Corporation, to serve as co-vice chair.

Compliance and Certification Committee Membership

RESOLVED, that the Board hereby appoints the following individuals to the Compliance and Certification Committee, each for a term of three years effective upon the date of Board action:

- Justin MacDonald, Midwest Energy, Inc., Cooperative; and
- Ashley Stringer, Oklahoma Municipal Power Authority, Transmission Dependent Utility.

Regular Agenda

Report on November 5, 2019 Semiannual Meeting of NERC Trustees and Regional Entity Boards and Board of Trustees Closed Session

Mr. Thilly reported that the NERC Board of Trustees met with Regional Entity board officers and executives on November 5, 2019. He highlighted discussions regarding the ERO Enterprise long-term strategy and the ongoing development of a series of independence principles.

Mr. Thilly also reported that before the open meeting, as is its custom, the Board met in closed session with NERC management to review NERC management activities. The Board discussed confidential matters, including security and legal issues.

2019 ERO Reliability Risk Priorities Report

Nelson Peeler, Reliability Issues Steering Committee ("RISC") Chair, presented the 2019 ERO Reliability Risk Priorities Report, which was included in the advance agenda materials. After discussion, and upon motion duly made and second, the Board approved the following resolution:

RESOLVED, that the Board hereby accepts the Reliability Issues Steering Committee 2019 ERO Reliability Risk Priorities Report, as presented to the Board at this meeting.

Board Committee Reports

Corporate Governance and Human Resources Committee

Mr. DeFontes, Committee Chair, reported on the Committee's open meeting on October 31, 2019, noting that the Committee approved the upcoming ERO Effectiveness Survey, reviewed the status of the 2019 ERO Work Plan Priorities, and received an update on human resources and staffing.

Mr. DeFontes also noted that the Committee would meet in closed session on November 6, 2019 to review the 2019 and proposed 2020 Work Plan Priorities, the results of a recent Human Resources audit, and personnel performance.

Compliance Committee
Ms. Shori, Committee Chair, reported on the executive and open meetings of the Committee held on September 19, 2019 and November 1, 2019, respectively.

Ms. Shori thanked Jennifer Flandermeyer for her presentation to the Committee on the Compliance and Certification Committee ("CCC") Stakeholder Perception Survey. She also stated that, at the executive session, the Committee approved one Full Notice of Penalty and authorized NERC to sign a settlement agreement. At the open meeting, the Committee discussed moving away from having standalone internal control evaluations and incorporating internal controls assessments into compliance oversight plans for registered entities. She also stated that the Committee discussed the ongoing initiative to streamline processing for minimal risk noncompliance.

Finance and Audit Committee
Mr. Clarke, Committee Chair, reported on the closed meeting held on October 21, 2019 and the open meeting held on October 31, 2019. He reported that in the closed session, the Committee met with representatives from Grant Thornton to discuss the audit plan. Mr. Clarke reported that in the open session, the Committee reviewed the Third Quarter 2019 Statement of Activities, the 2020 Business Plan and Budget status, and the 2021 Business Plan and Budget schedule.

Mr. Clarke presented the third quarter financial results for the Board's acceptance. Upon motion duly made and seconded, the Board approved the following resolution:

> **RESOLVED,** that the Board, upon recommendation of the Finance and Audit Committee, hereby accepts the Third Quarter 2019 NERC, Combined ERO Enterprise, and Regional Entity Unaudited Results, as presented to the Board at this meeting.

Enterprise-wide Risk Committee
Mr. Thilly, speaking on behalf of Mr. Goulding, Committee Chair, reported that the Committee met in closed session on October 21, 2019. At its meeting, the Committee reviewed the findings from the HR Termination and Off-boarding Audit and the NERC Compliance Monitoring and Enforcement Program ("CMEP") and Organization Registration and Certification Program ("ORCP") independent audit. Mr. Thilly reported that the Committee reviewed the status of the 2019 Audit and Work Plan, received a presentation on the annual assessment of corporate risks, and approved the 2020 audit plan. He reported that the Committee also received a presentation on the activities of the CCC.

Technology and Security Committee
Ms. Keenan, Committee Chair, reported that the Committee met in open session on November 1, 2019 to discuss items including: (i) key features and functions in version 3 of the system for Situation Awareness for FERC, NERC and Regions (SAFNR v3) to enhance situational awareness; (ii) an update on the Align project; and (iii) an update on new IT projects for E-ISAC. She noted that the Committee moved and

accepted a set of E-ISAC metrics subject to final review by the Corporate Governance and Human Resources Committee.

Ms. Keenan commended NERC and SERC staff on the recent Grid Security Conference and reported on the success of the first women's networking breakfast. She noted that GridEx V, which would simulate an attack on critical infrastructure across North America, would be held November 13-14, 2019.

Ms. Keenan emphasized that the Committee planned to hold its first annual closed Committee meeting on November 6, 2019 to review NERC's security posture.

Nominating Committee
Mr. Hawkins, Committee Chair, discussed the Committee's work in selecting a trustee. He reported that the Committee interviewed five candidates on October 29, 2019, and that the Committee will meet on December 9, 2019 to discuss recommendations. He explained that the Committee intends to recommend a candidate to the MRC in February 2020.

Report by Trustee Rob Manning on Standards Quarterly Activities
Mr. Manning reported on the recent Standards Committee meetings, including actions on Standard Authorization Requests, appointing teams to address supply chain reports, standard drafting team appointments, and the work supporting the Electromagnetic Pulse ("EMP") Task Force. He thanked departing Standards Committee Chair Andrew Gallo for his service.

Standards Quarterly Report and Actions

2020-2022 Reliability Standards Development Plan
Mr. Gugel presented the 2020-2022 Reliability Standards Development Plan, noting that the Standards Committee endorsed the plan on September 18, 2019. Upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby approves the 2020-2022 Reliability Standards Development Plan, substantially in the form presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolution.

Reliability Standard BAL-003-2 – Frequency Response and Frequency Bias Setting
Mr. Gugel presented the proposed Reliability Standard, noting that the revisions address inconsistencies identified in the Frequency Response Annual Analysis and move several supporting procedural and process steps to the accompanying procedure document. Upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby adopts the proposed Reliability Standard BAL-003-2 – Frequency Response and Frequency Bias Setting, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the associated implementation plan, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the Violation Risk Factors and Violation Severity Levels for the proposed Reliability Standard, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the proposed retirement of Reliability Standard BAL-003-1.1, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby adopts the Procedure for ERO Support of Frequency Response and Frequency Bias Setting Standard (Version II – 2019), as presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

Reliability Standard PRC-006-NPCC-2 – Automatic Underfrequency Load Shedding

Mr. Gugel presented the proposed Regional Reliability Standard. Upon motion duly made and seconded, the Board approved the following resolutions:

RESOLVED, that the Board hereby adopts the proposed Regional Reliability Standard PRC-006-NPCC-2, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the associated implementation plan, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the Violation Risk Factors and Violation Severity Levels for the proposed Regional Reliability Standard, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the proposed retirement of Regional Reliability Standard PRC-006-NPCC-1, as presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

Other Matters and Reports

Policy Input and Member Representatives Committee Meeting

Mr. Thilly noted the discussion of policy input items and technical updates discussed at the MRC meeting.

EMP Task Force Strategic Recommendations

Ms. Kim presented the Electromagnetic Pulse ("EMP") Task Force report, which detailed strategic recommendations outlining key areas of concern where industry can take steps to address EMP resilience. She provided an overview of the strategic recommendations regarding policy, research, vulnerability assessments, mitigation guidelines, response, and recovery. Ms. Kim noted that next steps include soliciting policy input and preparing detailed project plans for further technical committee work, with any resulting standards-related recommendations to be considered at the end of this work.

Mr. Manning commended the EMP Task Force on the quality of the report and asked about next steps. Ms. Kim noted that research work is continuing at the Electric Power Research Institute ("EPRI") and the National Labs, and there is ongoing outreach to obtain more information for industry. The Board discussed the importance of seeking policy input on the report's recommendations from stakeholders and from management on priorities and understanding potential budget impacts.

The Board discussed the recommendations regarding the assignment of tasks to external parties. After discussion, and upon motion duly made and second, the Board approved the following resolution:

> **RESOLVED,** that the Board hereby accepts the Electromagnetic Pulse (EMP) Task Force Strategic Recommendations report, as presented to the Board at this meeting, and will review and act on the recommendations at the February 2019 Board of Trustees meeting.

Reliability and Security Technical Committee Charter, Chair and Vice Chair Appointments

Mr. Lauby presented the proposal to create the Reliability and Security Technical Committee ("RSTC"), approve the charter, and approve the RSTC. He referred to the background presentation at the MRC, and the suggestion to change the nomination period from four weeks to three weeks.

Mr. Thilly noted the significance of this proposal and commended Mr. Lauby and Jennifer Sterling on their work. He reported that the Board determined to empower the new RSTC to choose a new committee name, should it wish to do so. After discussion, and upon motion duly made and second, the Board approved the following resolutions:

> **WHEREAS,** Article VII of the NERC Bylaws provides that the NERC Board may appoint committees, by resolution, as the NERC Board deems necessary to carry out its purposes;
>
> **WHEREAS**, the Board called for a comprehensive review of the existing technical committee structure to determine how to improve the effectiveness and efficiency of those committees;
>
> **WHEREAS**, a stakeholder engagement team consisting of members of the Board, stakeholders, and NERC staff was formed to consider multiple options for fulfilling the ERO Enterprise need for participatory technical input on matters of reliability and security of the North American bulk power system, and it recommended creating a new committee to replace the existing three technical committees;
>
> **NOW, THEREFORE, BE IT RESOLVED,** that the Board hereby approves the creation of a new committee called the Reliability and Security Technical Committee (RSTC) to replace the three

existing technical committees (Operating Committee, Planning Committee, and Critical Infrastructure Protection Committee) which shall be disbanded in June 2020. The Board noted that the Committee could propose a new name, if it so desired.

FURTHER RESOLVED, that the Board hereby approves the RSTC Charter, substantially in the form presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby appoints Greg Ford (President and Chief Executive Officer of Georgia System Operations Corporation) as the RSTC Chair and Dave Zwergel (Senior Director of Regional Operations at Midcontinent Independent System Operator) as the RSTC Vice Chair, each for a term ending June 2022.

SERC Bylaws Amendments

Holly Hawkins, SERC General Counsel, presented the amendments to the SERC Reliability Corporation ("SERC") Bylaws, noting that the revisions focus on implementing the independence principles developed by the NERC Board and achieving the mission of the ERO Enterprise. She highlighted some of the proposed changes, including changing the structure of SERC's board to a balanced stakeholder/independent hybrid board and formalizing a membership body to ensure all SERC members have representation on a new members committee. Ms. Hawkins noted that SERC plans for a year-long transition period.

Jason Blake, CEO of SERC, noted that the proposed Bylaws revisions are transformational for SERC. He thanked Todd Hillman for his efforts and Ms. Hawkins and her legal team for their work. Mr. Gorbet commended SERC on their work.

Upon motion duly made and second, the Board approved the following resolutions:

RESOLVED, that the Board hereby approves the proposed amendments to the Bylaws of SERC Reliability Corporation, substantially in the form presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolution.

ReliabilityFirst Bylaws Amendments

Ms. Mendonça presented the proposed amendments to the Bylaws of ReliabilityFirst Corporation ("ReliabilityFirst"), which intended to align ReliabilityFirst's Bylaws with the independence principles developed by the NERC Board. Mr. Thilly thanked Tim Gallagher and the recent Chair of the ReliabilityFirst Board, Lisa Barton, for their work on these revisions.

Upon motion duly made and second, the Board approved the following resolutions:

RESOLVED, that the Board hereby approves the proposed amendments to the Bylaws of ReliabilityFirst Corporation, substantially in the form presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolution.

2019 and 2020 ERO Enterprise Dashboard Update

Mr. Coleman provided the 2019 ERO Enterprise fourth quarter dashboard update. He distinguished the ERO Enterprise Dashboard from the ERO Work Plan Priorities, noting that the ERO Enterprise Dashboard metrics are intended to measure risks to the bulk power system. Andy Dodge, Director of the FERC Office of Electric Reliability, proposed considerations for future dashboards. Mr. Thilly noted that this is the first year of the dashboard and thanked everyone for their work.

Reliability Coordinator Function in the Western Interconnection

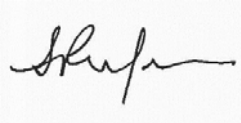
Branden Sudduth, WECC Vice President of Reliability Planning and Performance Analysis, provided an update on recent developments regarding the Reliability Coordinator function in the Western Interconnection. He provided an update on the status of the transition of Reliability Coordinator services and reported that Peak Reliability is on track to meet the December 3, 2019 target date for ceasing its Reliability Coordinator ("RC") services. Mr. Sudduth discussed completed milestones and next steps, including the completion of the common methodology required by Reliability Standard IRO-002-6 and ongoing work to develop metrics to evaluate performance in the Western Interconnection.

Mr. Thilly noted the complexity of the transition project and commended those involved for their hard work. Mr. Robb emphasized Marie Jordan's leadership during Peak RC's transition period as important to its success.

Adjournment

There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,



Sônia Mendonça
Corporate Secretary

Reliability Issues Steering Committee Membership

Action
Approve

Background
As required by the Reliability Issues Steering Committee (RISC) charter, the RISC Nominating Committee (RISCNC) solicited a pool of candidates to fill open stakeholder-based positions (At-Large and MRC) on the RISC. The RISC nomination period was held November 15-December 13, 2020. All submitted nominations can be found here: RISC 2020 Nominations. The current roster for the RISC has six (6) At-Large members and two (2) MRC members whose terms expire January 31, 2020. The RISC Roster requires:

1. At least six (6) stakeholder-based— four (4) from the MRC and at least two (2) At-Large members (not members of the MRC);
2. Five (5) committee-based—one (1) from each of the standing committees: Standards (SC), Operating (OC), Planning (PC), Critical Infrastructure Protection (CIPC), and Compliance and Certification (CCC). The Board will be responsible for appointing the committee-based members to the RISC. These members will be the chair or vice chair unless otherwise recommended by the standing committee and be subject to NERC Board approval.

As the Operating Committee, Planning Committee, and Critical Infrastructure Protection Committee (CIPC) have merged into the Reliability and Security Technical Committee Membership (RSTC) the RISC membership will now include the Vice Chair from the RSTC, along with the Standards Committee and Compliance and Certification Committee appointed members. The RISC in its annual review of its Charter will amend item 2 above to reflect the change to the RSTC.

Summary
The RISCNC recommends that the Board of Trustees approve the appointment of the following representatives for the terms listed.

Name	Company	Term Ending
Brian Slocum, Vice Chair	ITC Holdings	January 31, 2022
Joe Sowell, At-Large Member	Georgia Transmission Corporation	January 31, 2022
Charles King, At-Large Member	Kansas City Power & Light Co.	January 31, 2022
Priti Patel, At-Large Member	Great River Energy	January 31, 2021
Woody Rickerson, At-Large Member	ERCOT	January 31, 2022
Chris Janick, At-Large Member	Salt River Project	January 31, 2022
Charles Yeung, At-Large Member	Southwest Power Pool, Inc.	January 31, 2022
Mark Ahlstrom, At-Large Member	NextEra Energy Resources, LLC	January 31, 2022
Maury Galbraith, At-Large Member	WIRAB	January 31, 2022
Sylvain Clermont, MRC Member	Hydro-Quebec TransEnergie	January 31, 2022
Jennifer Sterling, MRC Member	Exelon	January 31, 2022
David Zwergel, Reliability and Security Technical Committee Vice Chair	Midcontinent ISO	January 31, 2021
Amy Casuscelli, Standards Committee Chair	Xcel Energy	January 31, 2021
Patti Metro, Compliance & Certification Committee Member	National Rural Electric Cooperative Association	January 31, 2021

Critical Infrastructure Protection Committee Membership

Action
Approve

Summary
Two changes to CIPC membership as summarized below:

APPA: Jack Cashin continues as the APPA representative on the CIPC Executive Committee, while Carter Manucy of Florida Municipal Power Agency has been designated as the APPA at-large representative to CIPC itself.

MRO: John Breckenridge, Kansas City Power & Light Co., is now MRO's Physical Security representative to CIPC, replacing Paul Crist, Lincoln Electric System.

Personnel Certification Governance Committee Membership

Action

Approve

Summary

- New member approval for Mark Ellis, American Electric Power. Mark is filling the opening that was created in the PCGC membership when Mike Anderson, resigned as chair from the PCGC and Cory Danson, WAPA, took over as chair.
- Due to PCGC members' two-year terms expiring December 31, 2019, the following membership renewals are requested with terms ending December 31, 2021:
  - Dave Carlson, Manager, Compliance, Exelon Utilities
  - Keith Carman, Sr. Manager, Transmission System Operations, Tri-State G & T
  - Brett Hallborg, Senior System Control Manager – TD System Operations, BC Hydro
  - Michael Hoke, Section Lead, PJM

Project 2017-07 Standards Alignment with Registration

Action

Adopt the following standards documents and authorize staff to file with applicable regulatory authorities:

- **Reliability Standard – FAC-002-3 – Facility Interconnection Studies**
  [FAC-002-3 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  FAC-002-2 – Facility Interconnection Studies

- **Reliability Standard – IRO-010-3 – Reliability Coordinator Data Specification and Collection**
  [IRO-010-3 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  IRO-010-2 – Reliability Coordinator Data Specification and Collection

- **Reliability Standard – MOD-031-3 – Demand and Energy Data**
  [MOD-031-3 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  MOD-031-2 – Demand and Energy Data

- **Reliability Standard – MOD-033-2 – Steady-State and Dynamic System Model Validation**
  [MOD-033-2 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  MOD-033-1 – Steady-State and Dynamic System Model Validation

- **Reliability Standard – NUC-001-4 – Nuclear Plant Interface Coordination**

  [NUC-001-4 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  NUC-001-3 – Nuclear Plant Interface Coordination

- **Reliability Standard – PRC-006-4 – Automatic Underfrequency Load Shedding**
  [PRC-006-4 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  PRC-006-3 – Automatic Underfrequency Load Shedding
- **Reliability Standard – TOP-003-4 – Operational Reliability Data**
  [TOP-003-4 Standard] [Redline to last approved]

  VRFs and VSLs
  [VRF/VSL Justification]

  Retirements
  TOP-003-3 – Operational Reliability Data
- **Implementation Plan for Project 2017-07 Standards Alignment with Registration**
  [Implementation Plan]

Background

On March 19, 2015, the Federal Energy Regulatory Commission (FERC) approved a series of proposed Rules of Procedure revisions to implement the NERC Risk-Based Registration (RBR) Initiative.[1] FERC approved the removal of two functional categories, Purchasing-Selling Entity (PSE) and Interchange Authority (IA), from the NERC Compliance Registry due to the commercial nature of these categories posing little or no risk to the reliability of the bulk power system. FERC also approved the creation of a new registration category, Underfrequency Load Shedding (UFLS)-only Distribution Provider (DP), for PRC-005 and its progeny standards. FERC subsequently approved on compliance filing the removal of Load-Serving Entities (LSEs) from the NERC registry criteria.[2]

Summary

Several projects have either already addressed, or will address, standards impacted by the RBR initiative since FERC approval. The purpose of this project was to formally address any remaining edits to the Reliability Standards that are needed to align the existing standards with the RBR initiatives, including removal of the PSE, IA, and LSE from the Applicability section of the standards. Additionally, the project proposes to modify the standards to ensure consistent use of the term Planning Coordinator.

