

Agenda

Board of Trustees

February 10, 2022 | 2:00-5:00 p.m. Eastern
Virtual Meeting

Attendee Webex Link: [Join Meeting](#)

Call to Order

NERC Antitrust Compliance Guidelines*

Introduction and Chair's Remarks

Consent Agenda – Approve

1. **Minutes***
 - a. December 16, 2021 Meeting
 - b. November 4, 2021 Meeting
2. **Committee Membership and Charter Amendments***
 - a. Compliance and Certification Committee Membership
 - b. Reliability and Security Technical Committee Membership
 - c. Reliability Issues Steering Committee Membership
3. **Governance Documents Amendments***
 - a. NPCC Proposed Bylaws Amendments
 - b. ReliabilityFirst Proposed Bylaws Amendments

Regular Agenda

4. **Remarks and Reports**
 - a. Remarks by Patricia Hoffman, Acting Assistant Secretary, Office of Electricity, DOE
 - b. Remarks by David Morton, CAMPUT Representative to NERC
 - c. President's Report
 - d. Report on the January 20 and February 8, 2021 Closed Meetings
5. **Election and Appointment of Board Chair and Vice Chair, Board of Trustees Committee Assignments and NERC Officers – Approve**
6. **Board Self-Assessment and MRC Assessment of Board of Trustees Effectiveness Survey – Review**

7. Board Committee Reports

- a. Corporate Governance and Human Resources
 - i. Proposed Amendments to Board Committee Mandates – **Approve**
 - ii. Proposed Amendments to the NERC Governance Guidelines – **Approve**
 - iii. Vice Chair Stipend* – **Approve**
- b. Compliance
- c. Finance and Audit
 - i. 2021 Year-End Unaudited Summary of Results – **Accept**
 - ii. Renewal of Capital Financing Program – **Approve**
- d. Enterprise-wide Risk
- e. Technology and Security
- f. Nominating
- g. Report by Jim Piro on Standards and RSTC Quarterly Activities

8. Standards Quarterly Report and Actions*

- a. Standards Committee Charter Amendments* – **Approve**
- b. Critical Infrastructure Protection Board Resolution Updates – **Information**
- c. Cold Weather Standard Development Update – **Information**

BREAK – 15 MINS

9. Other Matters and Reports

- a. Policy Input and Member Representatives Committee Meeting – **Discussion**
- b. CIP-014 Compliance Evidence* – **Approve**
- c. Supply Chain Risk Management* – **Update**
- d. Year-End Review of the Achievements of the 2021 ERO Enterprise Work Plan Priorities* – **Update**
- e. Risk Registry Update* – **Update**

10. Committee Reports

- a. Member Representatives Committee
- b. Personnel Certification Governance Committee*
 - i. System Operator Certification Manual – **Approve**
 - ii. 2022 Work Plan – **Approve**
- c. Standards Committee*
 - i. 2022 Work Plan – **Approve**
- d. Compliance and Certification Committee*
 - i. 2022 Work Plan – **Approve**
- e. Reliability and Security Technical Committee*
- f. Reliability Issues Steering Committee*

- g. Electricity Subsector Coordinating Council

11. Forum and Group Reports

- a. North American Energy Standards Board
- b. North American Transmission Forum*
- c. North American Generator Forum*

12. Other Matters and Adjournment

*Background materials included.

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.

DRAFT Minutes Board of Trustees

December 16, 2021 | 2:30–3:30 p.m. Eastern
WebEx

Call to Order

Mr. Kenneth W. DeFontes, Jr., 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) on December 16, 2021, at 2:30 p.m. Eastern, and a quorum was declared present. The agenda is attached as **Exhibit A**.

Present at the meeting were:

Board Members

Kenneth W. DeFontes, Jr., Chair
Robert G. Clarke, Vice Chair
Jane Allen
George S. Hawkins
Suzanne Keenan
Susan Kelly
Robin E. Manning
Jim Piro
James B. Robb, NERC President and Chief Executive Officer
Colleen Sidford
Roy Thilly

NERC Staff

Tina Buzzard, Assistant Corporate Secretary
Manny Cancel, Senior Vice President and Chief Executive Officer of the E-ISAC
Howard Gugel, Vice President, Engineering and Standards
Kelly Hanson, Senior Vice President, Chief Administrative Officer
Mark Lauby, Senior Vice President and Chief Engineer
Sonia Mendonça, Senior Vice President, General Counsel, and Corporate Secretary
John Moura, Director, Reliability Assessment and Technical Committees
Mark Olson, Manager, Reliability Assessments
Lauren Perotti, Senior Counsel
Bryan Preston, Vice President, People and Culture
Janet Sena, Senior Vice President, External Affairs
Michael Walker, Senior Advisor, Strategic Initiatives
Mechelle Thomas, Vice President, Compliance

NERC Antitrust Compliance Guidelines

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

Introduction and Chair's Remarks

Mr. DeFontes welcomed the attendees to the meeting, noting that the main purpose of the meeting is to accept the 2021 Long-Term Reliability Assessment (LTRA). He stated he first wanted to recognize Mike Walker on his upcoming retirement and called on Jim Robb to read the following resolution adopted by the Board on December 15, 2021:

WHEREAS, Michael (Mike) A. Walker has served the North American Electric Reliability Corporation (NERC) in multiple critical roles since 2009, including Senior Vice President and Chief Financial and Administrative Officer, Senior Vice President and Chief Enterprise Risk and Strategic Development Officer, Chief of Staff, E-ISAC, and Senior Advisor, Strategic Initiatives;

WHEREAS, Mr. Walker in his tenure successfully led a nationwide search and eventual relocation of NERC's headquarters to Atlanta, Georgia, together with the relocation and expansion of NERC's Washington, DC location, managing the organization through staffing challenges due to the headquarters relocation;

WHEREAS, Mr. Walker was integral in the development and growth of the organization and its business plan and budget process to include enhancing consistency in quarterly and annual financial reporting for NERC and the Regional Entities, standing up and leading the ERO Finance Group, improving the transparency and processes governing stakeholder engagement, and improving working relationships with the Federal Energy Regulatory Commission's staff leading to clean business plan and budget approvals;

WHEREAS, Mr. Walker worked closely with the Corporate Governance and Human Resources and Finance and Audit Committees in defining and supporting their oversight functions, playing a lead role in supporting the creation of the Enterprise-wide Risk Committee to help define and support the Board of Trustees' role regarding information technology and security and risk management; and

WHEREAS, Mr. Walker most recently supported the E-ISAC in a key time of growth and development, as well as playing an integral role in NERC's new Workforce Strategy implemented as a result of the pandemic, including leading lease negotiations for a new Washington, DC Office location; and

WHEREAS, Mr. Walker has been a valued colleague and friend to NERC's Board of Trustees and management;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Trustees of the North American Electric Reliability Corporation does hereby convey its deepest gratitude to Mike Walker for his years of commitment and exemplary service and honors him on the occasion of his retirement.

Mr. Walker remarked upon his career with NERC and expressed his enthusiasm for the future of the ERO Enterprise. Mr. DeFontes thanked Mr. Walker for his service to NERC and wished him a happy retirement.

2021 Long-Term Reliability Assessment

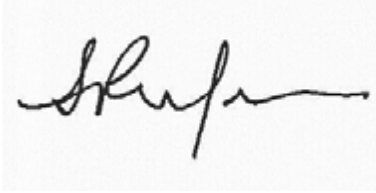
Mr. Moura introduced the LTRA. He recalled that the LTRA provides a top-level assessment of resource adequacy and identifies emerging issues, includes demand, generation, and transmission projections, and is developed in coordination and reviewed with Regional Entities and stakeholder groups. Mr. Olson highlighted key findings of the LTRA, including that there are areas with projected reserve shortfalls and energy shortfall risks and areas with projected energy risks in extreme weather conditions.

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

Other Matters and Adjournment

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

Submitted by,

A handwritten signature in black ink, appearing to read "Sônia Mendonça", is centered on a light gray rectangular background.

Sônia Mendonça
Corporate Secretary

Draft Minutes Board of Trustees

November 4, 2021 | 2:00–5:00 p.m. Eastern
WebEx

Call to Order

Mr. Kenneth W. DeFontes, Jr., 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) on November 4, 2021, 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 Members

Kenneth W. DeFontes, Jr., Chair
Robert G. Clarke, Vice Chair
Jane Allen
George S. Hawkins
Suzanne Keenan
Susan Kelly
Robin E. Manning
Jim Piro
James B. Robb, NERC President and Chief Executive Officer
Colleen Sidford
Roy Thilly

NERC Staff

Tina Buzzard, Assistant Corporate Secretary
Manny Cancel, Senior Vice President and Chief Executive Officer of the E-ISAC
Stephen Coterillo, Engineer, Reliability Assessment
Howard Gugel, Vice President, Engineering and Standards
Kelly Hanson, Senior Vice President, Chief Administrative Officer
Stan Hoptroff, Vice President, Business Technology
Mark Lauby, Senior Vice President and Chief Engineer
Sonia Mendonça, Senior Vice President, General Counsel, and Corporate Secretary
John Moura, Director, Reliability Assessment and Technical Committees
Mark Olson, Manager, Reliability Assessments
Lauren Perotti, Senior Counsel
Bryan Preston, Vice President, People and Culture
Janet Sena, Senior Vice President, External Affairs
Andy Sharp, Vice President and Chief Financial Officer
Mechelle Thomas, Vice President, Compliance

NERC Antitrust Compliance Guidelines

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

Introduction and Chair's Remarks

Mr. DeFontes welcomed all of the attendees to the meeting, including Mr. Stan Connally, Jr., Executive Vice President of Operations, Southern Company; Commissioner Mark Christie from the Federal Energy Regulatory Commission (FERC); Ms. Patricia Hoffman, Acting Assistant Secretary, Office of Electricity, Department of Energy; and Mr. David Morton, Chair, CAMPUT.

Mr. DeFontes reported on the recent passing of William (Bill) Gallagher, a member of the Member Representatives Committee and strong advocate for the reliability, resilience, and security of the North American electric grid. He reported that, at its November 1, 2021 closed meeting, the Board adopted the following resolution in honor of Mr. Gallagher:

WHEREAS, William (Bill) J. Gallagher was a strong advocate for the reliability, resilience, and security of the North American electric grid, having served as Chair of the NERC Member Representatives Committee in 2011, Vice Chair in 2010, and serving as an active member until his passing; and

WHEREAS, Mr. Gallagher served on, supported, and provided invaluable input and guidance to the ERO Enterprise through his service on the Member Representatives Committee, NERC Board of Trustees Nominating Committee, as well as on advisory groups for the Reliability Assurance and Risk-Based Registration Initiatives, and, most recently, on the Member Representatives Committee Business Plan and Budget Group; and

WHEREAS, Mr. Gallagher had a long and distinguished career in the electric industry, as a leader in public power organizations, and as a longtime Board and Executive Committee member of NAESB, where his leadership was crucial to support the transition of the Gas Industry Standards Board to the North American Energy Standards Board.

NOW, THEREFORE, BE IT RESOLVED THAT The Board of Trustees of the North American Electric Reliability Corporation does hereby convey its deepest gratitude to Mr. Gallagher for his sage advice, his thoughtful discourse, his kindness, and his friendship to the members of NERC's Board of Trustees.

The attendees observed a moment of silence in Mr. Gallagher's honor.