Standard Development Process

The following proposed Reliability Standards were posted for a 45-day comment and ballot period from October 29, 2019 to December 12, 2019, the results of which are as follows:

- FAC-002-3 – Facility Interconnection Studies, 99.69% approval and 88.76 quorum;
- IRO-010-3 – Reliability Coordinator Data Specification and Collection, 99.36% approval and 89.02% quorum;
- MOD-031-3 – Demand and Energy Data, 99.69% approval and 89.02% quorum;

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[1] *See Order on Electric Reliability Organization Risk Based Registration Initiative, 150 FERC ¶ 61,213 (2015), available at:* https://www.ferc.gov/whats-new/comm-meet/2015/031915/E-3.pdf.

[2] *See Order on Compliance Filing, 153 FERC ¶ 61,024 (2015), available at:* http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order_RBR_ROP_10152015_RR15-4.pdf.

- MOD-033-2 – Steady-State and Dynamic System Model Validation, 99.69% approval and 88.98% quorum;
- NUC-001-4 – Nuclear Plant Interface Coordination, 99.59% approval and 89.96% quorum;
- PRC-006-4 – Automatic Underfrequency Load Shedding, 99.38% approval and 89.06% quorum; and
- TOP-003-4 – Operational Reliability Data, 99.69% approval and 88.72% quorum.

The proposed standards were posted for final ballot from January 14, 2020 to January 23, 2020. The results of the final ballots will be reviewed with the Board at the meeting.

Pertinent FERC Directives
None

Unresolved Minority Issues
There were no unresolved minority issues.

Cost Effectiveness
Questions regarding cost effectiveness were not asked during the initial comment period, as the proposed changes would not materially impact the responsible entities subject to the standards.

Additional Information
A link to the project history and files is included here for reference:
[Project 2017-07 Standards Alignment with Registration]

PRC-024-3 – Frequency and Voltage Protection Settings for Generating Resources

Action

Adopt the following standards documents and authorize staff to file with applicable regulatory authorities:

- Reliability Standard – PRC-024-3 – Frequency and Voltage Protection Settings for Generating Resources
  [PRC-024-3 Standard] [Redline to last approved]
- Implementation Plan for PRC-024-3 – Frequency and Voltage Protection Settings for Generating Resources
  [Implementation Plan]
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs)
  [VRF/VSL Justification]
- Retirements
  [PRC-024-2 Generator Frequency and Voltage Protective Relay Settings]

Background

On November 27, 2018, the NERC Operating Committee (OC) and Planning Committee (PC) submitted a Standards Authorization Request (SAR) prepared by the Inverter-Based Resource Performance Task Force (IRPTF), which reports to the OC and PC.

The IRPTF identified potential modifications to PRC-024-2 to ensure that inverter-based generator owners, operators, developers, and equipment manufacturers understand the intent of the standard in order for their plants to respond to grid disturbances in a manner that contributes to the reliable operation of the bulk power system. This work was informed by the analyses of the Blue Cut Fire and Canyon 2 Fire disturbances in southern California and the development of the PRC-024-2 Gaps Whitepaper.

The Project 2018-04 standard drafting team developed the proposed modifications in PRC-024-3 to address the issues in the SAR.

Summary

The project 2018-04 drafting team made modifications to PRC-024 to ensure that frequency and voltage protection for inverter-based resources were included in the standard. The Applicability Section was expanded to include a 'Facilities' subsection (4.2) that identified the specific protection and equipment that are applicable to the standard. Requirements R1 and R2 were modified to specify a generating resource may neither trip nor cease to inject current inside the "No Trip Zone" during defined frequency and voltage excursions. The "Point of Interconnection" terminology was replaced with, "at the high side of the generator step-up or main power transformer". This addresses confusion in regards to where the requirements are to be evaluated.

A regional variance was added for the Quebec Interconnection. The Applicability Section includes Transmission Owners that own a Bulk Electric System generator step-up (GSU)

transformer or main power transformer (MPT) and apply protection(s) to the transformer as listed in Section 4.2.1. The Quebec Variance Requirement R2 includes more stringent under/over voltage boundaries.

The PRC-024 ride-through curves were updated to clarify that the area outside the "No Trip" zone is not a "Must Trip Zone." Updates to Attachment 2: Voltage Boundary Clarifications were made to specify the per unit voltage base, minimum time durations, and that the curves pertain to Root Mean Square (RMS) values

Standards Development Process

The Standards Committee approved the SAR in February 2019. The PRC-024-3 standard was posted for two comment periods. The first was a 45-day formal comment period from April 17, 2019 – May 31, 2019. The second was a 45-day formal comment period from September 20, 2019 – November 4, 2019. The standard passed the additional ballot with 86.67 percent approval and 81.88 percent quorum. A 10-day final ballot was conducted from December 4, 2019 through December 13, 2019. The standard passed final ballot with 82.47 percent approval and 89.26 percent quorum.

Minority Issues

Some stakeholders suggested that the standard should be applicable to Transmission Owners (TO) that own a Generator step-up (GSU). The standard drafting team conducted outreach to assess the risk of continuing to exclude the TO function from the standard. Through this outreach, the standard drafting team identified that, except in the Quebec Interconnection, TOs owning GSUs were also registered as Generator Owners and were consequently subject to the standard. As such, the standard drafting team determined that there would be no reliability risk by continuing to exclude such TOs from the standard outside of the Quebec Interconnection. The standard would be applicable to TOs that own GSUs in the Quebec Interconnection.

Some stakeholders commented that the 24-month implementation plan is insufficient to implement new requirements.

Pertinent FERC Directives

None

Cost Effectiveness

The SDT sought stakeholder input on the cost effectiveness of the proposed standard during formal commenting. The majority of the stakeholder's support that proposed revisions provide a cost-effective means of addressing industry concerns as outlined in the SAR. However, some stakeholders believe that more studies are needed and that the proposed revisions concerning evaluating protective relay settings could create substantial cost due to work required to comply with the standard.

Additional Information

A link to the project history and files is included here for reference:
[Project 2018-04 Modifications to PRC-024-2]

TPL-007-4 – Transmission System Planned Performance for Geomagnetic Disturbance Events

Action

Adopt the following standards documents and authorize staff to file with applicable regulatory authorities:

- **Reliability Standard – TPL-007-4 – Transmission System Planned Performance for Geomagnetic Disturbance Events**
  [TPL-007-4 Standard] [Redline to last approved]

  Implementation Plan for TPL-007-4 – Transmission System Planned Performance for Geomagnetic Disturbance Events
  [Implementation Plan]

  Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs)
  [VRF/VSL Justification]

  Retirements
  [TPL-007-3 Transmission System Planned Performance for Geomagnetic Disturbance Events]

Background

In Order No. 851, issued November 15, 2018, the Federal Energy Regulatory Commission ("FERC") approved Reliability Standard TPL-007-2. In addition, FERC directed NERC to develop and submit modifications to the standard: (1) to require the development and implementation of corrective action plans (CAPs) to mitigate assessed supplemental GMD event vulnerabilities (P 29); and (2) to revise the standard such that extensions of time to implement CAPs are considered on a case-by-case basis (P 54). FERC directed NERC to submit the modified Reliability Standard within 12 months from the effective date of Reliability Standard TPL-007-2,[1] or by July 1, 2020.

The standard drafting team developed the proposed modifications in TPL-007-4 to address the Order No. 851 directives.

Summary

The Project 2019-01 standard drafting team modified language in Requirement R7.3 and R7.4 to require time extensions for completing CAPs be submitted to the ERO for approval. The SDT drafted TPL-007-4 Requirement R11 to require CAPs for supplemental GMD vulnerabilities and to require extensions to these plans to be approved by NERC and the Regional Entities, as appropriate, in situations beyond the control of the responsible entity. This language is the same as the modified Requirement R7 which addresses CAPs for the benchmark geomagnetic disturbance (GMD) vulnerability assessment. Requirement R8 was also modified to remove the

[1] On February 7, 2019, the Board adopted Reliability Standard TPL-007-3. This version added a Variance for Canadian registered entities and did not change any of the continent-wide standards. In the United States, Reliability Standard TPL-007-3 came into effect on the date originally scheduled for Reliability Standard TPL-007-2, July 1, 2019.

original R8.3 which stated “an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s) shall be conducted”

Standards Development Process

The Standards Committee approved the Standards Authorization Request (SAR) in February 2019. The TPL-007-4 standard was posted for a 45-day formal comment period and initial ballot from August 30, 2019 – September 9, 2019. The standard drafting team worked closely with NERC Compliance Assurance department to provide input on the development of a draft TPL-007-4 Corrective Action Plan Extension Request Review Process which was posted alongside the proposed standard for information. The standard passed the initial ballot with 70.84 percent approval and 91.44 percent quorum. The non-binding poll for the Violation Risk Factors and Violation Severity Levels passed with 71.04 percent approval and 88.81 percent quorum. The standard was posted for a 10-day final ballot from November 13, 2019 through November 22, 2019. The standard passed final ballot with 78.95 percent approval with 94.52 percent quorum.

Pertinent FERC Directives

The proposed standard addresses the following two directives from FERC Order No. 851:

- P. 29: " As proposed in the NOPR, pursuant to section 215(d)(5) of the FPA, we also determine that it is appropriate to direct NERC to develop and submit modifications to Reliability Standard TPL-007-2 to require the development and completion of corrective action plans to mitigate assessed supplemental GMD event vulnerabilities.”
- P. 54: “Based on our consideration of the record, we believe that the case-by-case review process contemplated by Order No. 830 is the appropriate means for considering [corrective action plan deadline] extension requests. Accordingly, pursuant to section 215(d)(5) of the FPA, we direct that NERC develop modifications to Reliability Standard TPL-007-2 to replace the time-extension provision in Requirement R7.4 with a process through which extensions of time are considered on a case-by-case basis.

The directives are addressed through revisions to Requirement R7, relating to CAPs for benchmark GMD Vulnerability Assessments, and through the addition of Requirement R11, relating to CAPs for supplemental GMD Vulnerability Assessments.

Unresolved Minority Issues

There were no unresolved minority issues.

Cost Effectiveness

Questions regarding cost effectiveness were asked during the initial comment period. Several comments were received indicating disagreement with the cost effectiveness of the revisions directed by FERC in Order No. 851; specifically, the requirement that entities develop CAPs for supplemental GMD event vulnerabilities. The SDT maintains that the proposed standard addresses the FERC Order No. 851 directives.

Additional Information

A link to the project history and files is included here for reference:
[Project 2019-01 Modifications to TPL-007-3]

Regional Reliability Standard BAL-001-TRE-2
Primary Frequency Response in the ERCOT Region

Action

Adopt the following standard documents and authorize NERC staff to file with applicable regulatory authorities:

- **Regional Reliability Standard – BAL-001-TRE-2 Primary Frequency Response in the ERCOT Region**
  [BAL-001-TRE-2 Standard] [Redline to last approved] [Summary of Changes]

  Implementation Plan
  [Implementation Plan]

  Retirement
  [BAL-001-TRE-1]

Background

In July 2018, the Texas Reliability Entity, Inc. (Texas RE) initiated a project to revise Regional Reliability Standard BAL-001-TRE-1. The associated Regional Standards Authorization Request sought to revise the standard to:

1. Remove the governor deadband and droop setting requirements for steam turbines in a combined cycle train; and
2. Seek clarification of the responsible entity for Frequency Measurable Event exclusion requests.

The Texas RE drafting team developed proposed Regional Reliability Standard BAL-001-TRE-2 and it was posted for ballot August 6 – September 5, 2019 for which it received 100% approval rate. The Texas RE Board of Directors approved the proposed Regional Reliability Standard BAL-001-TRE-2 on December 11, 2019.

Summary

The Texas RE drafting team revised Regional Reliability Standard BAL-001-TRE-1 and made the following revisions:

1) Revised the asterisk from "Steam Turbines of combined cycle resources are required to comply with Requirements R6.1, R6.2, and R6.3. Compliance with Requirements R9 and R10 will be determined through evaluation of the combined cycle facility using an expected performance droop of 5.78%." to "Requirements R6.1, R6.2, and R6.3 are not applicable to steam turbine(s) of a combined cycle resource."
2) Added Balance Authority as a responsible entity in Requirements R9.3 and R10.3 to state that a unit's Primary Frequency Response performance during an FME may be excluded from the rolling average calculation "by the BA".

A complete summation of the revisions made to the Regional Reliability Standard can be found in the Summary of Changes.

NERC staff supports the proposed Regional Reliability Standard. NERC posted proposed BAL-001-TRE-2 for a 45-day comment period from November 22, 2019 through January 6, 2020. No adverse comments were received.

Pertinent FERC Directives

None

Additional Information

Links to the relevant project history pages and files are included here for reference:
[Texas RE Regional Standards Project Page: BAL-001-TRE-1]

Reliability and Security Technical Committee Membership

Action

Approve

Summary

The Board, at its November 5 meeting, appointed the officers of the RSTC: Greg Ford, Chair and David Zwergel, Vice Chair. Per the RSTC proposal presented at the November 5 Board meeting, the Sector nomination period was held November 12 through December 6 seeking two representatives from Sectors 1-10, and 12. The following sectors had more than two nominees, therefore Sector elections were held December 9-20, 2019:

- Sector 1 – Investor Owned Utility
- Sector 2 – State/Municipal Utility
- Sector 4 – Federal or Provincial Utility/Power Marketing Administration
- Sector 6 – Merchant Electricity Generator
- Sector 7 – Electricity Marketer
- Sector 8 – Large End Use Electricity Customer
- Sector 9 – Small End Use Electricity Customer

The At-Large Nomination period was held December 30, 2019 through January 10, 2020, 53 nominations were submitted. All At-Large Election material can be found here: At-Large Nominations. The Nominating Subcommittee met on January 23, 2020 reviewed all nominations and are recommending for NERC Board approval the below slate of 10 At-Large nominees.

The Board of Trustees is requested to approve the appointment of the following Sector representatives and At-Large Nominees for the terms listed.

Sector Representatives	Sector Elected Members
1. Investor-owned utility	Greg Stone (Duke Energy) – 2020-2023 Kayla Messamore (Evergy) – 2020-2022
2. State/municipal utility	Saul Rojas (NYPA) – 2020-2023 Chris Shepherd (Gannett Fleming) – 2020-2022
3. Cooperative utility	Marc Child (Great River Energy) – 2020-2023 Ben Engelby (Arizona G&T Cooperatives) – 2020-2022
4. Federal or provincial utility/Federal Power Marketing Administration	Edison Elizeh (Bonneville Power) – 2020-2023 Robert Reinmuller (Hydro One) – 2020-2022
5. Transmission dependent utility	John Stephens (City Utilities of Springfield) – 2020-2023 Carl Turner (Florida Municipal Power) – 2020-2022
6. Merchant electricity generator	Allen Schriver (NextEra Energy) – 2020-2023 Sheranee Nedd (Public Service Enterprise Group) – 2020-2022
7. Electricity Marketer	Kyle Vander Helm (Tenaska, Inc.) – 2020-2023 Jodirah Green (ACES Power) – 2020-2022
8. Large end-use electricity customer	John Hughes (Electricity Consumers Resource Council) – 2020-2023

	Venona Greaff (Occidental Chemical) – 2020-2022
9. Small end-use electricity customer	Darryl Lawrence (PA Office of Consumer Advocate) – 2020-2023 David Mulcahy (Modern Energy) – 2020-2022
10. Independent system operator/ regional transmission organization	Wesley Yeomans (NY Independent System Operator) – 2020-2023 Christine Hasha (ERCOT) – 2020-2022
12. State Government	Christine Ericson (Illinois Commerce Commission) – 2020-2023 Cezar Panait (Minnesota Public Utilities Commission) – 2020-2022

At-Large Nominees	Company and Terms
Patrick Doyle	Hydro Quebec – 2020-2023
David Jacobson	Manitoba Hydro – 2020-2023
Sandra Ellis	Pacific Gas & Electric Company – 2020-2023
Rich Hydzik	Avista – 2020-2023
Todd Lucas	Southern Company -2020-2023
Wayne Guttormson	Sask Power – 2020-2022
Lloyd Linke	WAPA, Upper Great Plains Region – 2020-2022
Brian Evans-Mongeon	Utility Service – 2020-2022
Jeff Harrison	Associated Electric Cooperative – 2020-2022
Peter Brandien	ISO NE – 2020-2022

EMP Report Recommendations

Action

Approve EMP Task Force recommendations as proposed and prioritized by NERC staff.

Background

Protecting the bulk power system and assuring effective reduction of reliability risk is integral to the Electric Reliability Organization (ERO) mission. Recognizing the risk potential from electromagnetic pulses (EMPs), NERC launched efforts to identify reliability concerns associated with EMPs and potential methods for promoting resilience. NERC created the EMP task force in April 2019 to identify key issues and scope areas of improvement for the industry. The task force was announced at the May Member Representatives Committee meeting, and since then the task force has conducted numerous meetings, including a technical workshop in July.

At its November 2019 meeting, the Board accepted the EMP task force's report that included a series of strategic recommendations. Recognizing the broad expanse of the recommendations in the report and NERC's focus on effectiveness and efficiency, the Board asked NERC staff to propose which recommendations should be pursued first and EMP priorities for the ERO Enterprise for the long term.

Summary

NERC staff recommends that the EMP Task Force be maintained and serve under the new Reliability and Security Technical Committee (RSTC) with a specific work plan.

NERC staff also proposes the following priorities for addressing the other recommendations in the report, listed in order of priority (high to low) for each recommendation area. Items that NERC staff has identified as the highest overall priority, and thus should be addressed in the near term, are provided in **bold**.

Policy priorities:

1. **The EMP Task Force should establish performance expectations for the BPS regarding a predefined EMP event. NERC staff will work with other agencies on areas that require coordination.**
2. The EMP Task Force should develop guidance for the electric industry on interdependent utility sector coordination related to an EMP event.
3. The ERO Enterprise should develop educational materials about EMPs and their impact to electronic devices and BPS stability to inform industry and other interested parties.

Research and Development priorities:

1. **The ERO Enterprise should support additional research to close existing knowledge gaps into the complete impact of an EMP event to understand vulnerabilities, develop mitigation strategies, and plan response and recovery efforts.**

2. The EMP Task Force should work with other standards setting organizations (e.g. IEEE, Underwriters Laboratories) to designate equipment specifications for the electric sector utility industry around EMP hardening and mitigation strategies.
3. The ERO Enterprise should monitor and communicate to the industry research pertaining to EMP and EMP-related national security initiatives that impact the BPS.

Vulnerability Assessments priorities:

1. **The ERO Enterprise should develop tools and methods for system planners and equipment owners to use in assessing EMP impacts on the BPS.**
2. **The EMP Task Force should provide guidance to industry on how to identify and prioritize hardening of assets that are needed to maintain and restore critical BPS operations.**

Mitigation Guideline priorities:

1. The EMP Task Force should develop guidelines for industry to use in developing strategies for mitigating the effects of an EMP on the BPS (control centers/plant controls, substations, and power plants).

Response and Recovery priorities:

1. **The EMP Task Force should develop guidance for supporting systems and equipment (including spare equipment strategy) needed for BPS recovery in a post-EMP event.**
2. The EMP Task Force should develop response planning guidelines for EMP event pre and post-contingency actions that aligns with plans of applicable regulatory authorities.
3. The EMP Task Force should develop criteria to incorporate into operating plans and procedures and system restoration plans actions pertaining to EMP event.
4. The RSTC should develop training for system and plant operators about EMP events and consider incorporating EMP events in coordinated industry exercises to test response planning and system restoration recovery efforts.
5. The ERO Enterprise should work with the appropriate agencies to develop a real-time national notification system for the electric sector to System Operators and Plant Operators pertaining to an EMP event and its parameters.