Mr. DeFontes noted that the grid is rapidly transforming, bringing with it significant reliability challenges including increased vulnerability to extreme cold weather conditions. He noted that the February 2021 cold weather event in Texas and the south central United States resulted in significant social and economic costs, and, while NERC and the industry have taken important first steps in improving reliability and resiliency through the Cold Weather Reliability Standards, we must do better to prepare the system to be reliable during these conditions. Mr. DeFontes noted that the joint inquiry team investigating the causes of the February 2021 cold weather event recently publicized its findings and recommendations, in advance of the issuance of its final report, so that industry could begin addressing this urgent reliability issue. He expressed the Board's disappointment that the Standards Committee recently voted to postpone action on a proposed Standard Authorization Request that would initiate a new standards project focused on these recommendations. Mr. DeFontes stated that NERC and its stakeholders must prioritize actions to address urgent reliability issues directly and expeditiously.

Consent Agenda

Upon motion duly made and seconded, the Board approved the consent agenda, absent the Standards Committee Charter Amendments (Agenda Item 2d), as follows:

Minutes

The draft minutes for the September 28, 2021 and August 12, 2021 meetings were approved as presented to the Board at this meeting.

Committee Membership and Charter Amendments

Compliance and Certification Committee Confidentiality Protocol and Compliance and Certification Committee's Participation in NERC Audits of CMEP Programs

RESOLVED, that the Board hereby approves the revised Compliance and Certification Committee procedure document CCCPP-009-3, NERC Compliance and Certification Committee Confidentiality Protocol, substantially in the form presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the revised Compliance and Certification Committee procedure document CCCPP-012, CCC Participation in NERC's Audits of CMEP Programs, substantially in the form presented to the Board at this meeting.

Compliance and Certification Committee Membership and Leadership

RESOLVED, that the Board hereby appoints the following individuals to the Compliance and Certification Committee (CCC), each for a three-year term from January 1, 2022 - December 31, 2024:

- Daniela Hammons, CenterPoint Energy, Investor-Owned Utility
- Keith Porterfield, Georgia System Operations Corporation, Cooperative Utility
- Tom McDonald, Bonneville Power Administration, Federal or Provincial Utility/PMA
- Leigh Mulholland, Capital Power Corporation, Merchant Electricity Generator
- Keith Comeaux, Cleco Corporation, Electricity Marketer
- Greg Campoli, New York ISO, ISO/RTO
- Lisa Milanes, California ISO, At-large
- Alice Ireland, Tri-State Generation and Transmission Association, At-large

FURTHER RESOLVED, that the Board hereby approves the CCC's request to solicit nominations to fill an open seat in the State/Municipal Utility sector for a term that would end on December 31, 2022.

FURTHER RESOLVED, that the Board hereby appoints the following individuals to the leadership of the CCC, each for a two-year term from January 1, 2022 – December 31, 2023:

- Chair – Scott Tomashefsky
- Vice Chair – Silvia Parada Mitchell

Reliability and Security Technical Committee Proposed Charter Amendments

RESOLVED, that the Board hereby approves the revised Reliability and Security Technical Committee (RSTC) Charter, substantially in the form presented to the Board at this meeting, to replace the RSTC Charter approved by the Board on November 5, 2019.

Standards Committee Leadership

RESOLVED, that the Board hereby appoints the following individuals to the leadership of the Standards Committee, each for a two-year term from January 1, 2022 – December 31, 2023:

- Chair - Amy Casuscelli, Xcel Energy
- Vice Chair - Todd Bennett, Associated Electric Cooperative, Inc.

Personnel Certification Governance Committee Membership

RESOLVED, that the Board hereby appoints the following individuals to the Personnel Certification Governance Committee, each for a two year term from January 1, 2022 – December 31, 2023:

- Dan Morse, Gainesville Regional Utility
- Mari Kiresich, Southern California Edison

Regular Agenda

Remarks by Mark Christie, Commissioner, FERC

Mr. Robb introduced Commissioner Christie of FERC. Commissioner Christie remarked on the incredible achievement that is the North American power grid, and the importance of NERC's role in maintaining the reliability of that grid. He noted the importance of NERC's role, both in developing standards and educating legislators and policy makers on reliability issues. Commissioner Christie stated that regulators and the public depend on NERC as an unbiased, objective, and forthright source of reliability information, and he encouraged NERC to consider general audiences when communicating its findings. He also encouraged NERC to continue building its relationships with state regulators.

Welcome Remarks by Stan Connally, Jr., Executive Vice President of Operations, Southern Company

Mr. Robb introduced Mr. Connally of Southern Company. Mr. Connally remarked on the importance of the electricity industry to the American economy and noted that communities depend on the industry to plan properly for reliability and resilience. He noted that industry should plan for extreme weather conditions using more predictive models rather than just historical data. Mr. Connally also remarked on the importance of fuel assurance planning, given the interdependencies of the natural gas and electric industries, and planning properly for firm load shed.

Remarks by Patricia Hoffman, Acting Assistant Secretary, Office of Electricity, DOE

Mr. DeFontes introduced Ms. Hoffman of the Department of Energy (DOE). Ms. Hoffman remarked on the strength of the agency's partnerships with NERC and others to address the challenges facing the North American grid. She highlighted the agency's efforts in the area of resilience, including using federal funds that may become available to invest in infrastructure and expand transmission capacity. Ms. Hoffman noted the agency's focus on developing energy storage and noted some of the benefits it can provide. She also highlighted efforts in four priority areas, including upgrading infrastructure, enhancing cyber and physical security information sharing, enhancing supply chain controls, and advancing analysis capabilities to manage future events.

Remarks by David Morton, CAMPUT Representative to NERC

Mr. DeFontes introduced Mr. Morton of CAMPUT. Mr. Morton stated that he appreciated NERC's continued focus on security issues and preparedness for cold weather conditions. He encouraged NERC to consider extreme weather conditions more broadly in its standards, including addressing extreme hot weather conditions like those that have affected parts of Canada. Mr. Morton also remarked on the need to consider the impact on the electric power system as jurisdictions implement decarbonization initiatives.

President's Report

Mr. Robb provided the president's report, beginning his remarks by reflecting on the passing of Mr. Gallagher and honoring his service to NERC and his commitment to reliability.

Mr. Robb thanked stakeholders for their responses to the policy input letter regarding how NERC could be more nimble and efficient to address the reliability challenges of a rapidly transforming grid. He noted that NERC's processes make it unique among regulators and play a key part in NERC's success, but that NERC and the industry is facing an evolution of change that demands more expedient solutions. Mr. Robb noted the importance of beginning discussions with stakeholders on the best path forward for addressing these risks nimbly and efficiently.

Mr. Robb expressed his disappointment at the recent Standards Committee action to defer consideration of the proposed cold weather preparedness Standard Authorization Request, emphasizing the importance of not using NERC's processes to avoid dealing with urgent reliability issues. He noted that the report on the FERC/ERO Enterprise joint inquiry into the causes of the February 2021 cold weather event is expected for release soon and thanked the team for their extraordinary effort. He emphasized that he and FERC Chairman Glick are unified in their commitment that the findings of the report be heeded. Mr. Robb also reported that NERC staff will be examining NERC's standards processes in the coming months for opportunities to improve.

Mr. Robb noted that NERC's assessments, discussed later in the meeting, show that reliability challenges continue to persist. He remarked on the need to rethink the current regulatory scheme for natural gas, given its increasingly important role in electric generation. Mr. Robb stated that he was pleased by recent efforts to address the cybersecurity of natural gas pipelines, and he noted the focus on security at the recent Grid Security Conference and the upcoming GridEx VI to be held later in November.

Mr. Robb then introduced Ms. Sara Patrick, President and CEO of the Midwest Reliability Organization (MRO) and co-chair of the ERO Enterprise Executive Committee, to provide additional comments. He thanked Ms. Patrick for her leadership of the committee and noted that Mr. Jason Blake, CEO of SERC, would assume the role in February. Ms. Patrick remarked on the incredible pace of change, noted the important role the ERO Enterprise plays in mitigating the risks to the reliability and security of the North American electric grid, and remarked on the success of the ERO Enterprise transformation initiative. At the conclusion of her remarks, Mr. DeFontes thanked Ms. Patrick for her leadership.

Report on the September 28 and November 1, 2021 Closed Meetings

Mr. DeFontes reported that on September 28, 2021 and November 1, 2021 (as is its custom), the Board met in closed session with NERC management to review NERC management activities. On September 28, the Board met to discuss matters of strategic importance, including the 2022 Work Plan Priorities, the long-term direction for the E-ISAC, and long-term implications for NERC resources. On November 1, the Board discussed the Board's resolutions for this meeting, feedback for policy input, Reliability Standards proposed for adoption, and follow up discussions from the September 28 meeting. The Board also received governance training from the General Counsel and met in executive session with the General Counsel to discuss confidential issues.

Board Committee Reports

Corporate Governance and Human Resources

Mr. Hawkins, Committee Chair, reported on recent Committee meetings. At the closed meeting on September 28, 2021, the Committee welcomed the new NERC Vice President of People and Culture Bryan Preston and met with Meridian Compensation Partners regarding several compensation studies and recommended adjustments for Board of Trustees compensation. At the closed meeting on November 1, 2021, the Committee reviewed its mandate, approved extending a temporary waiver of the NERC Board of Trustees and NERC officer travel policies, received an update on NERC human resources initiatives, and discussed compensation matters. At the Committee's open meeting on November 3, 2021, the Committee approved the forthcoming Board self-assessment and Member Representatives Committee assessment of Board effectiveness survey and received an update on human resources and staffing. Mr. Hawkins also reported that the Committee accepted the Board compensation study and recommended several proposed compensation changes for approval by the Board.

After discussion, and upon motion duly made and seconded, the Board approved the following resolution:

WHEREAS, the Board's Corporate Governance and Human Resources Committee (the "CGHRC") is required to review annually the compensation program for independent Trustees and to make recommendations to the Board, as appropriate.

WHEREAS, the CGHRC engaged the compensation consulting firm of Meridian Compensation Partners, LLC ("Meridian"), to conduct an update to the market study of Board compensation completed in 2018, to aid in its determination of whether to recommend any changes to the Board's compensation program.

WHEREAS, Meridian compared current Trustee compensation and the structure of the Board's current compensation structure to the market perspectives used in the 2018 Willis Towers Watson study, also updating its view of overall compensation trends, and prepared a report, which has been reviewed and accepted by the CGHRC.

WHEREAS, the CGHRC considered: (i) the findings and recommendations in the Meridian report, as well as (ii) the need to consider any compensation adjustment in light of NERC's overall budget, (iii) that the workload for all Trustees has continued to be at a level higher than any of the peer groups, (iv) that the Board Chair, Vice Chair and Committee chairs have substantial additional responsibilities and time commitments, and members of the Board serve as liaisons to the Standards Committee and Reliability and Security Technical Committee, (v) that the current compensation structure, utilizing fixed retainers, is consistent with best practice trends in director compensation, (vi) that it remains important for NERC to be able to recruit and retain qualified and quality individuals to board service, and that NERC competes directly with Regional Entities, Independent System Operators and Regional Transmission Organizations, Investor Owned Utilities, and even private sector companies in attempting to attract such individuals to NERC, and (vii) that the conflict of interest requirements at NERC for Trustees, which include financial interest and investment prohibitions, employment/consulting prohibitions, and industry board service prohibitions, and the fact that NERC is non-profit and offers no stock options or benefits, reinforce the need for NERC to offer competitive compensation to Trustees, understanding the limits NERC places on what might be other opportunities for financial reward.