The ERO Enterprise will facilitate conversations with appropriate agencies to encourage the development of solutions to the following policy matters outside of its scope:

- Cost recovery mechanisms for planning, mitigation, and recovery plans required to be developed.
- Access to necessary research by key industry personnel with security clearances (at the appropriate levels) conducted by the National Labs, Defense Threat Reduction Agency, and any additional third-party research on electric utility equipment by the Department of Energy.
- Access to industry-relevant information on E1, E2, and E3 EMP environments and other necessary related research.

MRC Policy Input

The Board requested MRC policy input on the following:

1. Do you agree with the recommendations above?
2. Do you agree with the priority levels proposed by NERC staff to address the recommendations?
3. Are there any additional recommendations related to EMP that the Board should consider?

A summary of the policy input received was provided at the February 5, 2020 Member Representatives Committee meeting.

Supply Chain Recommendations

Action

Approve NERC staff recommendation to initiate a project to modify the Supply Chain Standards to include low impact BES Cyber Systems with remote electronic access connectivity.

Background

In 2017, NERC developed new and revised CIP Reliability Standards to help mitigate cyber security risks associated with the supply chain for high and medium impact BES Cyber Systems. These standards, collectively referred to as Supply Chain Standards, consist of new Reliability Standard CIP-013-1 and revised Reliability Standards CIP-010-3 and CIP-005-6. Consistent with the risk-based framework of the NERC CIP Reliability Standards, the Supply Chain Standards will be applicable to the highest-risk systems that have the greatest impact to the grid. The Supply Chain Standards will require entities that possess high and medium impact BES Cyber Systems to develop processes to ensure responsible entities manage supply chain risks to those systems through the procurement process, thereby reducing the risk that supply chain compromise will negatively affect the BPS.

When adopting the Supply Chain Standards in August 2017, the NERC Board directed NERC to undertake further action on supply chain issues. Among other things, the Board directed NERC to study the nature and complexity of cyber security supply chain risks, including those associated with low impact assets not currently subject to the Supply Chain Standards and develop recommendations for follow-up actions that will best address identified risks. To better understand these risks, NERC collected data from registered entities pursuant to a request for data or information under Section 1600 of the NERC Rules of Procedure.

Based on the analysis of the data request, NERC staff recommends modification of the Supply Chain Standards to include low impact BES Cyber Systems with remote electronic access connectivity.

Summary of Analysis of Data Provided under Section 1600 Data Request

The assessment[1] documents the results of the analysis of the data to understand the implications of supply chain vulnerabilities not covered by the Supply Chain Standards and the extent of potential impacts (likelihood and risks to the BES).

One observation from NERC staff's analysis was that most low impact assets reside in organizations with higher impact assets that are applicable to the approved Supply Chain Standards. This means that the low impact assets may be subject to the entity's supply chain risk management program, and the entity would already have processes necessary to address supply chain vulnerabilities. However, many responders to the data request stated that their

[1] *Supply Chain Risk Assessment: Analysis of Data Collected under the NERC Rules of Procedure Section 1600 Data Request*, available on the NERC website at https://www.nerc.com/pa/comp/SupplyChainRiskMitigationProgramDL/Supply%20Chain%20Risk%20Assesment%20Report.pdf .

low impact BES Cyber Systems would be unaffected by the implementation of their supply chain risk management processes for high and medium impact assets, especially where they used separate vendors to supply low impact assets. The finding is not aligned with the expectation, stated in the May 2019 NERC staff report preceding the issuance of the Section 1600 data request,[2] that entities that have medium or high impact BES Cyber Systems will voluntarily apply CIP-013-1 Requirement R1 supply chain risk management plans to low impact BES Cyber Systems.

The analysis also showed that, while an individual compromise to any one low impact BES Cyber Asset location would generally be a localized event, a coordinated cyberattack with control of multiple locations could result in an event that has an interconnection wide BES reliability impact.

The vast majority of transmission station and substation low impact BES Cyber Assets are at locations that have at most only one line greater than 300 kV or two lines greater than 200 kV (but less than 300 kV). Similarly, the vast majority of generation resource low impact BES Cyber Assets are at locations that have less than 500 MW. As such, an individual compromise to any one of these locations (transmission substations or generation resources) would generally be a localized event. However, a coordinated cyberattack with control of multiple locations could result in an event that has an interconnection wide BES reliability impact.

One method to counter a coordinated cyberattack is to limit or eliminate third-party electronic access to these locations. Entities that have only low impact BES Cyber Systems allow third-party access to a significant number of their transmission stations and substations. While these locations represent a small percentage of all transmission stations and substation locations, the combined effect of a coordinated cyberattack on multiple locations could affect BES reliability beyond the local area.

The analysis of third-party electronic access to generation resource locations is even more concerning. More than 50% of all low impact locations of generation resources allow third-party electronic access. As with transmission stations and substations, the combined effect of a coordinated cyberattack could greatly affect BES reliability beyond the local area.

To address these risks, NERC staff recommended initiating a project to expand the scope of the Supply Chain Standards to include low impact BES Cyber Systems with remote electronic access connectivity.

MRC Policy Input

The Board requested MRC policy input on NERC Staff's recommendation to expand the scope of the Supply Chain Standards to include low impact BES Cyber Systems with remote electronic access connectivity. Questions included the following:

1. Do you agree with the recommendation?
2. Is there an alternate way to address the identified risk in a more cost effective manner?

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[2] *See Cyber Security Supply Chain Risks*: *Staff Report and Recommended Actions* (May 17, 2019) at 4, available on the NERC website at https://www.nerc.com/pa/comp/SupplyChainRiskMitigationProgramDL/NERC%20Supply%20Chain%20Final%20Report%20(20190517).pdf.

A summary of the policy input received was provided at the February 5, 2020 Member Representatives Committee meeting.

Retirement of CCCPP-002, Compliance Monitoring Program for Reliability Standards Applicable to NERC

Action

Approve

Summary

The Compliance and Certification Committee (CCC) is responsible for monitoring NERC's implementation of the Compliance Monitoring and Enforcement Program (CMEP), the Organization Registration program and the Certification program, monitoring NERC's adherence to the Rules of Procedure (ROP) regarding the Reliability Standards development process, and advising the NERC Board of Trustees regarding these programs. The CCC currently has two subcommittees – the ERO Monitoring Subcommittee (EROMS) and the Organization Registration and Certification Subcommittee (ORCS).

Through EROMS, the CCC monitors NERC's adherence to the Rules of Procedure (ROP) regarding the Compliance Monitoring and Enforcement Program (CMEP) as specified in Section 405 of NERC's ROP. It also monitors NERC's adherence to the ROP provisions governing the Reliability Standards development process and is responsible for maintaining related CCC procedures.

On November 19, 2019, the CCC voted to approve the retirement of CCCPP-002, recognizing no Reliability Standards are applicable to NERC.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Compliance Monitoring Program for Reliability Standards Applicable to NERC

CCC Monitoring Program – CCCPP-002

May 7, 2015

RELIABILITY | RESILIENCE | SECURITY




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Preface

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

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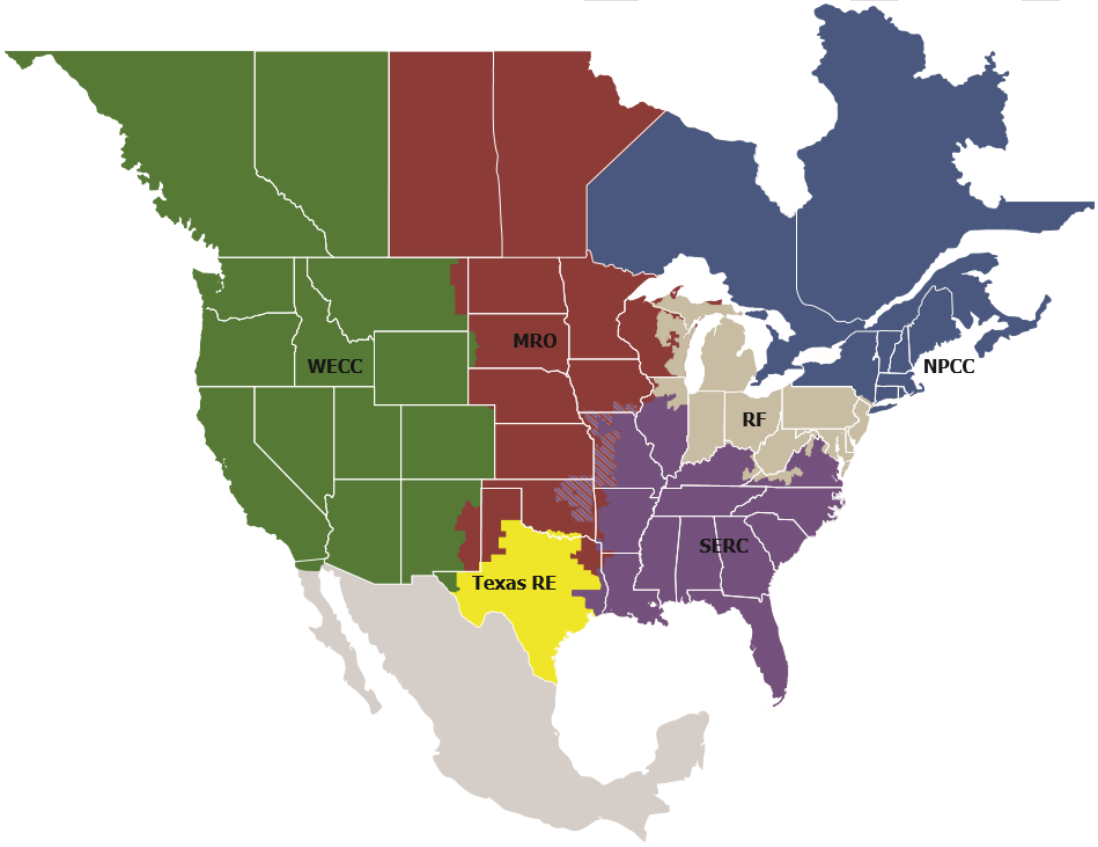
Because nearly 400 million citizens in North America are counting on us

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



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

Revision History

NERC Compliance and Certification Committee		CCCPP-002
Title: Compliance Monitoring Program for Reliability Standards Applicable to NERC		
Version: 2.0	**Revision Date: 04/13/2015**	**Effective Date: 05/07/2015**

Date	Version Number	Comments
June 11, 2008	1.0	Approved by the Compliance and Certification Committee
August 26, 2008	1.0	Approved by the Board of Trustees
April 13, 2015	2.0	Revised by the ERO Monitoring Subcommittee (EROMS), and approved by the Compliance and Certification Committee
May 7, 2015	2.0	Approved by the Board of Trustees

Introduction

In the capacity of a NERC board-appointed stakeholder committee serving and reporting directly to the Board under a NERC board-approved charter[1], as approved by FERC[2], and as set forth in the ROP, the CCC will engage with, support, and advise the Board and NERC Board of Trustees Compliance Committee (BOTCC) regarding all facets of the NERC CMEP, Registration program, and Certification program.

As a committee independent of NERC's obligations to comply with reliability standards applicable to NERC, the CCC is responsible for establishing and implementing a program as specified in Section 405 of NERC's Rules of Procedure to monitor NERC's compliance with the Reliability Standards that apply to NERC. This document describes the program and associated processes to be utilized by the CCC in carrying out this responsibility.

As noted in the NERC board-approved CCC Charter, monitoring by the CCC is ongoing and does not preclude, interfere with, or replace, in whole or in part, the Board's responsibility to conduct and provide such reviews of these programs as required by FERC regulations, 18 C.F.R. § 39.3(c): "The Electric Reliability Organization shall submit an assessment of its performance three years from the date of certification by the Commission, and every five years thereafter."

1.1 Terms

The terms defined below are applicable to this program only and are not intended to be applicable to or conflict with the same or similar terms used by NERC for other purposes.

1.1.1. Adverse Finding

A finding of a non-compliance with a Reliability Standard as a result of an Audit, a Self-Certification, a Self-Report, or a Spot Check.

1.1.2. Audit

A systematic, objective review and examination of records and activities to determine whether NERC has complied with Reliability Standards applicable to NERC.

1.1.3. Complaint

An allegation that NERC has not complied with a Reliability Standard.

1.1.4. Mitigation Plan

An action plan developed by NERC to (1) correct an Adverse Finding and/or (2) prevent any recurrence of an Adverse Finding.

1.1.5. Self-Certification

Periodic reporting by NERC of compliance or non-compliance with a Reliability Standard.

1.1.6. Self-Report

A report by NERC of a non-compliance with a Reliability Standard, based on NERC's own assessment, and of any actions taken or that are being taken to resolve the non-compliance.

1.1.7. Spot Check

[1] http://www.nerc.com/comm/CCC/Documents/CCC%20Charter%20Approved%20RR15-11-000.pdf
[2] http://www.nerc.com/files/Order_on_Comp_Filing_06.07.2007_CCC_VSL_Order.pdf

A process in which NERC is requested to provide information to assess whether NERC complies with Reliability Standards applicable to NERC.

Chapter 1: Monitoring Processes

The CCC will monitor and assess NERC's compliance with Reliability Standards applicable to NERC using the processes described below to collect information and make assessments.

1.1 Audits

The CCC will work with the Enterprise-wide Risk Committee (EWRC) and the NERC Director of Internal Audits to schedule periodic external Audits of NERC's compliance with Reliability Standards applicable to NERC. The CCC will participate as observers in these Audits, as described in Section 2.1.1. Audits will be conducted at NERC's facility(ies) in a manner consistent with Section 403.11 of the ROP. All Audits will be conducted in accordance with Audit guides, consistent with accepted auditing guidelines as approved by NERC.

1.1.1. Audit Steps

- The CCC will collaborate with the NERC Director of Internal Audits and the EWRC to schedule externally led Audits of Reliability Standards applicable to NERC.
- The CCC will participate, along with the NERC Director of Internal Audits, in the selection of the external auditing contractor.
- Each Audit team will include NERC Internal Audit staff, assigned CCC observers, and the external auditing contractor.
- The assigned CCC observers must identify any applicable conflicts of interest (COI) and will be subject to NERC COI procedures in place at the time of the Audit, which includes the ability of NERC to request replacement of an observer who has a COI.
- The assigned CCC observers must have completed NERC Auditor Training.
- The assigned CCC observers must execute Confidentiality Agreements.
- The assigned CCC observers must abide by the NERC-provided observer guidelines.
- The assigned CCC observers will be included in Audit team pre- and post-Audit activities and actual auditing activities, including meeting with NERC personnel from the departments that are the subjects of the Audit.
- The assigned CCC observers may provide questions, comments, and advice to the external auditors during the course of the Audit.
- The assigned CCC observers will have access to non-confidential Audit documents (as determined by NERC) on the secure NERC site.
- The assigned CCC observers will review all daily, weekly, and final Audit reports.

1.1.2. Frequency of Audits

Audits of NERC will be conducted at least every three (3) years. Additionally, an unscheduled Audit of NERC may be initiated by the CCC, in consultation with the EWRC and the NERC Director of Internal Audits, if reasonably determined to be necessary to determine NERC's compliance with Reliability Standards applicable to NERC.

1.1.3. Scope of Audits

An Audit will include elements of the Reliability Standards applicable to NERC selected by NERC, and elements of the Reliability Standards selected by the CCC.

1.1.4. Audit Reports

The Audit team will develop a draft Audit report that will include a description of the objective, scope, and methodology of the Audit; identify any Adverse Findings; identify any mitigation activities which have been completed or are pending; and identify the nature of any confidential information redacted. The draft Audit report may contain other recommendations of the Audit team related to the findings.

The draft Audit report will be provided to NERC which will in turn provide the Audit team with comments and descriptions of Mitigation Plans for addressing any Adverse Findings for inclusion in the final Audit report. If NERC disputes any Adverse Findings, NERC will also provide language to the Audit team addressing such concerns for inclusion in the report.

The Audit team will consider comments provided by NERC and develop a final Audit report that includes any Mitigation Plan descriptions provided by NERC as well as any language regarding disputed Adverse Findings. The Audit team will then provide the final Audit report to the Board through the EWRC.

1.2 Self-Certifications

NERC will certify its compliance with Reliability Standards applicable to NERC with respect to a subset of requirements selected by the CCC on a periodic basis. Such Self-Certifications will be achieved through reports to the CCC by a NERC officer or equivalent responsible for ensuring compliance with Reliability Standards applicable to NERC. Results of Self-Certifications will be communicated to the Board through the EWRC.

1.3 Spot Checks

The CCC, in consultation with the EWRC and the NERC Director of Internal Audits, may from time to time request NERC to provide information to assess whether NERC complies with Reliability Standards applicable to NERC. A review of this information will be conducted in a manner similar to an Audit. A Spot Check may also be initiated in response to events or a Complaint. Results of a Spot Check will be documented in a Spot Check report and provided to the Board in a manner consistent with reporting for a Compliance Audit.

1.4 Self-Reports

NERC is encouraged to self-report to the CCC at the time NERC becomes aware of (1) any NERC non-compliance with Reliability Standards applicable to NERC, or (2) a change in a previously identified Adverse Finding. Results of a Self-Report will be communicated to the Board through the EWRC.

1.5 Complaints

The CCC may receive Complaints alleging NERC non-compliance with Reliability Standards applicable to NERC. The CCC will conduct a review of each Complaint it receives to determine if the Complaint may be closed as a result of an initial review and assessment, or if the Complaint provides sufficient basis for the CCC to consult with the EWRC and the NERC Director of Internal Audits to determine if further action is needed. All anonymous Complaints will be reviewed in a manner that will prevent disclosure of the complainant's identity.

Chapter 2: Annual Work Plan

The CCC will maintain and update an Annual Work Plan, to be carried out by the CCC in the performance of its responsibilities and duties in implementing this program. The plan will be provided to NERC each year and will specify reporting by NERC to the CCC that will be required to provide verification of compliance through any of the monitoring methods described in Section 2 of this document. The Work Plan will be posted on the NERC website.

Chapter 3: Mitigation Plan

If an Adverse Finding is identified as a result of an Audit, a Self-Certification, a Self-Report, or a Spot Check, NERC will develop a corresponding Mitigation Plan.

3.1 Contents of a Mitigation Plan

A Mitigation Plan should include the following information:

- The non-compliance with Reliability Standards applicable to NERC that the Mitigation Plan will correct.
- The cause of the non-compliance.
- NERC's action plan to correct the non-compliance.
- NERC's action plan to prevent recurrence of the non-compliance.
- A timetable for completion of the Mitigation Plan.
- Any other information deemed necessary or appropriate.

3.2 Timetable for Completion of a Mitigation Plan

A Mitigation Plan should be completed in time to have a reasonable potential to correct the non-compliance prior to the next applicable reporting/assessment period after occurrence of the non-compliance for which the Mitigation Plan is provided. In all cases the Mitigation Plan should be completed without delay. NERC will keep the CCC informed of the status of Mitigation Plan activities, and will notify the CCC when a Mitigation Plan has been completed.

Chapter 4: Data Retention and Confidentiality

4.1 Records Management

All records associated with this program will be maintained by NERC. The associated records management policy will provide for a routine and orderly process for the retention and disposal of electronic and paper records related to this program, and ensure verification of compliance with appropriate business, regulatory, and legal requirements. The policy will allow for the maintenance of records as required to implement the CCC's monitoring of NERC's compliance with Reliability Standards applicable to NERC.

4.2 Retention Management

NERC's records management policy will require that information and data generated or received pursuant to activities associated with this program be retained for a minimum of five (5) years. If the information or data is material to the resolution of a controversy, the retention period for such data will not commence until after the controversy is resolved.