WHEREAS, based on its review of the Meridian report and its deliberations in open session, the CGHRC has recommended Board approval of modifications to the Trustee compensation program.

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby approves the following compensation program for independent Trustees:

- Annual Retainer: The Board hereby establishes a target annual retainer for each Trustee of \$135,000. The new retainer will be implemented annually over the next three years with no increase in 2022, a \$3,500 increase in 2023, and a \$4,000 increase in 2024.
- Chair Retainer: The Board hereby continues the annual retainer for the Board Chair of \$47,500.
- Committee Chairs Retainer: The Board hereby continues the annual retainer for Committee Chairs of \$10,000, with an annual review in 2023 and 2024 if an adjustment is warranted.

Vice Chair and Liaison Retainers: The Board hereby continues the annual retainer of \$5,000 for the Board Vice Chair, with a separate retainer of \$5,000 for the Trustee who is designated as the liaison to the Standards Committee and the Trustee designated as the liaison to the Reliability and Security Technical Committee.

Compliance

Mr. Manning, Committee Chair, reported on recent meetings of the Committee. At the Committee's closed meeting on October 26, 2021, the Committee received an update on the Compliance Monitoring and Enforcement Program (CMEP) Implementation Plan, reviewed CMEP trends, received an update on CIP matters, and reviewed its mandate. At the Committee's open meeting on November 3, 2021, the Committee received updates on COVID-19 related activities, facility ratings, and the 2022 CMEP Implementation Plan.

Finance and Audit

Mr. Clarke, Committee Chair, reported on recent meetings of the Committee. He reported that NERC will remain in the Atlanta office through the conclusion of the lease until 2025, and thanked stakeholders for their work and input on the budget which was approved by FERC on November 2. At the October 26, 2021 closed meeting, the Committee reviewed proposed changes for the 2023 business plan and budget schedule, proposed amendments to the Investment Policy, the savings and investment plan (401k) audit, form 5500, and compliance testing for 2020, and the Committee mandate. The Committee also reviewed and discussed audit planning with NERC's independent auditor, RSM US LLP.

At its November 3, 2021 open meeting, the Committee took action on several items. First, Mr. Clarke reported that the Committee reviewed and recommended the Third Quarter Statement of Activities. 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 2021 NERC, Combined ERO Enterprise, and Regional Entity Unaudited Statement of Activities, as presented to the Board at this meeting.

Second, Mr. Clarke reported that the Committee reviewed and recommended for Board approval proposed amendments to the NERC Investment Policy. After discussion, and 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 approves the amended Investment Policy, as presented to the Board at this meeting.

Mr. Clarke also reported that the Committee received updates on the 2022 business plan and budget and reviewed the 2023 business plan and budget schedule.

Enterprise-wide Risk

Ms. Sidford, Committee Chair, reported on the Committee's closed meeting on October 26, 2021. At its meeting, the Committee received updates on the activities of the Compliance and Certification Committee, Regional Entity

activities, 2021 audit plan status, the 2022 internal audit plan, and the NERC Enterprise corporate risk management plan. The Committee also reviewed its mandate.

Technology and Security

Ms. Keenan, Committee Chair, reported on the recent Grid Security conference and meeting of the E-ISAC Member Executive Committee. She also reported on recent meetings of the Committee. At the November 1, 2021 closed meeting, the Committee reviewed items including NERC and Regional Entities cyber security posture, the Committee mandate, and the results of a recent test using an emergency communication system. The Committee also received updates on proposed technology package for Trustees and received cyber training. At the November 3, 2021 open meeting, the Committee received updates on E-ISAC operations, the ERO Enterprise Align project, and ERO Enterprise business technology. She concluded her remarks by noting the need for the ERO Enterprise to remain vigilant to maintain a strong cybersecurity posture.

Nominating

No Committee report was provided at this meeting.

Report by Jim Piro on Standards and RSTC Quarterly Activities

Mr. Piro, Liaison to the Standards Committee and Reliability and Security Technical Committee (RSTC), reported on recent meetings of the RSTC. Mr. Piro reported that the participation and engagement on the RSTC continues to remain high and highlighted its recent work.

Turning to recent Standards Committee activities, Mr. Piro reported on actions taken at recent meetings, including actions taken at its meetings to authorize postings, accept several Standard Authorization Requests, and appoint drafting teams. He reported that, at its October meeting, the Standards Committee voted to postpone action on a proposed cold weather Standard Authorization Request submitted by NERC staff; this request proposed to start a new standards project focusing on the recommendations of the FERC/ERO Enterprise joint inquiry team reviewing the causes of the February 2021 cold weather event. Mr. Piro noted his disappointment with this action and remarked that it will delay further standards development activity by several months. He further noted that standard process waivers may ultimately be needed to meet the development timelines recommended by the joint inquiry team. Mr. Piro urged industry to address this issue with the appropriate urgency.

Standards Quarterly Report and Actions

Standards Committee Proposed Charter Amendments

Mr. DeFontes recommended approval of the proposed Standards Committee Charter amendments included in the advance agenda package. He stated that the Board will direct the Committee to review its Charter to ensure the Committee is focused on process issues and has the necessary tools to address urgent reliability needs with appropriate agility.

After discussion, and upon motion duly made and seconded, the Board approved the following resolutions:

RESOLVED, that the Board hereby approves the revised Standards Committee Charter, substantially in the form presented to the Board at this meeting, to replace the Standards Committee Charter approved by the Board on May 9, 2019.