4.3 Confidentiality Management

NERC and the CCC will maintain confidentiality of all Confidential Information in accordance with Section 1500 of the ROP. Information deemed to be critical energy infrastructure information will be redacted and will not be released publicly.

Chapter 5: Reporting and Disclosure

5.1 Audit

The CCC will coordinate with NERC to post final Audit reports on its public website after the reports have been reviewed by the NERC Board. Such posting will be subject to the confidentiality provisions of the ROP.

5.2 Complaint

When the CCC determines that further action is needed regarding Complaints, it will report such Complaints to the NERC Board through the EWRC.

5.3 Mitigation Plan

NERC will keep the CCC informed of the status of Mitigation Plan activities, and will notify the CCC when a Mitigation Plan has been completed.

5.4 Other Monitoring Activity

The CCC will report to the NERC Board through the EWRC upon completion of a CCC monitoring activity described in this procedure.

Revisions to CCCPP-010, Criteria for Annual Regional Entity Program Evaluation

Action

Approve

Summary

The Compliance and Certification Committee (CCC) is responsible for monitoring NERC's implementation of the Compliance Monitoring and Enforcement Program (CMEP), the Organization Registration program and the Certification program, monitoring NERC's adherence to the Rules of Procedure (ROP) regarding the Reliability Standards development process, and advising the NERC Board of Trustees regarding these programs. The CCC currently has two subcommittees – the ERO Monitoring Subcommittee (EROMS) and the Organization Registration and Certification Subcommittee (ORCS).

Through EROMS, the CCC monitors NERC's adherence to the ROP regarding the Compliance Monitoring and Enforcement Program (CMEP) as specified in Section 405 of NERC's ROP. It also monitors NERC's adherence to the ROP provisions governing the Reliability Standards development process and is responsible for maintaining related CCC procedures.

EROMS initiated a review of CCCPP-010 as outlined in the 2019 CCC Work Plan. After this review, EROMS recommended the following revisions described below to the full CCC. On September 18, 2019, the CCC voted to approve the revisions to the evaluation criteria used by NERC in determining the effectiveness of each Regional Entity's CMEP as well as several ministerial amendments.

Proposed Revisions

- Replaced references to the former Compliance Processes and Procedures Subcommittee (CPPS) which was dissolved on August 15, 2019;
- Revised evaluation criteria used by NERC in determining the effectiveness of each Regional Entity's CMEP to provide clarification and to align with current practices as follows:
  - Regional processes used in the development of Regional Implementation Plans are no longer included in the ERO Enterprise CMEP Implementation Plan. Therefore this element was removed from Criteria A (Risk Elements).
  - Aligned Criteria B (Inherent Risk Assessment) and Criteria D (Compliance Oversight Plan(s)) with the revised ERO Enterprise process for Compliance Oversight Plan (COP) development;
  - Revised Criteria C (Internal Controls) to clarify that the evaluation of internal controls may occur during any monitoring activity and are also used in the development of the COP; and
  - Added introductory language to Criteria E (Enforcement) and added criterion for Regional Entities to include when providing feedback regarding a registered entity's Internal Compliance Program (ICP).

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Criteria for Annual Regional Entity Program Evaluation

CCC Monitoring Program – CCCPP- 010

September 2019

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Preface

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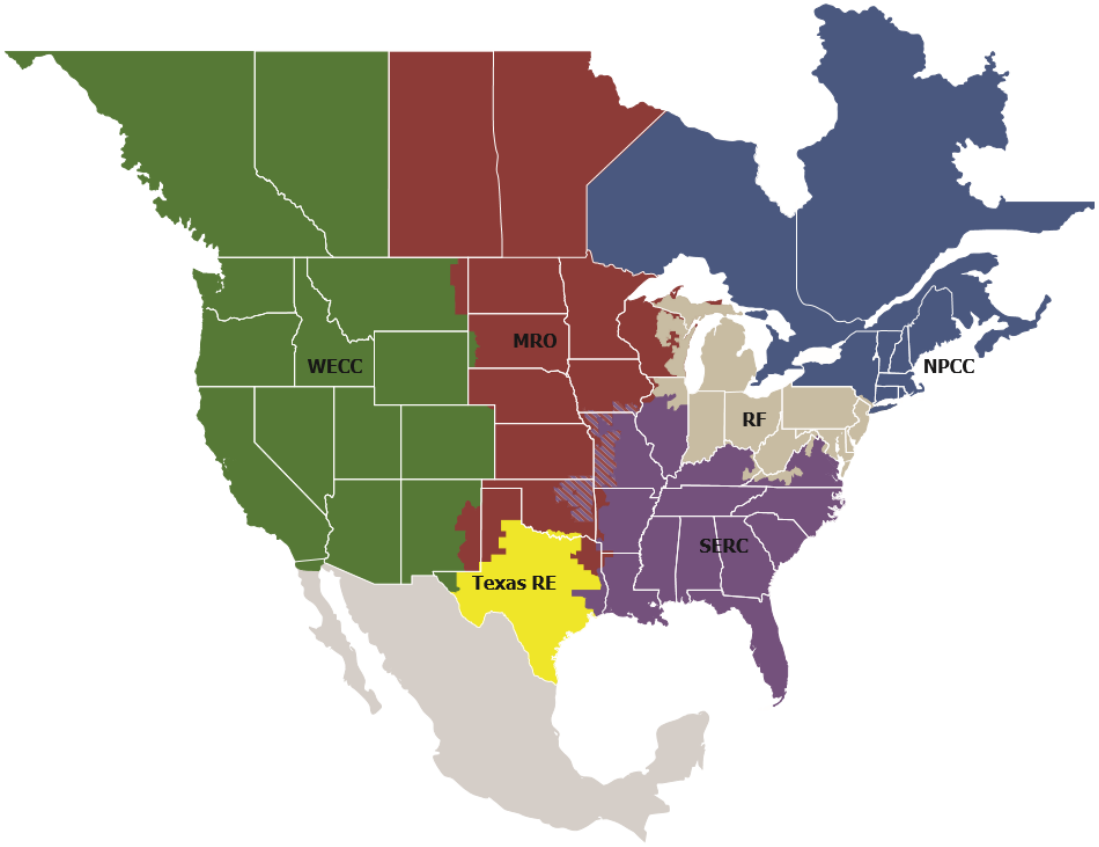

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RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Executive Summary

The Compliance and Certification Committee (CCC) is a NERC Board of Trustees (Board)-appointed stakeholder committee serving and reporting directly to the Board and is responsible for engaging with, supporting, and advising the Board and NERC regarding all facets of the NERC Compliance Monitoring and Enforcement Program (CMEP), Organization Registration Program (Registration program), and Organization Certification Program (Certification program). In accordance with Section 402.1.2 of the NERC Rules of Procedure (ROP), the CCC is responsible for establishing criteria for NERC to use to annually evaluate the goals, tools, and procedures of each RE CMEP to determine the effectiveness of each RE CMEP. For ease of reference and implementation, the Criteria is organized along the lines of Risk-Based CMEP activities: Risk Elements, Inherent Risk Assessment (IRA), Internal Control Evaluation (ICE), Compliance Oversight Plan, Enforcement, and Coordinated Oversight Program for Multi-Regional Registered Entities (MRREs). It is expected that NERC will present the results of the evaluation to the CCC as an input in the annual review, and if appropriate, update of these criteria.

Introduction

In the capacity of a NERC board-appointed stakeholder committee serving and reporting directly to the Board under a NERC board-approved charter,[1] and as approved by FERC,[2] and as set forth in the ROP, the CCC will engage with, support, and advise the Board and NERC Board of Trustees Compliance Committee (BOTCC) regarding all facets of the NERC CMEP, Registration program, and Certification program.

The CCC is commissioned with creating a set of criteria for use by NERC in measuring the effectiveness and adherence of the REs to the CMEP. In accordance with Section 402.1.2 of the NERC ROP, the CCC presents the following criteria for use by NERC in evaluating the goals, tools, and procedures employed by the compliance programs of each RE.[3][1]

Terms

Unless otherwise defined herein, capitalized terms have the meaning as prescribed in the ROP.

[1] https://www.nerc.com/comm/CCC/Pages/default.aspx

[2] http://www.nerc.com/files/Order_on_Comp_Filing_06.07.2007_CCC_VSL_Order.pdf

[3] Rule of Procedure 402.1.2 Regional Entity Program Evaluation — NERC shall annually evaluate the goals, tools, and procedures of each RE compliance enforcement program to determine the effectiveness of each RE program, using criteria developed by the NERC Compliance and Certification Committee.

[4] As noted in the NERC board-approved CCC Charter, monitoring by the CCC is ongoing and does not preclude, interfere with, or replace, in whole or in part, the Board's responsibility to conduct and provide such reviews of these programs as required by FERC Order No. 672: "The Electric Reliability Organization shall submit an assessment of its performance three years from the date of certification by the Commission, and every five years thereafter."

Chapter 1: Scope

The criteria contained in this program document address the goals, tools and procedures of each RE's CMEP. In general, EROMS has endeavored to align criteria for evaluating each RE with the oversight plan designed by NERC management for evaluating the CMEP implementation year for risk-based compliance monitoring and will consult with NERC Management.

Criteria associated with goals may focus on whether RE goals for respective CMEPs are aligned with the goals established by NERC, communicated widely, and are properly integrated with management and staff performance. Criteria associated with tools may focus on issues pertaining to the use of information systems supporting handling of RE data, regular compliance activities such as self-certifications, analytical tools used to evaluate data submittals, and overall information technology capabilities. Criteria associated with procedures may focus on steps REs have established to effectuate the goals of risk-based compliance monitoring.

Chapter 2: Use

The CCC's objective in establishing evaluation criteria is to assist NERC in determining the effectiveness of each RE's CMEP. NERC need not conduct audits of the REs to administer this program. In addition, REs responses should not necessarily be considered "right" or "wrong", but rather descriptive of goals, tools, and procedures currently employed by each RE. The criteria contained in this document are for use in NERC's annual assessment of each RE. NERC will decide the exact form and usage of questions to assess the RE's implementation of CMEP under each criteria.

REs CMEP goals, tools and procedures are evaluated to ensure consistency and fairness in accordance with ROP 402.1, and to support the ongoing development of criteria, EROMS will schedule at least one meeting a year with NERC to receive a report on the implementation of the criteria, how NERC posed questions to evaluate REs per the criteria, and to receive recommendations on how to update, modify, or delete criteria.

Chapter 3: Criteria

For ease of reference and implementation, the criteria are organized based on key processes supporting risk-based compliance monitoring and enforcement activities.

Criteria A. Risk Elements

The RE considers ERO Enterprise and Regional Bulk Electric System (BES) risks to inform and prioritize compliance monitoring activities. Specific criteria for assessing effectiveness include:

1. The RE defines and accounts for ERO Enterprise and Regional BES risks in its CMEP Implementation Plan (IP).
2. The RE has processes in place to consider ERO Enterprise and Regional Risk Elements during compliance monitoring activities, such as Inherent Risk Assessment (IRA) and Compliance Oversight Plan (COP) development.

Criteria B. Inherent Risk Assessment (IRA)

The ERO Enterprise Guide for Compliance Monitoring outlines that the REs should facilitate a collaborative dialogue with the registered entity throughout the IRA process[2]. The IRA process is one of many factors that guide the REs development of COPs and the identification of risks for a registered entity. Specific criteria for assessing effectiveness includes:

1. The RE maintains sufficient and appropriate documentation to justify IRA decisions. During IRA development and revisions, the RE uses already available IRA information about the registered entity, includes discussion with the registered entity in the event of the need to clarify or correct information, and incorporates registered entity feedback to the RE such that the registered entity understands the IRA process and the results of the IRA.
2. The RE conducts IRA activities (e.g., initial IRAs and revisions) in a timely manner in order to help ensure the IRA can inform compliance monitoring determinations and allow for registered entity feedback and appropriate adjustments to COPs.

Criteria C. Internal Controls

The RE evaluates internal controls to fulfil the ERO Enterprise's obligation to establish risk profiles for registered entities that inform the REs development of COPs. Specific criteria for assessing effectiveness includes:

1. The RE maintains and implements a documented process to assess internal controls for registered entities that aligns with ERO Enterprise Guide for Internal Controls.
2. The RE performs the assessment, provides feedback to the registered entity on internal controls, and how RE determinations impact the registered entities' compliance monitoring.
3. The RE documents decisions around the effectiveness of internal controls, whether during an ICE activity or a compliance monitoring activity (e.g., an Audit or Spot Check). RE documentation is sufficient and appropriate to support:
   a. Determinations around design and implementation of internal controls.
   b. Decisions impacting compliance monitoring activities and the registered entity's COPs.

[2] 4.1 "CEAs should facilitate a collaborative dialogue with the registered entity throughout the IRA process. As needed, CEAs should work with the registered entity to ensure the CEA has appropriate and sufficient information to conduct the IRA and ultimately develop a COP …"

Criteria D. Compliance Oversight Plans (COPs)

The RE develops and maintains entity specific COPs, using IRA results, Risk Elements, internal controls, and additional considerations such as entity performance, prior compliance monitoring activities or mitigating activities.

Specific criteria for assessing COP effectiveness includes:

1. The RE maintains a documented process, which aligns with ERO Enterprise Guide for Compliance Monitoring, for developing and maintaining COPs for registered entities within its regional footprint.
2. The RE maintains sufficient and appropriate documentation to support decisions related to COPs, including how the RE made decision around considerations that impact COPs.
3. The RE conducts activities (e.g., initial IRAs and revisions) in a timely manner in order to help ensure the IRA can inform compliance monitoring determinations and allow for registered entity feedback and appropriate adjustments to COPs.

Criteria E. Enforcement (Internal Compliance Programs & Self-Logging)

Internal Compliance Programs (ICPs) not only facilitate reliable and secure operations, but an effective ICP can also be considered a mitigating factor in determining a penalty under the NERC Sanction Guidelines. Registered entities with demonstrated internal controls to self-monitor, detect, assess, and correct their own noncompliance may be eligible to participate in the Self-Logging Program. Under the Self-Logging Program, participating entities' self-logged minimal risk noncompliance receives the presumption of Compliance Exception treatment when the log is submitted to the RE on a quarterly basis. Specific criteria for assessing ICP and self-logging effectiveness include:

1. The RE follows a documented process to evaluate registered entities' internal compliance programs (ICPs) and the implementation of those ICPs. The RE performs the assessment and provides feedback to the registered entity on the ICP.
2. The RE includes justification in an enforcement action for the ICP's being treated as a mitigating or neutral factor in determination of a penalty.
3. The RE distinguishes the documentation, and

Evidence production requirements for self-logged matters and other types of noncompliance.

Criteria F. Coordinated Oversight Program for Multi-Region Registered Entities

The ERO Enterprise developed the Multi-Region Registered Entity (MRRE) Coordinated Oversight Program to increase efficiencies in resource allocation for registered entities while maintaining the reliability of the BPS. The Program is designed to eliminate unnecessary duplication of compliance monitoring and enforcement activities. Specific criteria for assessing effectiveness includes:

1. Lead Regional Entities (LREs) and Affected Regional Entities (AREs) perform CMEP activities according to the existing ERO Enterprise guidance on the Coordinated Oversight Program for MRREs, which outlines each RE's specific roles and responsibilities.[4]
2. REs follow documented processes that allow for consistent and collaborative implementation of the Coordinated Oversight Program.
    a. LREs coordinate with AREs in all aspects of CMEP activities.
    b. REs use tools and templates that facilitate the process in conducting CMEP activities.

Chapter 4: Revision History

NERC Compliance and Certification Committee		CCCPP-010-6
Title: Criteria for Annual RE Program Evaluation		
Version: 6	**Revision Date: 09/19/2018**	**Effective Date: 11/05/2018**

Date	Version	Comments
July 13,2009	1.0	Draft for CCC Approval
July 24, 2009	1.0	Approved by CCC
November 4, 2009	1.0	Approved by the Board
June 23, 2011	2.0	Revised to reflect prior NERC assessments conducted in accordance with Agreed-Upon Principles and changes to NERC ROP
April 13, 2015	3.0	Rewritten to reflect Risk-Based Compliance Monitoring Principles and approved by the CCC.
May 7, 2015	3.0	Approved by the Board.
October 2016	4.0	Revised criteria to incorporate lessons learned from implementation of risk-based compliance monitoring and enforcement
September 2018	5.0	Updated criteria to reflect current ERO Enterprise guidance and processes.
November 2018	5.0	Approved by the Enterprise-wide Risk Committee
2019	6.0	Revised criteria to reflect current ERO Enterprise guidance and processes.

2019 and 2020 ERO Enterprise Dashboard Update

Action
Update

Summary
The 2019 ERO Enterprise Dashboard identifies key reliability indicators that provide insight into performance of the bulk power system as well as emerging trends that may indicate potential opportunities or challenges prospectively. Each quarter, NERC staff provides a summary of the status of these reliability indicators. NERC staff has compiled a primer, which describes each reliability indicator and key inputs of data to derive the results as well as potential mechanisms for improving those results.

A sub-group of the RISC are evaluating the 2019 Enterprise Dashboard to identify revisions and enhancements. RISC will provide a presentation in May on recommended enhancements, subsequently seek policy input, and target a final recommendation in August for implementation in 2021.

In the meantime, NERC staff recommends that the 2020 ERO Enterprise Dashboard would be the same as for 2019.

Reliability Coordinator Function in the Western Interconnection

Action
Update

Background
During early 2018, the California Independent System Operator (CAISO) announced that it intended to seek certification to perform the RC function for its footprint and offer these services to other Balancing Authorities and Transmission Operators in the West. In June 2018, the Southwest Power Pool (SPP) officially announced plans to extend RC services to the Western Interconnection beginning in late 2019. In July 2018, Peak announced it would cease operations at the end of December 2019. British Columbia Hydro and Power Authority (BCH) notified WECC of its intentions to provide RC-like services for the province of British Columbia.

Summary
On December 3, 2019, a major reliability milestone occurred in the Western Interconnection. SPP became the final new Reliability Coordinator (RC) of record, and Peak Reliability ceased to be an RC. Previously, on November 1, 2019, CAISO expanded the RC West footprint from its initial RC Area.

This milestone marked an almost two-year transition that impacted each Balancing Authority and Transmission Operator in the Western Interconnection with a commitment to common tools, coordinated processes, shared data, and improvements incorporated by Peak Reliability over the last several years.

The transition to multiple RCs represents a significant accomplishment for all new RCs, their customers, Peak Reliability, and the overall reliability and security of the bulk power system in the Western Interconnection.