FURTHER RESOLVED, that the Board hereby directs the Standards Committee to review its Charter to determine: (1) which further revisions to the Charter would be needed to clarify the role of the Committee as a procedural oversight body; and (2) which further revisions would enhance the ability of the Committee to address urgent reliability needs with appropriate agility.

FURTHER RESOLVED, that the Board directs the Standards Committee to present the results of this review, along with any proposed Charter revisions, at the February 2022 meeting.

2022-2024 Reliability Standards Development Plan

Mr. Gugel presented the proposed 2022-2024 Reliability Standards Plan developed under Section 310 of the NERC Rules of Procedure. Mr. DeFontes proposed to approve the 2022-2024 Reliability Standards Development Plan, subject to the inclusion of the Extreme Cold Weather Grid Operations, Preparedness, and Coordination project as a high priority item, along with a directive establishing deadlines for the completion of work under that project.

After discussion, and upon motion duly made and seconded, the Board approved the following resolutions:

WHEREAS, NERC is required, under Section 310 of the NERC of Procedure, to develop and provide for an annual Reliability Standards Development Plan for development of Reliability Standards to the applicable governmental authorities, and such plan shall consider the comments and priorities of such authorities in developing and updating the annual plan;

WHEREAS, NERC developed a Reliability Standards Development Plan for 2022-2024 in mid-2021, and the Standards Committee endorsed this plan on September 23, 2021;

WHEREAS, a joint inquiry team consisting of staff from NERC, Regional Entity, and the Federal Energy Regulatory Commission ("FERC") presented its findings and recommendations regarding the causes of the February 2021 cold weather event impacting Texas and the south Central United States at the September 23, 2021 FERC open meeting, information which will be contained in a forthcoming final report;

WHEREAS, the joint inquiry team also provided several recommendations for new or revised Reliability Standards to address the causes of this event and enhance reliability during future cold weather conditions;

WHEREAS, on October 21, 2021 the Standards Committee voted to postpone action on a new Extreme Cold Weather Grid Operations, Preparedness, and Coordination Standards Authorization Request that proposed to develop new and revised Reliability Standards to address the joint inquiry team's recommendations;

WHEREAS, multiple major cold weather events have threatened the reliability of the Bulk-Power System in the previous decade, demonstrating that the continued reliability of the Bulk-Power System in future cold weather seasons depends on the prompt development of Reliability Standards to address the findings and recommendations of the joint inquiry team, within the expedited timeframes recommended by the joint inquiry team;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby approves the 2022-2024 Reliability Standards Development Plan, substantially in the form presented to the Board at this meeting, subject to the addition of the Extreme Cold Weather Grid Operations, Preparedness, and Coordination standards development project as a high priority item, along with any other new Standards Authorization Requests or directives that are received prior to submission to the applicable governmental authorities.

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.

FURTHER RESOLVED, that the Board hereby directs that the development of new or revised Reliability Standards to address the recommendations of the joint inquiry team for cold weather operations,

preparedness, and coordination to be completed in accordance with the timelines recommended by the joint inquiry team, as follows:

- New and revised Reliability Standards to be submitted for regulatory approval before Winter 2022/2023: development completed by September 30, 2022, for the Board's consideration in October 2022;
- New and revised Reliability Standards to be submitted for regulatory approval before Winter 2023/2024: development completed by September 30, 2023, for the Board's consideration in October 2023.

Mr. Gugel explained that the Board's action to set deadlines for the cold weather project will provide the Standards Committee with procedural flexibility to authorize waivers, allowing the completion of development work in a timely manner.

Proposed Regional Reliability Standard PRC-006-SERC-03 – Automatic Underfrequency Load Shedding

Mr. Gugel presented the proposed SERC regional Reliability Standard PRC-006-SERC-03, highlighting that the proposed standard includes modifications to account for the Florida peninsula and contains several other reliability and efficiency benefits. 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-SERC-03, 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 associated implementation plan, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the proposed retirement of regional Reliability Standard PRC-006-SERC-02, 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.

Critical Infrastructure Protection Board Resolution Updates

Mr. Gugel provided an update on activities in support of resolutions approved by the Board regarding the Critical Infrastructure Protection (CIP) reliability Standards, referencing the material provided in the advance agenda package. He highlighted activities underway to address low impact BES Cyber Assets, including: (1) a standards project that is underway to address the inclusion of low impact assets in the Supply Chain Standards; (2) a broader review and analysis of the low impact criteria.

Other Matters and Reports

Policy Input and Member Representatives Committee Meeting

Mr. DeFontes referred to the discussion of policy input items and technical updates at the November 4, 2021 Member Representatives Committee meeting. Ms. Kelly and Mr. DeFontes expressed their appreciation for the policy input feedback.

2022 ERO Enterprise Work Plan Priorities

Mr. Lauby presented the proposed 2022 ERO Enterprise Work Plan Priorities. He noted that the proposed 2022 priorities highlight projects that address four risk elements: (1) improving BES resilience for wide-spread long-term extreme temperature events; (2) deepening planning and operating focus beyond capacity adequacy, towards energy sufficiency; (3) enhancing the structure of the CIP standards; and (4) expanding the impact of the E-ISAC. Mr. Lauby, Mr. Cancel, and Ms. Sena presented on the focus areas in the priorities.

After discussion, and upon motion duly made and seconded, the Board approved the following resolutions:

RESOLVED, that the Board hereby approves the 2022 ERO Enterprise Work Plan Priorities, substantially in the form presented to the Board at this meeting.

2021 Long-Term Reliability Assessment Preview

Mr. Olson provided a preview of the 2021 Long-Term Reliability Assessment (“LTRA”). He recalled that the LTRA provides a top-level assessment of resource adequacy and identify emerging issues, include demand, generation, and transmission projections, and is developed in coordination and reviewed with Regional Entities and stakeholder groups. He highlighted key findings of the LTRA, including that there are areas with projected reserve shortfalls and energy shortfall risks, particularly during extreme weather. Mr. Olson also highlighted transmission trends, trends in peak demand growth rates, and increasing penetration of solar distributed energy resources. He noted that the LTRA will be presented to the Board for acceptance in December.

Ms. Kelly remarked that NERC should ensure its communications regarding the LTRA are as clear as possible for the general audience, consistent with Commissioner Christie’s remarks earlier in the meeting. Mr. DeFontes echoed this sentiment and thanked Mr. Olson and NERC staff for their work on the report.

2021-2022 Winter Reliability Assessment Preview

Mr. Coterillo provided a preview of the 2021-2022 Winter Reliability Assessment (“WRA”), which is intended to identify, assess, and report on areas of concern regarding the reliability of the North American bulk power system for the upcoming winter season. He highlighted several key findings in the 2021-2022 WRA, including: (1) energy emergencies are likely in some regions under extreme weather conditions; (2) natural gas generators face added risk from fuel supply in infrastructure-limited areas; and (3) energy transfers in the west are limited due to low hydro conditions. Mr. Coterillo also highlighted key takeaways from the recent NERC Level 2 alert regarding cold weather preparedness, which are discussed in the report. He reported that the 2021-2022 WRA is targeted for release the week of November 15.

The Board engaged in discussion on the WRA. Mr. Thilly remarked on the timing of the seasonal assessments and whether the workflow would allow for an earlier release. Mr. Coterillo and NERC staff were thanked for their work.

Committee Reports

Chair DeFontes called on representatives of several of the Standing Committees to provide reports to the Board highlighting items from their written reports, which had been included with the advance meeting materials. He referred the attendees to the advance agenda package for the remaining Committee reports.

Standards Committee

Ms. Amy Casuscelli, Committee Chair, provided an update on the activities of the Committee, referencing the materials provided in the advance agenda package. She highlighted the work of the Committee and thanked the departing Compliance and Certification Committee chair Jennifer Flandermeyer for her partnership.

Referencing earlier actions of the Board, Ms. Casuscelli reported that the Committee understands the importance of the cold weather standard development project and is prepared to take action commensurate with its urgency.

Compliance and Certification Committee

Ms. Jennifer Flandermeyer, Committee Chair, provided an update on the activities of the Committee, referencing the materials provided in the advance agenda package. Mr. DeFontes thanked Ms. Flandermeyer for her service as chair of the Committee.

Reliability and Security Technical Committee

Mr. Greg Ford, Committee Chair, provided an update on the activities of the Committee, referencing the materials provided in the advance agenda package.

Reliability Issues Steering Committee

Mr. Nelson Peeler, Committee Chair, provided an update on the activities of the Committee, highlighting work with the RSTC to address the recommendations of the 2021 ERO Reliability Risk Priorities Report. Mr. DeFontes thanked Mr. Peeler for his leadership and work on the RISC.

Electricity Subsector Coordinating Council

Mr. Robb reported on recent Electricity Subsector Coordinating Council activities and noted that he was encouraged by the good working dynamics among the groups from NERC, industry, and various government agencies.

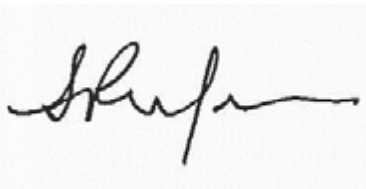
Forum and Group Reports

Chair DeFontes referred to the forum and group reports included in the advance agenda package and thanked Mr. Choudhury for his leadership of the Member Representatives Committee.

Other Matters and Adjournment

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

Submitted by,



Sônia Mendonça
Corporate Secretary

Compliance and Certification Committee Membership

Action

Approve

Background

The Compliance and Certification Committee recommends that the Board of Trustees (Board) approve the following membership appointment for completion of the three-year term representing the State Municipal Sector from the recent special nomination period. The term begins upon Board appointment and concludes on December 31, 2022.

- Devon Tremont, Taunton Municipal Lighting Plant, State Municipal

Reliability and Security Technical Committee (RSTC) Membership

Action

Approve

Summary

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

Sector Elected Members	
1. Investor-owned utility	Kayla Messamore (Evergy) – 2022-2024
3. Cooperative utility	Paul McCurley (NRECA) – 2022-2024
4. Federal or provincial utility/Federal Power Marketing Administration	Robert Reinmuller* (Hydro One) – 2022-2024
5. Transmission dependent utility	Carter Manucy (Florida Municipal Power) – 2022-2024
6. Merchant electricity generator	Truong Le (CMS Energy) – 2022-2024
7. Electricity Marketer	Jodirah Green** (ACES Power) – 2022-2024
8. Large end-use electricity customer	Venona Greaff (Occidental Chemical) – 2022-2024
12. State Government	Cezar Panait (Minnesota Public Utilities Commission) – 2022-2024
At-Large Members	
David Grubs	City of Garland, Texas – 2022-2024 (converted Sector 2)
Wayne Guttormson	SaskPower – 2022-2024 (converted Sector 9)
Dede Subakti	California ISO – 2022-2024 (converted Sector 10)
Biju Naduvathuparambil	AESO – 2022-2024
David Mulcahy	Illuminate Power Analytics, LLC – 2022-2024
Peter Brandien	ISONE – 2022-2024
Jeff Harrison	AECI – 2022-2024
Monica Jain	SCE – 2022-2024
Ian Grant	Tennessee Valley Authority – 2022-2023 (converted sector 7)
William Allen	Exelon – 2022-2023 (vacant due to Vice Chair election)
Non-voting Members	
United States Federal Government (2)	David Ortiz – FERC – 2022-2024 Mike Toecker, DOE – 2022-2024
Canadian Federal Government (1)	Naveen Goswamy, Natural Resources Canada 2022-2024
Provincial Government (1)	Catherine Ethier, Ontario Energy Board – 2022-2024

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 17-December 22, 2020. All submitted nominations can be found here: [RISC 2020 Nominations](#). The current [roster](#) for the RISC has nine (9) At-Large members and two (2) MRC members whose terms expire January 31, 2022. 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. Three (3) committee-based—one (1) from each of the standing committees: Standards (SC), Reliability and Security Technical Committee 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.