Reliability Coordination in the Western Interconnection

February , 2020

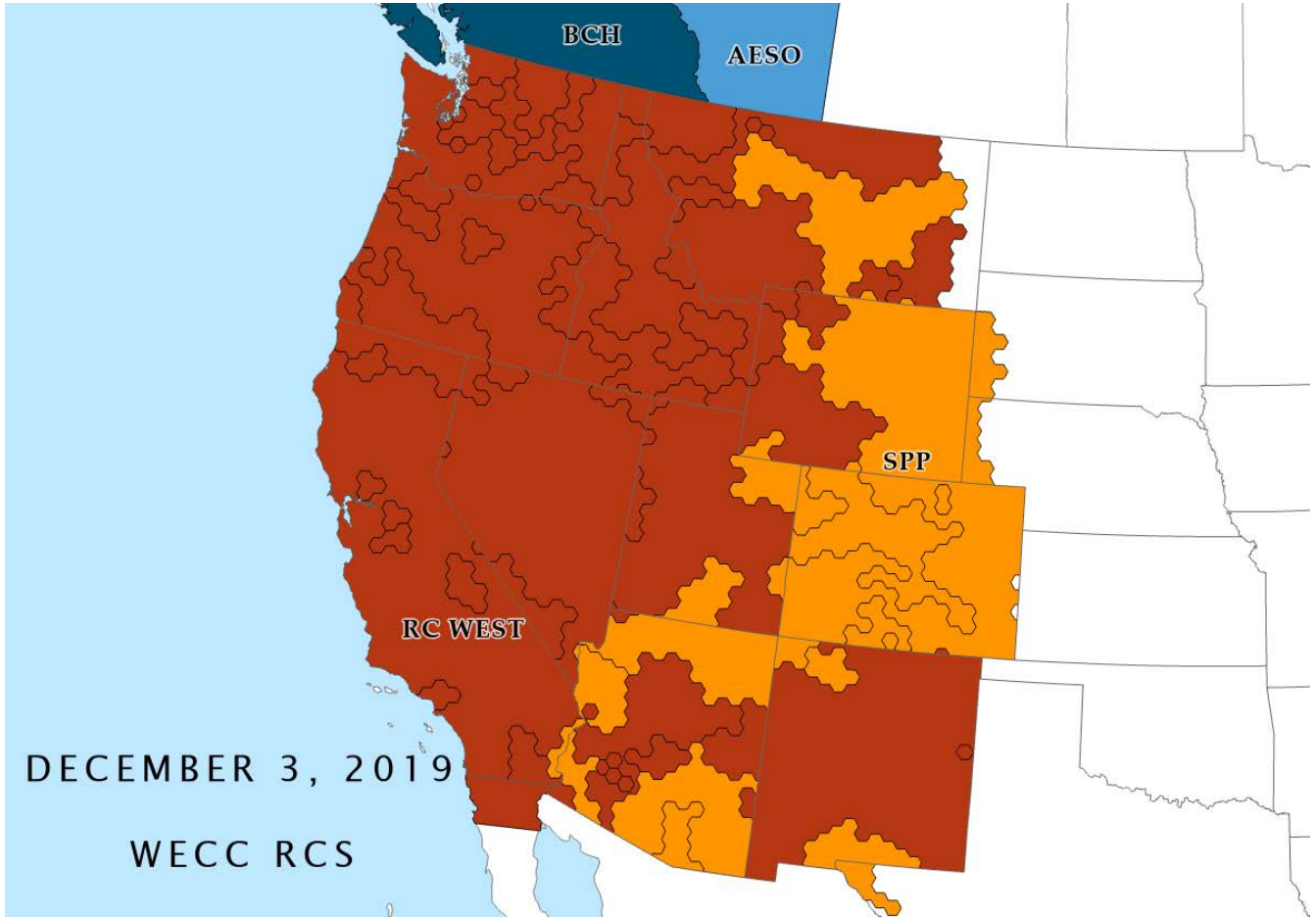
Branden Sudduth

Vice President RPPA

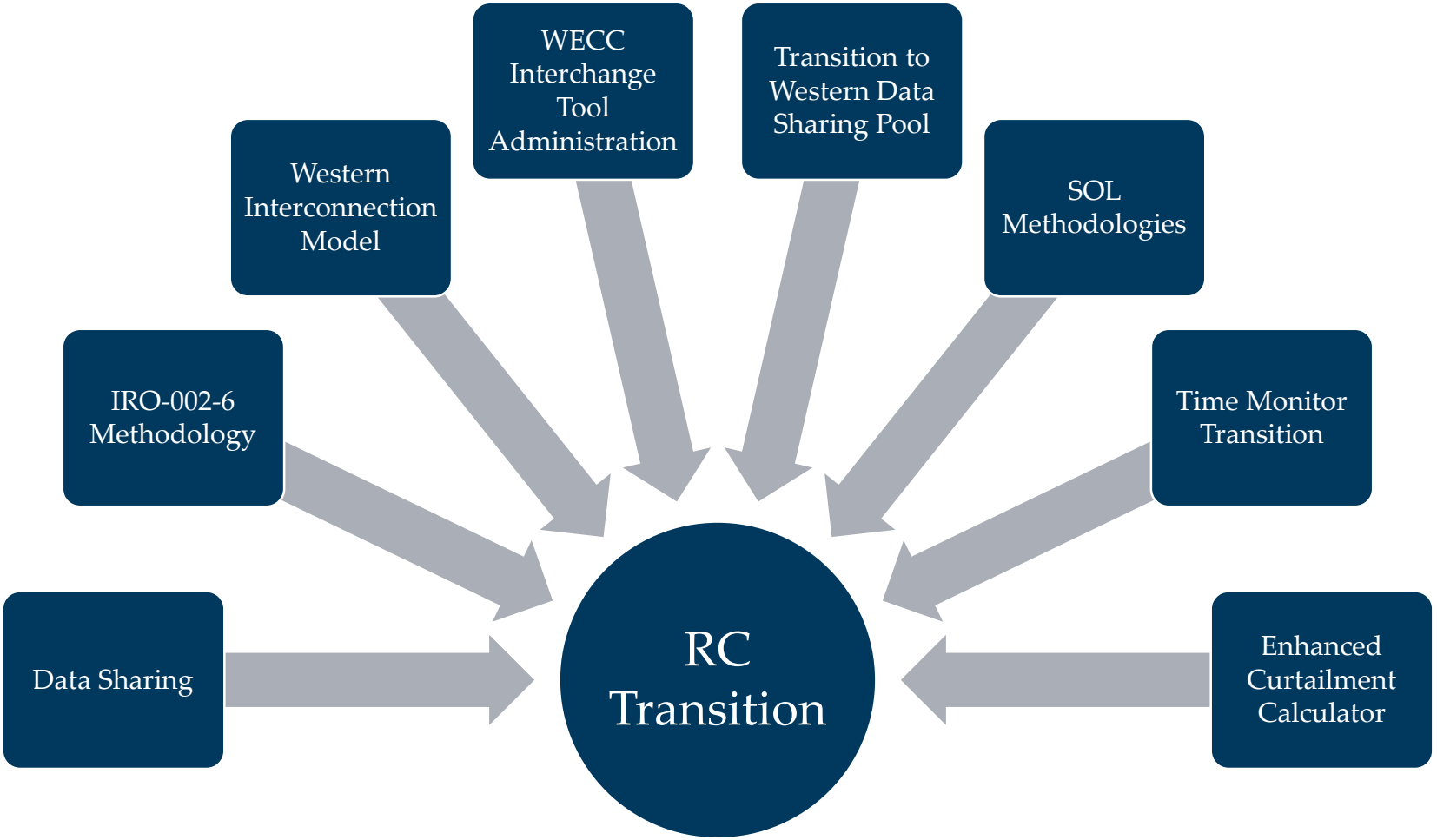
RC Transition Status

- RC West began operations of its expanded RC footprint on November 1
- SPP RC began operations of the SPP West RC footprint on December 3
- Peak Reliability ceased operations December 3

2019 RC Transition



Transition Accomplishments



Next Steps

- Transition to Reliability and Security Oversight activities
- Assurance visits around coordination and collaboration
- Regular updates at WECC Operating Committee meetings
- Engagement with RC governance and coordination committees

WECC

Electric Reliability and Security for the West

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Operating Committee Report

Action
Information

Operating Committee's (OC) Highlights since November OC Report

During the December 2019 OC meeting, the OC approved or retired the following reference documents:

- GMD Monitoring Reference Document
- Time Error Monitoring Reference Document
- Dynamic Transfer Reference Document
- Dynamic Tag Exclusion Reference Document (retired);
- Pseudo–Tie Coordination Reference Document (retired)

The OC approved revisions to Reliability Guideline: Integrating Reporting ACE with the NERC Reliability Standards.

The OC approved moving the credential maintenance program from the Personnel Subcommittee (PS) to the Personnel Certification Governance Committee (PCGC) pending revisions to the NERC Rules of Procedure (ROP).

The OC approved the ERO Event Analysis Process Document Version 4.0 and the revised OC Strategic Plan.

To facilitate a transition to the proposed Reliability and Security Technical Committee, the OC approved the 2020 work plans for the Resources Subcommittee (RS), Operating Reliability Subcommittee (ORS), and the Events Analysis Subcommittee (EAS). The work plan for the PS was tabled due to a proposal to move some of its work product to the PCGC.

Chair Zwergel appointed new leadership as follows:

- Events Analysis Subcommittee: Vinit Gupta (ITC) and Ralph Rufrano (NPCC) as chair and vice chair respectively
- Resources Subcommittee: Sandip Sharma (ERCOT) and Greg Park (NWPP) as chair and vice chair respectively

The December 2019 OC Meeting Minutes are posted on the NERC website.

OC Major Accomplishments for 2019 (Through December 2019)

1. OC and Subcommittee Work Plans – The OC Executive Committee and the leadership of its subcommittees met on January 17, 2019 to review and update the OC Work Plan. At

the March 2019 OC meeting, the OC reviewed and approved the OC Work Plans. The OC also approved the 2020 work plan.

2. OC Organization Chart – At its January 17, 2019 meeting, the OC leadership reviewed its organization per Section 6.1 of the OC Charter. The OC leadership removed the Eastern Interconnection Data Sharing Network (EIDSN) and Interchange Distribution Calculator Working Group (IDCWG), which are now independent from NERC, from under the Operating reliability Subcommittee (ORS).
3. Reliability Guidelines – The OC approved the following:
    a. Primary Frequency Control
    b. Improvements to Interconnection Requirements for BPS-Connected Inverter-Based Resources
    c. Integrating Reporting ACE with the NERC Reliability Standards.
4. Compliance Implementation Guidance – The OC endorsed two Compliance Implementation Guidance documents which were submitted to the ERO for approval:
    a. Data Exchange Infrastructure and Testing Requirements and
    b. Real–time Assessment Quality of Analysis.
5. Reference Documents – The OC approved the following:
    a. NERC Balancing Authority Area Footprint Change Tasks
    b. GMD Monitoring Reference Document
    c. Time Error Monitoring Reference Document
    d. Dynamic Transfer Reference Document
    e. Dynamic Tag Exclusion Reference Document (retired)
    f. Pseudo–Tie Coordination Reference Document (retired)
6. The OC approved moving the credential maintenance program from the PS to the PCGC pending revisions to the NERC ROP.
7. The OC approved the ERO Event Analysis Process Document Version 4.0 and the revised OC Strategic Plan.

OC's Major Initiatives for 2019

1. Reliability Guidelines and Reference Documents – A Quick Reference Guide is under development that contains a summary of each Reliability Guideline or Reference Document. The quick Reference Guide will also contain the Approval Date, Version Number, Applicability and a link to the document itself. The OC is reviewing and revising the following Reliability Guidelines and Reference Documents:
    a. Periodic review and update of Reliability Guideline: Integrating Reporting ACE with the NERC Reliability Standards.
    b. Periodic review and update of Reliability Guideline: Situational Awareness for the System Operator.
    c. Periodic review and update of Reliability Guideline: Generating Unit Winter Weather Readiness – Current Industry Practices.

d. *Balancing Authority Area Footprint Change Tasks* and develop a summary document. The OC authorized posting the revised document at the December, 2018 meeting. Revisions are being made to incorporate comments received.

e. NERC Balancing and Frequency Control Reference Document was reviewed in 2018 and will be revised in 2019.

f. Time Monitoring Reference Document and develop a summary document

g. Geomagnetic Disturbance Monitoring Reference Document and develop a summary document

h. Review and update *Dynamic Transfer Reference Document; Dynamic Tag Exclusion Reference Document; Pseudo–Tie Coordination Reference Document* and develop a summary document. These documents are being reviewed for overlapping content and are to be combined into a single Reference Document.

2. ORS – The ORS will focus on reviewing and approving Reliability Coordinator (RC) Reliability Plans in the Western Interconnection to facilitate the transfer of RC duties from Peak reliability. The ORS will continue to focus on regular review, update, and communication of Reference Documents and Reliability Guidelines within its area of responsibility and coordinate additional reviews and revisions with the RS. The ORS will also continue to prepare for implementation of the Interchange Distribution Calculator Parallel Flow Visualization field trial.

3. RS – The RS will review and revise several reliability guidelines, reference documents and training guides under its purview and coordinate additional reviews and revisions with the ORS. The RS will also provide ongoing support of the NERC Planning Committee's Performance Analysis Subcommittee metric M4, Interconnection Frequency Response for the annual State of Reliability Report

4. EAS – The EAS collaborates with the North American Transmission Forum (NATF) and the North American Generator Forum (NAGF) regarding the development of Lessons Learned. The EAS will also review and revise the Reliability Guideline: Generating Unit Winter Weather Readiness as well as conduct the annual Monitoring and Situational Awareness Technical Conference.

5. PS – The PS has started development of Continuing Education Program Manual, Version 5.0 and will coordinate with the PCGC on improved efficiencies between the groups.

6. Coordination with other groups – The OC continues efforts to better coordinate its activities with other industry groups such as the NATF, NAGF, and ISO/RTO Council (IRC).

Planning Committee Report

Action
Information

Summary
The Planning Committee (PC) is pleased to provide this update to the Board of Trustees (Board) for their review. PC leaders are actively engaged in planning for the implementation of the Reliability and Security Technical Committee (RSTC) while continuing to oversee ongoing subcommittee and task force work activities. PC leaders have taken steps to provide regular communications with RSTC leaders on the PC work plan status to ensure a seamless transition.

Forward Perspectives

- **Fuel Assurance Planning Guidance and Electric/Gas Working Group**
  No Board Approval Required

  The Electric/Gas Working Group (EGWG) is completing the Reliability Guideline on fuel assurance and fuel-related reliability risk analysis for the bulk power system. The draft guideline was posted for stakeholder comment November 4 – December 18, 2019. The EGWG is incorporating feedback and is expected to seek PC approval of the guideline by the March 2020 PC meeting.

- **Draft Reliability Guideline in Development with Industry**
  No Board Approval Required

  The PC has posted the draft guideline *Bulk Power System Reliability Perspectives on the Adoption of IEEE 1547-2018* for industry comment. The NERC System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG) developed the draft Reliability Guideline to provide high-level guidance that should be considered during the adoption and implementation of new IEEE standards for Distributed Energy Resource (DER) performance and capabilities. Specifically, the guideline focuses on issues pertaining to DER that have been identified by SPIDERWG as potentially having an impact to the BPS. The guidance is intended for state regulatory staffs, Distribution Providers (DPs), Balancing Authorities (BAs), Reliability Coordinators (RCs), and other entities navigating adoption of IEEE 1547-2018 and its requirements. The PC anticipates the guideline will be ready for approval by the PC or RSTC in 2019.

- **Technical Justification White Papers for Potential Standards Revisions**
  No Board Approval Required

  - *Standards Applicability of Transmission-Connected Reactive Devices.* The PC approved the white paper developed by the System Analysis and Modeling Subcommittee (SAMS) that identifies potential gaps in reliability standards and agreed that the PC Executive Committee (PCEC) should consider a SAR to address identified issues. Non-generation transmission-connected dynamic reactive resources – both rotating machine (i.e. synchronous condenser) and power-electronics based – are increasingly relied upon to provide essential reliability services (ERS) such as voltage control, frequency control, and ramping/balancing

capability. Yet, SAMS found that many relevant NERC Reliability Standards are not applicable to these types of transmission-connected dynamic reactive resources. The PCEC will review a SAR developed by SAMS at the January PCEC meeting.

- *Standards Review of Inverter Based Resource Applicability.* PC members are reviewing a white paper developed by the Inverter Based Resource Performance Task Force (IRPTF) that contains recommendations for standards development based on the IRPTF's comprehensive review of reliability standards for inverter-based resource applicability. PC members will complete the review of the white paper in January and provide feedback to IRPTF.
- *Review of TPL-001 for Incorporation of DER.* PC members are reviewing a white paper developed by the SPIDERWG that evaluates the sufficiency and clarity of the TPL-001 standard for considering DER as part of annual Planning Assessment. PC members will complete the review of the white paper in January and provide feedback to SPIDERWG.

- **Geomagnetic Disturbance (GMD) Data Reporting Instruction (DRI)**
  No Board Approval Required

  The PC is reviewing the draft DRI developed by NERC staff and the GMD Task Force. The purpose of the draft GMD DRI is to assist NERC in the development of systems and processes for collecting the specified data and provide stakeholders an opportunity to give feedback on NERC's approach to meeting the approved Data Request. The GMD Data Request was developed to meet Federal Energy Regulatory Commission (FERC) directives in Order No. 830 for collecting geomagnetically-induced current (GIC) monitoring and magnetometer data from registered entities that have such data. NERC is preparing to implement data collection in 2020.

- **Battery Storage and Hybrid Resources Planning Activities**
  No Board Approval Required

  The PCEC will have a web meeting in late January and discuss next steps for PC and subcommittee actions to address potential BPS reliability planning issues associated with increasing battery storage and hybrid resources. This is a next step to the previously reported joint workshop with NERC, the North American Generator Forum (NAGF), and Energy Systems Integration Group (ESIG) held in September.

Recently Completed Committee Activities and Initiatives

- **SAR for *MOD-032-1 – Data for Power System Modeling and Analysis.***
  No Board Approval Required

  The PC endorsed the SAR developed by the System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG). As previously reported, certain issues with this standard were originally outlined in the 2017 Distributed Energy Resource Report (DER Report) approved by the NERC Board. The SPIDERWG proposal adopts those recommendations plus requests revisions to the standard to clarify planning entity authority for requesting aggregated Distributed Energy Resource (DER) modeling information for use in BPS planning.

- **Misoperations Information Data and Analysis System (MIDAS) Data Reporting Instruction (DRI)**
  No Board Approval Required

The PC approved the DRI developed by the MIDAS Working Group (MIDASWG) for industry use in reporting mandatory misoperations data per the board-approved NERC Rules of Procedure Section 1600 Data Request. The DRI will promote quality and consistency in protection systems misoperations data reporting.

Future Meetings

- March 3-4, 2019 | Atlanta | PC Meeting
- March 31 – April 1 | Austin | PCEC Strategic Meeting for RSTC Transition

Critical Infrastructure Protection Committee Report

Action
Information

Summary
CIPC's fourth quarter meeting included the annual classified briefing, which was coordinated with the Atlanta FBI office. More than 20 participants attended the session, which occurred prior to the actual CIPC meeting.

Highlights from the December 2019 CIPC meeting include the following items:

- The nominating subcommittee chair was unavailable due to a last minute family emergency; thus, the vote for "at-large" members of the CIPC Executive Committee was postponed and was to be conducted via email. The subcommittee nominated the current at large members to continue in their roles until the CIPC to RSTC transition is complete.
- Two "Supply Chain Security Guidelines" were approved by CIPC and subsequently posted for industry reference on the Security Guidelines page at NERC.com. As was the case with previously published supply chain guidelines, each document is accompanied by a presentation that provides an overview of the topic.
- In welcoming remarks, NERC Senior Vice President and Chief Engineer Mark Lauby emphasized the need to think strategically in accomplishing the ERO Enterprise vision and strategic plan, especially in light of the cybersecurity risks in the planning and operating time horizons that collaborative efforts can best address.
- Resource limitations, competing priorities, and an evolving threat landscape had an impact on the 2018-19 work plan, resulting in some tasks being left incomplete. The 2020-21 work plan has been developed with priorities assigned to each item, with the level of importance based on factors such as item's source (e.g., strategic plan, risk report, NERC Board). It is likely that new task forces will be needed to address emerging issues.
- David Zwergel, MISO, outgoing chair of the Operating Committee and also the first vice chair of the Reliability and Security Technical Committee (RSTC), provided an overview of recent developments and upcoming activities for NERC's technical committees.
- Nicholas Anderson, recently appointed as the Deputy Assistant Secretary for the Infrastructure Security and Energy Restoration (ISER) Division in the Office of Cybersecurity, Energy Security, and Emergency Response (CESER) at the Department of Energy (DOE), attended his first CIPC meeting and gave an overview of relevant DOE projects and activities. He expressed appreciation for DOE's opportunity to participate with NERC and E-ISAC in various efforts, particularly GridEx and with the Physical Security Advisory Group.

- FERC representatives discussed changes within their organization that are intended to address cybersecurity challenges in areas such as access to threat information, cloud computing, network monitoring, supply chain security, and security controls.
- The CIPC Executive Committee voted to retain Charles Abell,Ameren as the CIPC representative on the Reliability Issues Steering Committee (RISC).
- With three Standard Drafting Teams currently working on updates to the CIP Reliability Standards, representatives from each team provided details of their respective team's goals, current activities, and next steps.
- The Compliance Input Working Group (CIWG) is continues in working with ERO compliance staff as well as governmental and industry representatives to develop implementation guidance for certain cloud computing services.
- Security updates from E-ISAC personnel included information about physical and cyber events, threats, and practices with implications for industry.
- Presentations from four national laboratories (Argonne National Laboratory (ANL), Idaho National Laboratory (INL), Oak Ridge National Laboratory (ORNL), and Pacific Northwest National Laboratory (PNL)) and EPRI included information about security tools, programs, events, and activities of interest for which industry participation and feedback is sought .

Personnel Certification Governance Committee Report

Action
Information

Summary
PCGC's fourth quarter meeting was held on November 4-6, 2019, at The Whitley in Atlanta, GA.

Highlights from the November PCGC meeting include the following items:

- The PCGC and the Operating Committee agreed to a structure change to enhance governance of the System Operator Certification Program by moving the credential maintenance portion of the Personnel Subcommittee (PS) to the PCGC. A delegation agreement was signed until the Rules of Procedure changes are finalized.
- The PCGC established the Certification Maintenance Working Group (CMWG) to provide governance for the credential maintenance portion of the NERC System Operator Certification program.
- A draft scope was developed for the CMWG. The CMWG will finalize the scope and the PCGC will approve the CMWG Scope.
- The PCGC appointed Maureen Curley, PJM as chair and Hector Nunez, NEISO as vice-chair of the CMWG. Both were formerly PS members.
- The CMWG open positions have been posted for nominations.
- Three PCGC members are on the 2019-05 Modifications to PER-003-2 (Operating Personnel Credentials) Standards Drafting Team addressing the PCGC One Credential White Paper.
- Exam Working Group (EWG) provided a bi-annual update. The EWG continues to maintain and improve the System Operator Certification exams item bank.

Future Items
- Fill open positions of the CMWG.
- Assign the CMWG to develop a credential maintenance manual.
- Develop the specifications for the transition from four credentials to one credential.
  - Update program manuals
  - NERC website
  - Update vendor applications
  - Industry Outreach

Standards Committee Report

Action

Approve the Standards Committee 2020 Work Plan, and receive information regarding recent activities.

Background

Attached is the Standards Committee 2020 Work Plan for Board of Trustees consideration and approval. Also included is the Standards Committee Quarterly Report highlighting activities over the last quarter.

At its October 23, 2019 meeting, the SC:

1. Authorized initial posting for Project 2017-07 Standards Alignment with Registration for a 45-day formal comment period of proposed Reliability Standard Standards FAC-002-3, IRO-010-3, MOD-031-3, MOD-033-2, NUC-001-4, PRC-006-4, and TOP-003-4;
2. Appointed supplemental members, chair, and vice chair to the standard drafting team (SDT) for Project 2019-02 BES Cyber System Information Access Management, as recommended by NERC staff;
3. Accepted the revised Project 2019-03 Cyber Security Supply Chain Risk Management Standards Authorization Request (SAR); authorized drafting revisions to the Reliability Standards identified in the SAR; and appointed the Project 2019-03 Cyber Security Supply Chain Risk Management Standards Authorization Request (SAR) Drafting Team (DT) as the Project 2019-03 SDT;
4. Appointed members, chair, and vice chair to the SAR DT for Project 2019-05 Modifications to PER-003-2, as recommended by NERC staff; and
5. Endorsed as historic documents, the Functional Model (FM) and Functional Model Technical Document (FMTD) versions 5.1 with an added statement clarifying usage, and authorized posting on NERC website; and disbanded the Functional Model Advisory Group (FMAG).

At its November 20, 2019 meeting, the SC:

1. Accepted the corrected SAR for Project 2019-02 BES Cyber System Information Access Management;
2. Rejected the authorization for initial posting for Project 2019-02; and
3. Appointed chair, vice chair, and members with the removal of candidates 1 and 7, to Project 2019-04 Modifications to PRC-005-6 SAR drafting team.

At its December 18, 2019 meeting, the SC:

1. Authorized initial posting for Project 2019-02 BES Cyber System Information Access Management for proposed Reliability Standards CIP-004-7 and CIP-011-3;

2. Accepted the revised Project 2019-05 Modifications to PER-003-2 SAR; authorized drafting revisions to the Reliability Standards identified in the SAR; and appointed the Project 2019-05 Modifications to PER-003-2 SAR DT as the Project 2019-05 Standard Drafting Team (SDT);
3. Appointed chair, vice chair, and members to the Project 2019-06 Cold Weather SAR drafting team, as recommended by NERC staff;
4. Appointed chair to the standard drafting team (SDT) for Project 2015-09 Establish and Communicate System Operating Limits, as recommended by NERC staff;
5. Approved errata to Reliability Standard BAL-003-2; and
6. Endorsed the recommendations made by the Standards Efficiency Review sub-team in its Evidence Retention white-paper.

2020-2022 Standards Committee Strategic Work Plan

Introduction

This Standards Committee (SC) Strategic Work Plan (Plan) focuses Standards development activities on: (1) addressing Federal Energy Regulatory Commission (FERC) directives, (2) continuing Periodic Reviews (PRs), and (3) addressing emerging risks using input from various sources, including the Reliability Issues Steering Committee (RISC). The SC will continue: (1) overseeing standards grading activities (evaluating Standards for quality and content), and (2) prioritizing standards development activities.

Emerging Risks

Through input by a NERC technical committee, the RISC or a governmental authority (such as FERC), the SC authorizes the development new or revised Standards, as appropriate.

Vision, Mission and Guiding Principles

Vision

A comprehensive body of Reliability Standards collectively achieving an adequate level of reliability and promoting reliable operation of the North American bulk power system.

Mission

Manage and oversee development of a comprehensive set of Reliability Standards aligned with NERC's strategic goals through open and inclusive processes and procedures.

Guiding Principles

- Consistent with the 2020-2022 Reliability Standards Development Plan (RSDP), this Plan recognizes the transition of the Standard development process to primarily address a small number of FERC directives, Periodic Reviews, and emerging risks. The details of the goals and objectives for 2020-2022 appear in the RSDP.
- Promote and implement a collaborative working environment with other NERC Standing Committees, NERC Standards staff, stakeholders, and standard drafting teams.
- Execute the Standards development process for effective and efficient use of NERC and industry resources.
- Promote and take a leadership role on consensus-building activities.

Work Plan

Task No. 1 – Periodic Reviews

- The Project Management and Oversight Subcommittee (PMOS) and NERC staff prioritize and schedule Periodic Reviews for SC endorsement. PMOS will use the most recent Periodic Review Standing Review Team's grading of Standards to prioritize/schedule by the end of February 2020.

Task No. 2 – Standards Grading

- NERC staff and the SC chair or delegate (acting as facilitator) will start the 2020 Standards grading as soon as practicable to provide time to conduct and comment on the grading. NERC staff will present Standards grading to the SC with the RSDP. To be completed by June 2020 if possible, but no later than the end of August 2020 to coordinate with the development of the 2021-2023 RSDP.

Task No. 3 – Transition of Guidelines and Technical Basis to Technical Rationale

- The SC will continue work to review Guidelines and Technical Basis documents for transition to Technical Rationale documents while moving compliance examples to Implementation Guidance.

Task No. 4 – Standards Committee Process Subcommittee (SCPS)

- NERC staff and the SCPS will endeavor to complete all on-going projects and seek SC endorsement by December 2020. NERC staff and the SCPS will identify opportunities for increased efficiency in existing processes and new processes to enhance Standards development.

Task No. 5 – Fourth Quarter Review of 2020-2022 SC Strategic Work Plan

- The SC will review Plan and provide changes for 2021-2023 to the SC for endorsement.

Task No. 6 – Standards Efficiency Review

- The SC will support the evaluation of NERC Reliability Standards to identify potential efficiencies through retirement or modification of particular requirements. This project seeks to identify potential candidate requirements not necessary for reliability to reduce regulatory obligation.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda Item 9g
Attachment 1
Board of Trustees Meeting
February 6, 2020

Reliability Standards

Quarterly Report

February 6, 2020

RELIABILITY | RESILIENCE | SECURITY




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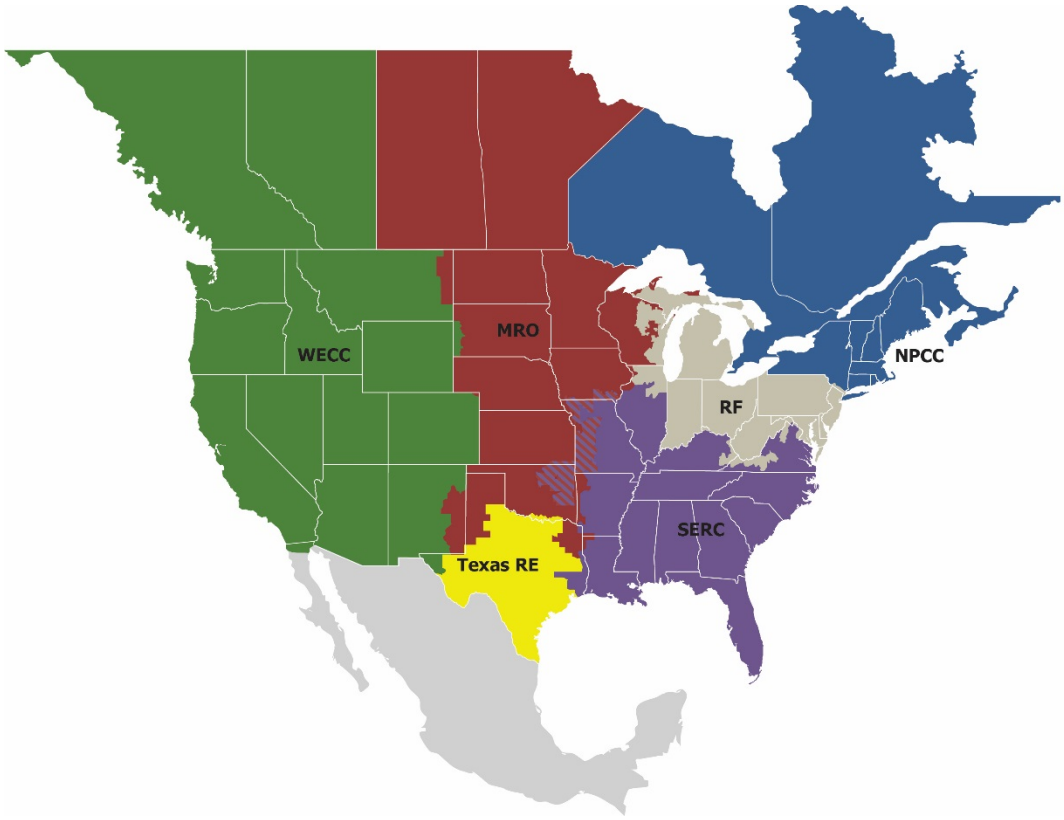
Table of Contents

Preface

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

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

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



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

Chapter 1: Standards Development Forecast

Board Forecast for Standard Projects in Active Development

The following projections reflect anticipated Board adoption dates for continent-wide Reliability Standards.

February 2020

- Project 2017-07: Standards Alignment with Registration
- Project 2018-04: Modifications to PRC-024-2
- Project 2019-01: Modifications to TPL-007-3

May 2020

- Project 2015-09: Establish and Communicate System Operating Limits
- Project 2016-02: Modifications to CIP Standards (CIP-002-6)

August 2020

- Project 2019-02: BES Cyber System Information Access Management
- Project 2019-03: Cyber Security Supply Chain Risks
- Project 2019-05: Modifications to PER-003-2

November 2020 or after

- Project 2017-01: Modifications to BAL-003-1.1 (phase 2)
- Project 2019-04: Modifications to PRC-005-6
- Project 2019-06: Cold Weather Preparedness

ANSI Reaccreditation

NERC filed for reaccreditation as a Standards Developer in accordance with the accreditation processes of the American National Standards Institute (ANSI) on July 1, 2019.

Projects with Regulatory Directives

Table 1 below lists the current projects with regulatory directives. As of January 31, 2019, there are 2 standards-related directives to be resolved through standards development activities (not including non-standards related directives).

Table 1: Projects with Regulatory Directives

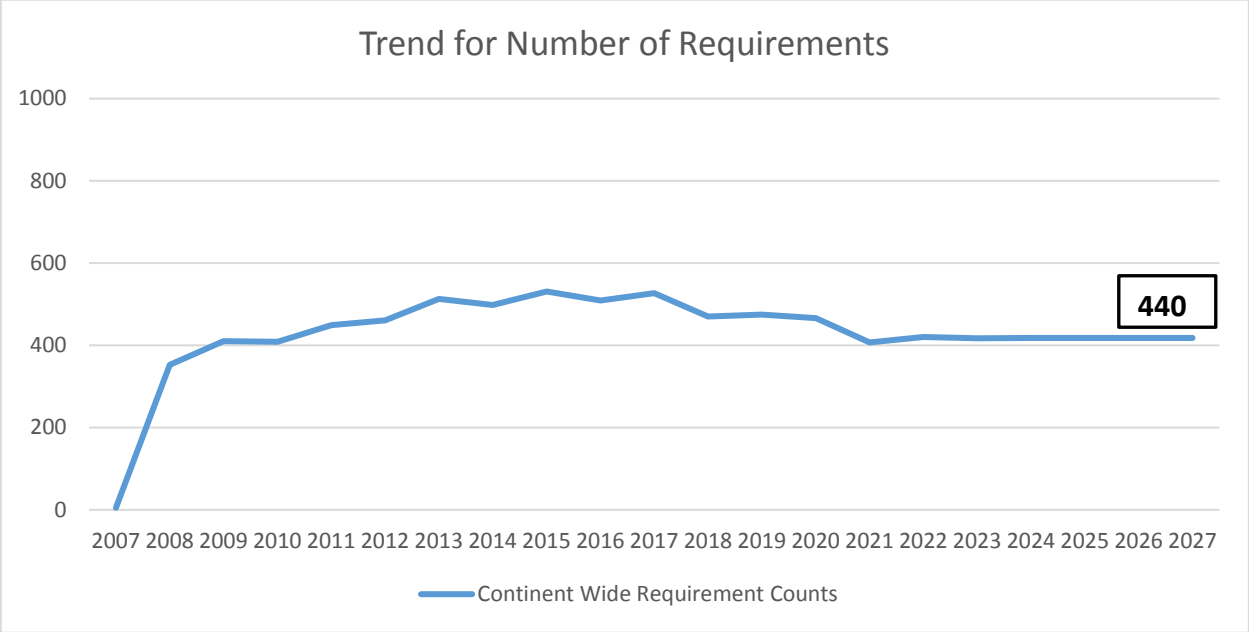
Project	Regulatory Directives	Regulatory Deadline
Project 2015-09 Establish and Communicate System Operating Limits	1	N/A
Project 2019-03: Cyber Security Supply Chain Risks	1	12/26/2020

Trend in Number of Reliability Requirements

As NERC Reliability Standards continue to mature, NERC analyzes the trend in the total number of requirements in the United States since 2007 when Reliability Standards became enforceable.

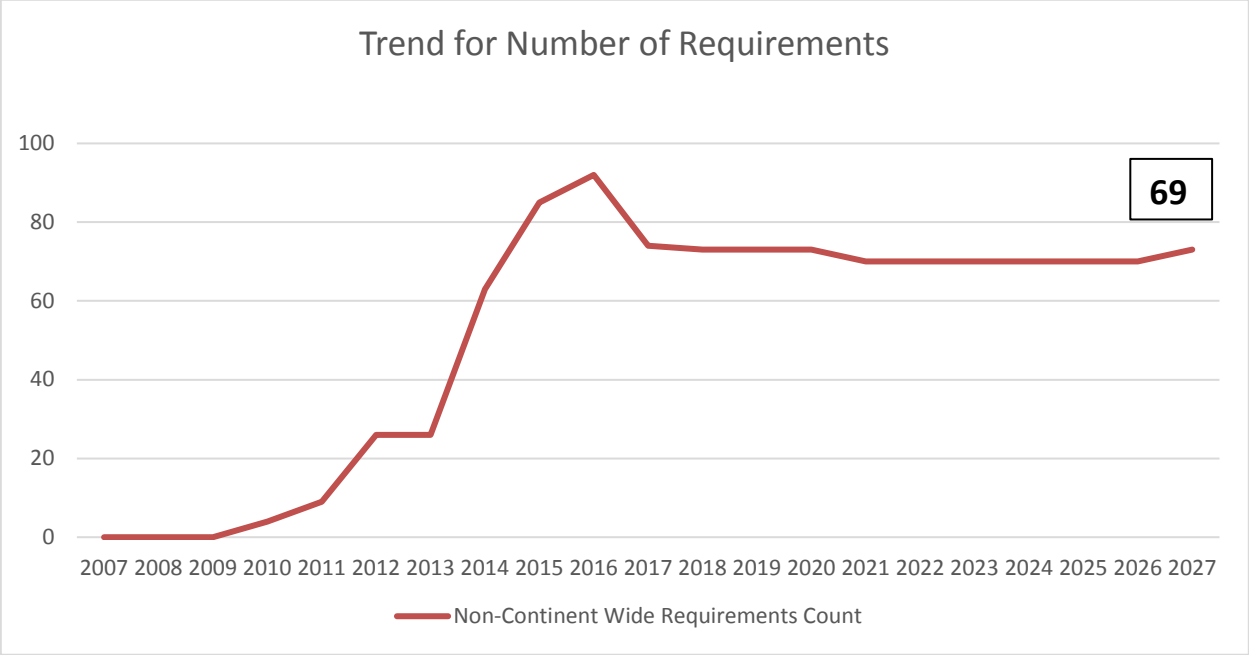
The *US Effective Date Status/Functional Applicability*[1] spreadsheet was used to analyze the number of requirements based on the U.S. Effective Date for each requirement shown in the charts below. Figure 1 displays the Trend in Number of Requirements for Continent-Wide standards, while Figure 2 displays Regional Reliability Standards. Standards with variances were not included in the requirement count. Projections from projects that include standards currently under development, board adopted standards and board approved retirements are also included in the total number of requirements based on their projected effective or inactive date.

The trend for total number of requirements indicates a constant flat trend line for the last four years, with a significant decline from 2017 to 2018 for Continent-wide standards, and a significant decline in total number of requirements from 2016 to 2017 for Regional Reliability standards. Figure 1 indicates a total of 440 continent-wide requirements; Figure 2 indicates a total of 69 Regional Reliability standards forecast for 2027.



[1] Available from the Standards section of the NERC website: http://www.nerc.com/pa/Stand/Pages/default.aspx

Figure 2: Trend for Number of Requirements for Regional Reliability Standards



Chapter 2: Regulatory Update

FERC Docket No.	Filing Description	FERC Submittal Date
RM13-11-000	2019 Frequency Response Annual Analysis report NERC submitted its 2019 Frequency Response Annual Analysis report for the administration and support of Reliability Standard BAL-003-1.1 – Frequency Response and Frequency Bias Setting.	11/21/2019
RM05-17-000, RM05-25-000, RM06-16-000	2020-2022 Reliability Standards Development Plan NERC submitted its Reliability Standards Development Plan (RSDP) for 2020-2022. This informational filing provides a status update on active development projects and a forecast of future work to be undertaken by NERC and its stakeholders throughout the upcoming year.	12/13/2019
RM20-6-000	Petition of NERC for Approval of Proposed Reliability Standard BAL-003-2 NERC submitted a petition for approval of Proposed Reliability Standard BAL-003-2 – Frequency Response and Frequency Bias Setting.	12/19/2019
RD20-1-000	Joint Petition of NERC and NPCC for Approval of Proposed Regional Reliability Standard PRC-006-NPCC-2 NERC and NPCC submitted a joint petition requesting approval of proposed Regional Reliability Standard PRC-006-NPCC-2 – Automatic Underfrequency Load Shedding. Proposed Regional Reliability Standard PRC-006-NPCC-2 establishes consistent and coordinated requirements for the design, implementation, and analysis of automatic UFLS programs among all NPCC applicable entities.	12/23/2019

FERC ISSUANCES

FERC Docket No.	Issuance Description	FERC Issuance Date
	No FERC issuances for Q4 2019	

Chapter 3: Standards Committee Report

Summary

This report highlights some of the key activities of the Standards Committee (SC) during the fourth quarter of 2019.

At its October 23, 2019 meeting, the SC:

(1) authorized initial posting for Project 2017-07 Standards Alignment with Registration for a 45-day formal comment period of proposed Reliability Standard Standards FAC-002-3, IRO-010-3, MOD-031-3, MOD-033-2, NUC-001-4, PRC-006-4, and TOP-003-4;

(2) appointed supplemental members, chair, and vice chair to the standard drafting team (SDT) for Project 2019-02 BES Cyber System Information Access Management, as recommended by NERC staff;

(3) accepted the revised Project 2019-03 Cyber Security Supply Chain Risk Management Standards Authorization Request (SAR); authorized drafting revisions to the Reliability Standards identified in the SAR; and appointed the Project 2019-03 Cyber Security Supply Chain Risk Management Standard Authorization Request (SAR) Drafting Team (DT) as the Project 2019-03 SDT;

(4) appointed members, chair, and vice chair to the SAR DT for Project 2019-05 Modifications to PER-003-2, as recommended by NERC staff; and

(5) endorsed as historic documents, the Functional Model (FM) and Functional Model Technical Document (FMTD) versions 5.1 with an added statement clarifying usage, and authorized posting on NERC website; and disbanded the Functional Model Advisory Group (FMAG).

At its November 20, 2019 meeting, the SC:

(1) accepted the corrected SAR for Project 2019-02 BES Cyber System Information Access Management;

(2) rejected the authorization for initial posting for Project 2019-02; and

(3) appointed chair, vice chair, and members with the removal of candidates 1 and 7, to Project 2019-04 Modifications to PRC-005-6 SAR drafting team.

At its December 18, 2019 meeting, the SC:

(4) authorized initial posting for Project 2019-02 BES Cyber System Information Access Management for proposed Reliability Standards CIP-004-7 and CIP-011-3;

(5) accepted the revised Project 2019-05 Modifications to PER-003-2 SAR; authorized drafting revisions to the Reliability Standards identified in the SAR; and appointed the Project 2019-05 Modifications to PER-003-2 SAR DT as the Project 2019-05 Standard Drafting Team (SDT);

(1) appointed chair, vice chair, and members to the Project 2019-06 Cold Weather SAR drafting team, as recommended by NERC staff;

(2) appointed chair to the standard drafting team (SDT) for Project 2015-09 Establish and Communicate System Operating Limits, as recommended by NERC staff;

(3) approved errata to Reliability Standard BAL-003-2; and

(4) endorsed the recommendations made by the Standards Efficiency Review sub-team in its Evidence Retention white-paper.

Reliability Issues Steering Committee Report

Action
Information

Summary
The request for nominations for the RISC committee ran from November 8-December 13, 2019. As described in the RISC charter, nominees for RISC should meet the following general qualifications:

- Executive-level position within the electric utility industry;
- High-level understanding and strategic perspectives on reliability risks; and
- Commitment to regular participation on the RISC in a collaborative and consensus-building manner.

The RISC Nominating Committee will meet via conference call on January 23, 2020 to review the nominations received and recommend a proposed membership slate for approval at the NERC Board of Trustees February 6, 2020 meeting.

The RISC Metrics sub-committee continued work with NERC staff to review and provide input into enhancements, changes, and/or additions to the existing dashboard metrics that NERC provides quarterly updates and will present recommended enhancements to the full RISC committee in February 2020.

Compliance and Certification Committee Report

Action

Approve the Compliance and Certification Committee (CCC) Work Plan.

Summary

The CCC approved its 2020 Work Plan on November 19, 2019, which reflects input and feedback from NERC management, and is requesting NERC Board of Trustees approval.

Highlights

The CCC and its associated subcommittees held meetings in Austin, Texas on November 19-20, 2019 at the Texas Reliability Entity Offices.

- The CCC was successful at completing all items on its' 2019 Work Plan. The success could only be achieved with the outstanding contributions from the CCC Subcommittees and strong collaboration with NERC management and staff.
- The Committee completed review of the 2020 Work Plan and approved the document on November 19, 2019. As noted above, the document will be considered by the NERC Board at the February 2020 Board meetings. The approved plan is attached to this update.
- EROMS began a collaboration with NERC management intended to improve the value of stakeholder feedback regarding the policies, practices, and effectiveness of the Compliance Monitoring and Enforcement Program (CMEP). CCC leadership is working with NERC management to develop an approach that is intended to substantially modify and/or replace the package of questions included in the current biennial ERO Stakeholder Effectiveness Survey that focus on the CMEP. CCC leadership expects additional information to be available for discussion at the May 2020 meetings.
- EROMS reviewed procedure CCCPP-002; it encompasses responsibilities related to the Reliability Standards applicable to NERC. The Committee unanimously approved retirement of the procedure on November 19, 2019, recognizing no Standards are applicable to NERC. The Committee agrees that the procedure can be revisited if any Reliability Standards are prospectively applicable to NERC.
- The CCC's Organization and Registration Subcommittee (ORCS) is working with NERC Management on proposed revisions to the Rules of Procedure. The ORCS is providing feedback into possible changes to the Organization and Registration Certification Program (ORCP).
- The Alignment Working Group (AWG) continues its review of ongoing activities and program alignment submissions by ERO Stakeholders. Also, AWG members considered and discussed four draft CMEP Practice Guides with NERC management. Following the meeting, the AWG provided written feedback to NERC regarding the Guides.
- EROMS completed the review of NERC's self-certification of the Standards Process Manual. Results will be communicated to the Enterprise - Wide Risk Committee at the February meetings.

- Additional activities included consideration of potentially substantive changes to the CCC Charter. The Nominating Subcommittee procedure document – CCC Membership Procedure – will be considered with the charter changes in March. The discussion will include a CCC Member Onboarding package. When the Committee has approved, and all submissions or notifications are complete, both will be posted on the CCC Web page, providing additional process transparency to industry.

The next CCC meeting will be March 10-11, 2020 in Austin, TX.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

NERC Compliance and Certification Committee 2020 Work Plan

NERC Board Approval: February XX, 2020

Version Approved by CCC: November 19, 2019

RELIABILITY | RESILIENCE | SECURITY

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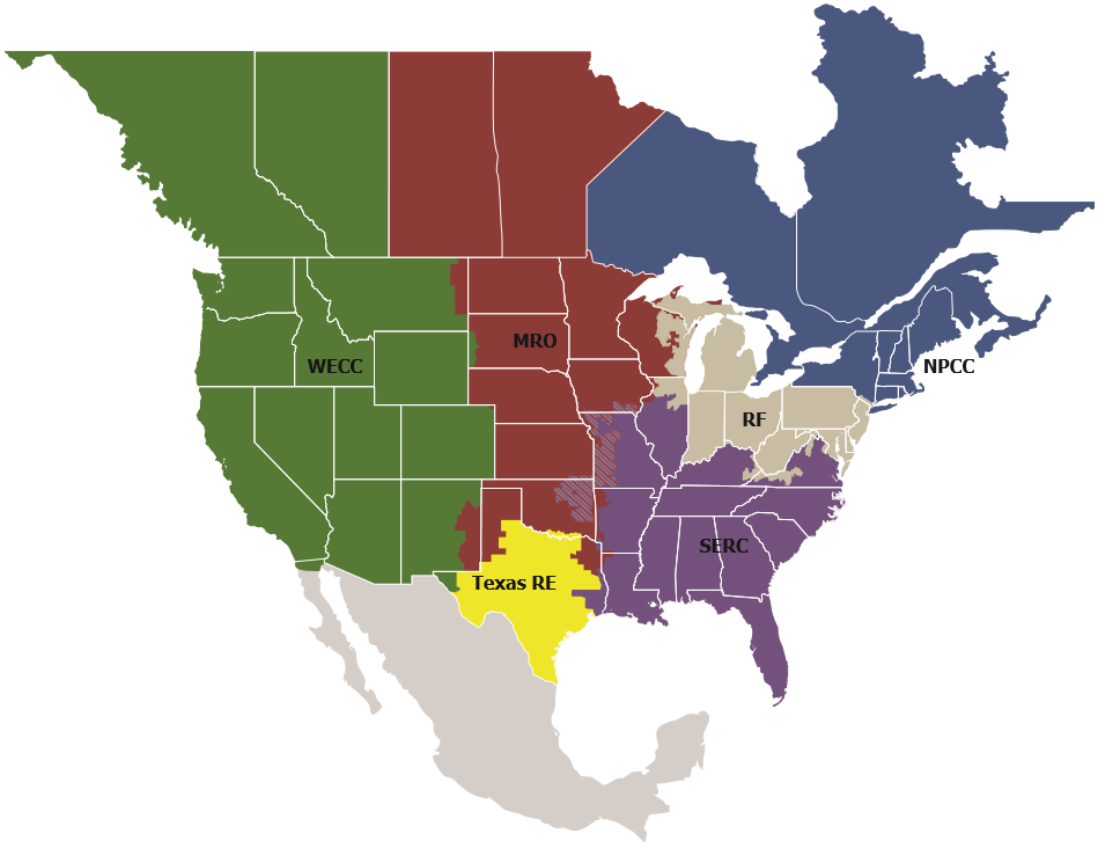
Preface

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

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

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



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

Executive Summary

The purpose of this Work Plan is to identify the anticipated activities and deliverables of the NERC Compliance and Certification Committee (CCC) for 2020. The plan is based on the responsibilities assigned to the CCC by the NERC Board of Trustees (Board) for programs across the ERO Enterprise and tasks identified by the CCC that are required to fulfill these responsibilities. Additionally, the CCC identified projects and deliverables that will further support the goals of the ERO Enterprise Operating Plan and the ERO Enterprise Long-term Strategy.

There are several ERO focus areas where CCC activities will support:

1. **Objective and Risk-informed Compliance Monitoring, Enforcement, and Organization Registration and Certification**: As a committee providing support and guidance but otherwise independent of the execution of NERC's Compliance Monitoring and Enforcement Program (CMEP) and the Organization Registration and Certification Programs (ORCP), the CCC will develop criteria to assess NERC's adherence to the Rules of Procedure (ROP) for these programs on an ongoing basis. As a committee independent of Reliability Standards development, the CCC is responsible for establishing and implementing a program as specified in Section 405 of NERC's ROP to monitor NERC's adherence to its Standard Processes Manual (Appendix 3A), with the exception of appeals of substantive or procedural action or inaction associated with a Reliability Standard or the standards process as defined in the Appeals section of the Standard Processes Manual. In 2020, the CCC will continue to work with NERC staff and stakeholders to continue to refine the maturing and ongoing role for the CCC with respect to the ERO's adherence to its processes, procedures, and statutory obligations.
2. **Effective and Efficient ERO Enterprise Operations**: Provide continued and ongoing input and support into the design of ERO Program development and revision efforts. The CCC will assist in identifying modifications for improvements and associated changes to the NERC ROP and associated documents or processes.
3. **Identification and Mitigation of Significant Risks to Reliability:** In 2020, the CCC will continue its work with NERC staff and stakeholders to identify areas where collaboration with stakeholder committees will assist with the further development and maturation of successful risk mitigation and program administration to support the success of the ERO Enterprise.
4. **Identification of Emerging Risks to Reliability**: The CCC will participate in discussions on the continued development of risk metrics to further evaluate potential emerging issues or threats and trends to facilitate reliability of the bulk power system. The CCC will also identify necessary actions as inputs to NERC management.

The CCC has subcommittees and working groups performing certain assigned tasks on behalf of and under the supervision of the CCC. In collaboration with NERC and Regional Entity staff, the CCC delegated responsibilities to the following subcommittees and working groups for projects and activities:

- Organization Registration and Certification Subcommittee (ORCS)
- ERO Monitoring Subcommittee (EROMS)
- CCC Nominating Subcommittee
- CCC ERO Alignment Working Group

The following pages represent an outline of the work plan deliverables and detailed project information.

Introduction

The CCC is a Board-appointed stakeholder committee serving and reporting directly to the Board. In that capacity under a NERC Board-approved charter,[1] and as approved by FERC[2] and set forth in NERC's ROP, the CCC will engage with, support, and advise the Board, the NERC Board of Trustees Compliance Committee (BOTCC), and the NERC Board of Trustees Enterprise-wide Risk Committee (EWRC) regarding all facets of the NERC CMEP, Organization Registration program, and Organization Certification program.

The CCC partners with NERC leadership on a variety of key NERC initiatives and criteria for evaluation and assessment of the effectiveness of NERC programs. To support this endeavor, the CCC has developed this work plan to identify the activities that the CCC intends to perform in 2020 to fulfill the responsibilities the Board has established for the CCC.

The CCC provides for balanced discussion, commentary, and recommendations on compliance issues by bringing together a diversity of opinions and perspectives from NERC member sectors. Members are appointed to the CCC by the Board and serve on the committee at the pleasure of the Board.

Individuals deemed qualified to serve on the committee will generally include senior-level industry experts who have familiarity, knowledge, and experience in the areas of compliance, compliance enforcement, compliance administration and management, organization responsibilities and registration, organization certification, and NERC and Regional standards. These individuals are normally involved with internal compliance programs within their respective organizations. Committee members are expected to support the interests of the sector they represent, to the best of their ability and judgment.

Revision History

Date	Version Number	Comments
10/30/2019	1	CCC Executive Committee Review
11/4/2019	2	CCC Review
11/25/2019	3	CCC Approved

Chapter 1: 2020 CCC Work Plan – Strategic Planning Efforts

This projects included in this category are intended to address succession planning within the CCC as well as clarify the CCC's role in the broader scope of the maturation of the risk-based approach. Further details on these projects are shown in the following table below.

Project #	Project Name	Activities	Resource(s)
1	**Succession Planning**	• Ensure the CCC is strategically positioned to be able to fulfill the responsibilities and long-term expectations of the NERC Board of Trustees.	CCC, CCC Subcommittees, NERC Management
2	**Industry Collaboration**	• Participate in Standards Efficiency Review process • Continue in leadership role on Standards Efficiency Review Advisory Group • Maintain direct involvement in the Standing Committees Coordination Group • Enhance communications and participation with industry groups with a focused plan for coordination	CCC, CCC Subcommittees
3	**Enhancing CCC Program Efficiencies**	• Continue evaluation of various activities and functions of subcommittees/working groups to determine ways to improve the effectiveness and efficiency of the CCC • Explore opportunities to "cross train" across various CCC subcommittees • Collaborate with NERC Internal Audit team for risk and control maturity opportunities • Hold half-day of CCC hearing training for CCC members	CCC, CCC Subcommittees, NERC Management
4	**Communications**	• Develop materials for onboarding individuals as members join the CCC and to provide to industry stakeholders looking for background information about the CCC • Finalize CCC membership procedures including charter revisions to the NERC Board	CCC, NERC Management

Chapter 2: 2020 CCC Work Plan – Ongoing Responsibilities

The tables below summarize the list of ongoing responsibilities assigned to the CCC. In general, responsibilities area divided into two primary categories: 1) activities that respond to the CCC Charter and the NERC Rules of Procedure, and 2) activities that support the NERC mission. Further details on the deliverables and projects are discussed in the next section by project number identified below.

Project #	Project Name	Activities	Resource(s)
1	**Review and Update of CMEP and CCC Programs and Procedures**	• Review and monitor changes to the CMEP and other NERC initiatives that could require updates or changes to CCC programs and procedures • Evaluate and review of CCC Charter, including functions and responsibilities • Evaluate and review of potential ROP changes associated with CCC activities • Explore opportunities to "cross-train" among subcommittees	CCC, CCC Subcommittees, NERC Management
2	**Program Support Efforts (CMEP, Standards Development)**	• Identify and participate in risk-based compliance assurance outreach and feedback discussions • Support outreach on internal controls • Identify outreach needs and conduct activities focused on registered entities that are small or pose lower risk to the bulk power system. • Support rollout of key activities or program revisions as requested • Partner with ERO Enterprise to provide feedback on RSAW development • Review stakeholder requests to become a qualified entity to submit compliance implementation guidance • Evaluate programs and associated ROP sections for necessary revisions as program maturation occurs • Actively participate in Phase 2 of NERC's Standards Efficiency Review	CCC, EROMS, NERC Management
3	**Assistance with Review of Information Production, Capture and**	• Evaluate programs and associated ROP sections for necessary revisions as program maturation occurs	CCC, ORCS

Project #	Project Name	Activities	Resource(s)
	Response for ORCP		
4	**NERC Self-Certifications**	• Support self-certification of CMEP, ORCP, and Standards Development and associated reporting • Coordinate with NERC Internal Audit on criteria development, process, and assessment of adherence to NERC ROP as a maturity project for effective ways to conduct the reviews	CCC, EROMS, NERC Internal Audit
5	**NERC Audits**	• In accordance with NERC Internal Audit, Sections 405/406/506 of the NERC ROP, oversee audits of NERC in the areas of CMEP, ORCP, and reliability standards development	CCC, EROMS, NERC Internal Audit
6	**ERO Regional Entity CMEP Audits**	• In accordance with CCCPP-012, support Regional Entity CMEP audits executed by NERC's Internal Audit and Corporate Risk Management function, consistent with Appendix 4A of the ROP. Note that no specific audits are scheduled for 2020	CCC, NERC Internal Audit
7	**Enterprise-wide Risk Committee (EWRC) Collaboration**	• Provide input to EWRC as requested • Fulfill advisory role to NERC Internal Audits as requested • Participate and support in EWRC activities and discussions • Participate in the annual ERO risk discussions with NERC Management as requested	CCC Leadership, EWRC and ERO Enterprise Management, NERC Director of Internal Audits
8	**NERC Reliability Issues Steering Committee Collaboration**	• Provide input to existing risks, mitigation strategies, and emerging risk identification • Participate and support in RISC activities and discussions	CCC Leadership, NERC Management

Project #	Project Name	Activities	Resource(s)
9	**ERO Enterprise Program Alignment**	• Address potential ERO program alignment issues to support success of CMEP and ORCP • Assist NERC with screening of information, support further review of reported items, and provide suggested resolutions if warranted	CCC, Alignment Working Group, NERC Management
10	**ERO Effectiveness Survey**	• Participate on the ERO Effectiveness Survey Advisory Group • Support development efforts for current and future surveys • Develop survey questions that are more focused in driving substantive content from industry versus historical statistical reporting on ERO Survey questions as requested by the BOT. • Develop survey questions specific to the ERO Enterprise Coordinated Oversight Program for Multi-Regional Registered Entities • Evaluate results to provide reporting and recommend improvements	CCC, EROMS, TalentQuest, NERC Management
11	**Stakeholder Collaboration**	• Identify industry stakeholder groups where CCC collaboration will strengthen ERO process and approach • Participate in industry outreach as requested with ERO personnel on designated ERO topics	CCC, Stakeholder Committees

Chapter 3: Ongoing Responsibilities - Details

Project 1 — Review and Update of CMEP, CCC Programs and Procedures

- Review CCC programs and procedures in collaboration with NERC management to identify necessary changes and procedural review or approval requirements.
- Development of new procedure that will memorialize CCC Nominating Subcommittee procedures.
- Update criteria for assessing effectiveness of Regional Entity CMEP activities, considering ERO input, to appropriately reflect program modification, improvements, and prior years' evaluations.
- Continue to assess how CMEP practices change related to risk-based CMEP implementation in regard to: (a) monitoring practices (as embodied in CCCPP-010 and also including assisting CPPS in the annual RE evaluation criteria work); (b) enforcement; and (c) Reliability Standards development. Assist NERC with annual evaluation of goals, tools, and procedures of each Regional Entity CMEP to determine effectiveness of each Regional Entity CMEP, using criteria developed by the CCC.
- Per the terms of CCCPP-011, conduct annual review of the criteria for approval to become an organization seeking to be pre-qualified to provide Implementation Guidance to the ERO Enterprise.
- Review the Compliance Guidance Policy and take associated actions to support.
- Consider ROP changes to Section 500 and associated appendices due to changes with the Functional Model.

Project 2 – Program Support Efforts

- Support program efforts related to CMEP and Standards Development areas in support of ERO Enterprise goals.
- Partner with ERO Enterprise related to review of Reliability Standard Audit Worksheets (RSAWs).
  - CCC comments on RSAWs, as requested.
- Monitor and respond to any requests from stakeholders to become pre-qualified organizations that can submit proposed Implementation Guidance.
- Hold "focus group" discussions that are intended to identify opportunities for the ERO Enterprise to drive specific improvements and information sharing across the ERO Enterprise.
- Participate with ERO Enterprise Staff in evaluation of ROP changes and recommend changes as program maturation continues.
- Monitor rollout of CORES and Align tools related to program monitoring responsibilities.

Project 3 – Assist with Review of ORCP Information Cycle

- Provide additional guidance, as needed, to NERC Staff regarding the entity registration tool: Centralized Organization Registration Entity System (CORES).
- Review and provide suggestions for improvement to the 2020 Organization Certification Program activities.

Project 4 — NERC Self-Certifications

- In years where audits are not conducted, develop and update self-certification forms and request NERC self-certify adherence to the ROP for the following items:
  - Compliance Monitoring and Enforcement Program (CMEP),

  - Organization Registration and Certification Program (ORCP), and
  - Standards Development Program.
- Coordinate with NERC to prepare a summary report of the results of NERC's assessment to the EWRC.

Project 5 — NERC Audits

- In accordance with applicable CCC monitoring program documents, Sections 405/406/506 of the NERC ROP, work with NERC Internal Audit to execute audits of the following items:
  - Compliance Monitoring and Enforcement Program (CMEP),
  - Organization Registration and Certification Program (ORCP), and
  - Standards Development Program.
- Coordinate with NERC Internal Audit for CCC participation as audit observers.
- Review the final audit report and provide it to the EWRC.

Project 6 — Regional Entity Compliance Program Audits

- Work with NERC management (Internal Audit and Compliance Assurance) to develop criteria for future audits of Regional Entity Compliance Programs.
- At the discretion of the CCC, participate as an observer in Regional Entity Compliance Program audits executed by NERC's Internal Audit and Corporate Risk Management function, consistent with Appendix 4A of the ROP.

Project 7 — Enterprise-Wide Risk Committee Collaboration

- Provide input into NERC's annual risk assessment, as requested.
- Work with NERC to provide input on the annual EWRC Audit Plan.
- Provide an update of CCC activities at each quarterly EWRC meeting.

Project 8 — NERC Reliability Issues Steering Committee Collaboration

- Perform outreach efforts with stakeholders to gather input for emerging risks.
- Participate in and support Reliability Issues Steering Committee (RISC) updates.
- Participate in evaluation and revisions to the ERO Risk Elements supporting development of the ERO Enterprise Operating Plan and the ERO Enterprise Long-term Strategy.
- Participate and support Reliability Leadership Summit as opportunity occurs.

Project 9 – ERO Program Alignment

- CCC Alignment Working Group (AWG) will execute the CCC role within the process to address potential reported concerns related to CMEP and ORCP activities.
  - Gather information regarding potential alignment issues.
  - Evaluate nature and extent of the alignment issue.
  - Develop suggested resolution of the issue.

- Present suggested resolution to the CCC for review and endorsement.
- Communicate suggested resolutions of alignment issue to the CCC to communicate to NERC.
- Provide stakeholder expertise to support the development of Align and CORES.

Project 10 — ERO Enterprise Stakeholder Survey

- Participate on the ERO's Effectiveness Survey Advisory Group.
- Support development efforts of the ERO Effectiveness Survey by contributing input on survey objectives, content, and delivery in preparation for current and future surveys.

Project 11 — Stakeholder Collaboration

- Identify opportunities where the CCC can provide compliance expertise in collaboration with other industry stakeholder committees.
- Participate in industry outreach as requested by NERC management on designated topics with ERO personnel.

Strengthen committee collaboration and create joint work products, a

Chapter 4: 2020 CCC Work Plan - Deliverables

The tables below summarize the list of CCC work plan deliverables for projects in 2020. Further details on the deliverables and projects are discussed in the next section by project number identified below.

	Project Name	Deliverable	Schedule
1	**ERO Program Alignment**	• Periodic reports regarding the effectiveness of the ERO Program Alignment Initiative and Reporting Tool (with NERC management)	Q2 and Q4 2020 (AWG)
2	**ERO Effectiveness Survey**	• Develop and refine package of CCC-related questions to be included in the 2020 ERO Effectiveness Survey	Q4 2020 (EROMS)
3	**NERC Self-Certifications**	• 2020 CMEP and ORCP Self-Certification Form to NERC, via direct communication from CCC Chair	Q2 2020 (EROMS)
4a	**Review and Update of CMEP and CCC Programs and Procedures**	• Update CCC Charter, reflecting: 1) any changes to the ERO Enterprise and/or adjustment to the CCC scope of work, 2) update vision statement	Complete by Q1 2020 BOT approval by Q3 2020
4b	**Review and Update of CMEP and CCC Programs and Procedures**	• Revise remaining CCCPP documents that were not reviewed and/or updated in 2019	Complete by end of 2020. Subcommittees will develop review schedule.
4c	**Review and Update of CMEP and CCC Programs and Procedures**	• Complete new procedure (CCCPP-013) which will outline CCC Nominating Subcommittee procedures	Q3 2020 (ORCS)
4d	**Review and Update of CMEP and CCC Programs and Procedures**	• Develop ROP changes associated with Section 500 and associated appendices due to changes to the Functional Model	Q2 2020 (ORCS)

	Project Name	Deliverable	Schedule
5	**Standards Efficiency Review Project**	• Continue to identify projects from Phase II work to be assigned to CCC for further consideration	Schedule based on timing of feedback from Phase II SER Team
6	**NERC SPM Independent Audit**	• Work with NERC Internal Audit to support an independent audit to determine whether NERC adheres to the portions of the rules applicable to the standards development process	Q4 2020

Chapter 5: Logistics and NERC Budget Requirements for CCC Activities

CCC Quarterly Meetings (Cost to be determined by NERC and industry)

Assumptions: Four CCC meetings per year

- NERC staff attendance
- NERC travel expenses
- Hotel (Conference rooms if applicable – normally hosted at stakeholder locations or NERC offices)
- Food

CCC Program Audits/Review

Assumptions: Audit/Review using an Independent Contractor.

- Audit frequency changes dependent on NERC internal monitoring capability as it continues to mature based upon recommendations of independent reviewer.

WebEx/Conference Calls (Cost to be determined by NERC)

Assumptions: Three CCC/Subcommittees NERC WebEx or conference calls quarterly.

Stakeholder Perception Survey (Cost to be determined by NERC)

Assumptions: At the request of the NERC Board, the CCC stakeholder survey is combined with the ERO effectiveness survey.

Training (Cost to be determined by NERC)

Assumptions: Half-day of hearing training appended to regular CCC meeting every even year. CCC members should have the capability to assist with observation and creation of audit criteria to fulfill responsibilities under the CCC charter to conduct audits of NERC's adherence to the ROP. Training is provided, to those new member participants, ahead of the audit activities. This training will be conducted as needed.

North American Transmission FORUM

Community *Confidentiality* *Candor* *Commitment*

To: NERC Board of Trustees (BOT)

From: Thomas J. Galloway, NATF President and CEO

Date: January 13, 2019

Subject: NATF Periodic Report to the NERC BOT (February 2020)

Attachments: NATF External Newsletter (January 2020)

The NATF interfaces with the industry as well as regulatory agencies on key reliability and resiliency topics to promote collaboration, alignment, and continuous improvement, while reducing duplication of effort. Some examples are highlighted below and in the attached January NATF external newsletter, which is also available on our public website: www.natf.net/news/newsletters.

Pilot Collaborations with Regions

The ERO and NATF have committed to working together under the April 2019 memorandum of understanding to advance our mutual objectives, leverage different strengths, and minimize duplication of effort. This involves a range of topics such as conducting joint workshops on various topics and NATF development of implementation guidance for selected standards. It also involves deeper collaboration, including with Regional Entities, on higher-tier risks.

In the July 2019 NATF-NERC leadership meeting, NERC CEO Jim Robb identified two specific high-priority topics for collaboration that would engage the regions—facility ratings and entity supply chain risk mitigation. In August, during a meeting with the Regional CEOs, it was determined to pilot collaborative activities on these topics with two specific regions: RF and SERC. The entity supply chain risk mitigation topic will likely consist of informational webinar(s) and a jointly sponsored workshop in each of the two regions.

Supply Chain Cyber Security Assessment Model

The NATF and other industry organizations have worked together to produce guidance and tools to address various steps in the supply chain cyber security risk assessment lifecycle (as shown in figure 1).[1]

Figure 1: The Supply Chain Cyber Security Risk Assessment Lifecycle

[1] In its August 2017 resolution adopting the supply chain standards, the NERC board of trustees requested NATF and other industry organizations to develop and share "best and leading practices in cyber security supply chain risk management, including procurement, specification, vendor requirements, and managing existing equipment activities." (*See* NERC Board of Trustees' Resolution)

In particular, the NATF has created a supplier cyber security assessment model that:

1. Establishes criteria entities may use to evaluate supplier cyber security practices (the NATF Criteria)
2. Suggests how entities obtain assurance of the supplier's adherence to the criteria

The NATF model and complementary products from other organizations provide tools for good cyber security practices that, executed properly, ensure compliance with the NERC supply chain reliability standards,[2] which become effective on July 1, 2020. Many of the criteria exceed what is required for compliance. An overview of the industry coordination efforts and the model will soon be posted to a new supply chain cyber security page on the NATF public site.

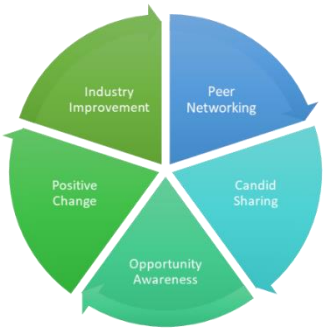
The coalition of industry organizations has agreed to cooperate on several activities in 2020, which will be described in the overview document. For example, the NATF, along with the industry organizations, will conduct webinars in late January and early February to provide an overview of the model and associated activities. More information on the webinars will be forthcoming.

Transmission Resiliency Maturity Model

The NATF has been working with the Electric Power Research Institute, the Department of Energy, and Pacific Northwest National Lab to develop a transmission resiliency maturity model as a tool that a transmission organization can use to objectively evaluate and benchmark its currently established transmission resiliency policies, programs, and investments, in order to target and prioritize enhancements where needed. A draft of the model has been created and is being piloted by NATF member companies over the next few months. Version 1 is planned for release to industry mid-year.

NATF's 100th Peer Review

In February, the NATF will mark an organizational milestone by conducting its 100th peer review. The NATF Peer Review Program has evolved significantly since the first peer review in October 2008, and members provide consistently positive feedback on the program and the insights shared.



NATF peer reviews are diagnostic assessments of member companies with the goal of elevating programs towards excellence. NATF review teams, comprising the members' own subject-matter experts, conduct periodic, confidential evaluations of the NATF member organizations (which we refer to as the "host"). Each review consists of months of advance planning and preparation, two to four days of onsite interviews and observations, followed by a report to the host member's executives and staff. Noteworthy practices are brought back to NATF practice groups for prospective emulation, and specific improvement recommendations are provided to the host—often totaling 75 or more specific recommendations across four to nine technical areas. In addition, peer review team members consistently bring valuable information back to their home organizations and build new peer relationships.

[2] In response to FERC Order No. 829, NERC Reliability Standards Project 2016-03 Cyber Security Supply Chain Risk Management developed new Reliability Standard CIP-013-1 and modified Reliability Standards CIP-005-6 and CIP-010-3, which collectively have become known as the "supply chain standards."

At six months and one year following a review, staff meets with the host member to discuss implementation of the recommendations. Since we began this tracking in 2014, which is done to understand the "realized value" of the reviews, hosts have reported that close to 70% of the recommendations provided are fully or partially implemented or planned for future implementation.

North American Transmission FORUM

Community *Confidentiality* *Candor* *Commitment*

North American Transmission Forum External Newsletter

January 2020

NATF Marks Tenth Anniversary as an Independent Corporation

Following the August 2003 blackout that impacted systems in the midwestern and northeastern United States and Ontario, Canada, several major transmission owners and operators met to discuss ways to improve reliability. Other organizations joined the original group to form the Transmission Owners and Operators Forum within the North American Electric Reliability Corporation (NERC) to "…improve the reliability and security of the bulk power system by facilitating the pursuit of operational excellence through a forum where transmission owners and operators can identify and exchange information on best practices for reliable operations, evaluate their own performances against those best practices, disseminate lessons learned from disturbances and near misses, and facilitate the utilization of such information in a timely manner, among other things."

To promote increased candor and opportunities for peer challenge, members decided to become independent from NERC and, on January 1, 2010, began operating as the North American Transmission Forum, Inc., a nonprofit 501(c)(6) organization. Since 2010, the NATF has grown to over 160 members and affiliate organizations representing about 80% of the transmission circuit miles rated at 200 kV and above in the United States and Canada.

Today, the NATF is a leader in the electric transmission industry through its programs to enable member collaboration and information sharing for continuous improvement and its work—both independently and through numerous partnerships—to address emerging industry risks and challenges.

Cyber Security and Supply Chain Guidance Posted

The "NATF Transient Cyber Asset Guidance" and "NATF Vendor Remote Access Guidance" documents have been posted to the NATF public website for industry use.

"NATF Transient Cyber Asset Guidance" describes practices and provides examples of approaches for using transient cyber assets in compliance with CIP-010 R4. "NATF Vendor Remote Access Guidance" describes practices and provides examples for determining and disabling active vendor remote access sessions, which can serve as considerations and potential approaches for implementing the requirements in CIP-005-6 R2 parts 2.4 and 2.5.

Both documents have been submitted to NERC for consideration as Implementation Guidance as approaches to comply with the related standards.

Equipment Problem Coding Document Posted

The "NATF Equipment Problem Coding Process Reference Document" has been posted to the NATF public website for industry use.

Open Distribution

The document provides a standard framework for coding the nature of field-observed equipment failures and problems of in-service equipment. Standardized recording of equipment issues enables better analysis and data sharing and maximizes the usefulness of historical data.

NATF Adds New Equipment-Sharing Program

RESTORE (Regional Equipment Sharing for Transmission Outage Restoration) is an agreement governing a voluntary initiative among certain electric transmission owners who desire to share spare transformers and other equipment for purposes of safeguarding against potential threats and risk of significant damage to the country's energy resources, including the electrical power grid. The approach is an extension of the well-established industry practice of mutual aid following a significant event. RESTORE is an optional, self-funding program now available to NATF members.

Workshops and Meetings

In addition to regular web conferences, NATF groups conduct periodic workshops and in-person meetings. Recent and upcoming activities include:

- Vegetation Management Workshop (October 2019)
- Human Performance Improvement Workshop (October 2019)
- EPM Substation Equipment and Asset Management Workshop (October 2019)
- System Operations and Operations Tools Workshop (October 2019)
- Board and Members Meeting (December 2019)
- NATF-EPRI-NERC Transmission Resiliency Summit (March 2020)

Redacted Operating Experience Reports

Since our last newsletter, we have posted five reports to our public site for members and other utilities to use internally and share with their contractors to help improve safety, reliability, and resiliency.

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For more information about the NATF, please visit www.natf.net.

North American Generator Forum

TO: **NERC Board of Trustees**
James B. Robb, President and CEO

FROM: **Allen D. Schriver, Chief Operating Officer, North American Generator Forum (NAGF)**

DATE: **January 16, 2020**

SUBJECT: NAGF 2019-2020 Winter Report

The NAGF continues to participate and support the NERC Inverter-Based Resource Performance Task Force (IRPTF). At its December meeting, the IRPTF completed the Whitepaper: Fast Frequency Response which has been forwarded to the NERC Operating and Planning Committees for review. The IRPTF has begun working on the following three new tasks:

- Task 1: Reliability Guideline: EMT Modeling and Simulations
- Task 2: Technical Report: Energy Transition to Higher Penetrations of BPS-Connected Inverter-Based Resource Conditions
- Task 3: Reliability Guideline: Modeling and Studying BPS-Connected Battery Energy Storage and Hybrid Resources

The NAGF is actively engaged in the following NERC Projects to help ensure the generator sector perspective is heard and understood:

NERC Project 2019-04 Modifications to PRC-005-6:
The drafting team roster includes representatives from AEP, Duke Energy, Exelon, and Xcel Energy which are NAGF members.

NERC Project 2019-06 Cold Weather:
The NAGF submitted comments regarding the Project 2019-06 Extreme Cold Weather Preparedness SAR during the project formal comment period. A follow-up conference call was held with NERC on November 14, 2019 to discuss the NAGF comments in detail and to gain additional insight regarding the generator perspective on cold weather events.

The NAGF and NATF are collaborating on an effort to revise NATF Protection System Coordination documentation to incorporate guidance related to PRC-027-1: Coordination of Protection Systems for Performance during Faults. Specifically, the Forums are focusing on neighboring entity coordination as it applies to generation - transmission data exchange and communication paths/methods.

The NAGF is actively engaged with the NATF and other industry organizations to provide a streamlined, effective, and efficient industry-accepted method for entities to assess supplier cyber security practices. This approach will reduce the burden on suppliers and provide entities with more information effectively and efficiently. This industry collaboration effort is focused on improving cyber security, and assisting registered entities with compliance to regulatory requirements.

The NAGF is planning to participate in the Distributed Energy Resources (DER) Forum at the next NPCC Regional Standards Committee (RSC) meeting scheduled for February 13, 2020.