Summary

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

Member Type/Term	Name/Organization
Proposed Chair Term expiring January 31, 2024	Brian Allen Slocum ITC Holdings
At-Large Member Term expiring January 31, 2024	Woody Rickerson ERCOT
At-Large Member Term expiring January 31, 2024	Mark Ahlstrom, NextEra Energy Resources, LLC
At-Large Member Term expiring January 31, 2024	Jennifer Sterling Exelon
At-Large Member Term expiring January 31, 2024	Kamyar Ghaderi IESO
At-Large Member Term expiring January 31, 2024	Chris Shepherd Gannett Fleming
At-Large Member Term expiring January 31, 2024	LeRoy Patterson Public Utility District No. 2 of Grant County (GCPD)
At-Large Member Term expiring January 31, 2024	Matt Carter GP&L
At-Large Member Term expiring January 31, 2024	Srinivas Kappagantula Arevon Energy

At-Large Member Term expiring January 31, 2024	Tom Dagenais American Transmission Co.
At-Large Member Term expiring January 31, 2023 (<i>filling the term of an At-Large member who resigned from the Committee due to retirement</i>)	Nicole Poirier NB Power
MRC Member Term expiring January 31, 2023 (<i>filling the term of an MRC member who resigned from the Committee due to retirement</i>)	Sean Cavote PSEG
MRC Member Term expiring January 31, 2024	Travis Fisher ELCON
MRC Member Term expiring January 31, 2024	Matt Schuerger Minnesota Public Utilities Commission
MRC Member Term expiring January 31, 2024	John Twitty Missouri Public Utility Alliance
Compliance & Certification Committee Term expiring January 31, 2023	Silvia Parada-Mitchell NextEra Energy
Reliability and Security Technical Committee Term expiring January 31, 2023	Rich Hydzik Avista
Standards Committee Term expiring January 31, 2023	Amy Casuscelli Xcel Energy

NPCC Proposed Bylaws Amendments

Action

Approve amendments to the Northeast Power Coordinating Council Inc. (NPCC) Bylaws.

Background

The NPCC Board of Directors (NPCC Board) approved a series of Bylaw amendments (reflected in Attachment 1) on October 27, 2021, followed by NPCC Members' approval on December 1, 2021. These proposed amendments are the first set of changes to the NPCC Bylaws since 2012. They are designed to, among other things: (1) revise the Bylaws to improve corporate governance; (2) ensure consistency with the Not-for-Profit Corporation Law (N-PCL) of the State of New York, pursuant to which NPCC is organized; and (3) update the Bylaws to remove extraneous provisions, create efficiencies, and reflect changes at NPCC since 2012.

Management recommends that the Board approve the proposed revisions. If approved by the NERC Board of Trustees, the proposed revisions will be submitted to the Federal Energy Regulatory Commission for approval.

Summary of NPCC Proposed Bylaw Amendments

The following is a summary of the more substantive amendments. There are numerous non-substantive or minor amendments not discussed herein but reflected in the redline draft in Attachment 1.

ARTICLE II - OFFICES

- *Section 2.2 Other Offices* – Adds provision that provides that NPCC may have offices other than its principal office in New York County to reflect remote/hybrid office environment and ensure consistency with N-PCL, which requires member meetings to be held at corporate offices.

ARTICLE III - PURPOSE

- *Section 3.2 Purpose* – Deletes references to NPCC facilitating the attainment of fair, effective and efficient competitive electric markets as that does not appropriately reflect NPCC's purpose.

ARTICLE IV - MEMBERSHIP

- *Section 4.1 Eligibility* (formerly 4.2) – Simplifies membership qualifications and deletes extraneous information.
- *Section 4.2 Application as a Member and Renewal of Membership* (formerly 4.3) – Clarifies process for notice of termination of membership for non-renewal.
- *Section 4.6 Termination of Membership* – Adds provisions providing that in addition to a termination for non-renewal, the NPCC Board may terminate membership if the Member has failed to meet its respective qualifications, obligations, and conditions of Membership as set forth in the Bylaws.

ARTICLE V - ORGANIZATION OF NPCC

- *Section 5.3 Officers* – Modifies language to allow the NPCC Board to elect/approve its own officers annually and in the event of a vacancy.
- *Section 5.5 Vacancies* – Combines former sections 5.5 and 5.6 so that officers and the Board chair are approved by the NPCC Board.

ARTICLE VI - BOARD OF DIRECTORS

- *Section 6.1(a) Hybrid Board* – Clarifies that the NPCC President and CEO is a non-voting member of the NPCC Board and any Board Committees.
- *Section 6.2 Term and Compensation* – Modifies term limits for Independent Directors, providing that they may serve up to 4 two-year terms (up from 3).
- *Section 6.3(b) Powers and Duties* – Deletes references to enlisting or employing Member personnel to carry out the purpose of NPCC as term “enlist” if vague and NPCC should not be employing Member personnel.
- *Section 6.5 Quorum and Voting Requirements for the Board* – Removes ability for NPCC Board Directors to vote by proxy.
- *Section 6.8 Indemnification* – Modifies indemnification provisions to be consistent with N-PCL to limit extent of indemnification of non-Directors.

ARTICLE VII – COMMITTEES

- *Section 7.1 Committees of Corporation* – Clarifies that list in Section 7.1 are technical committees of the corporation, not Board Committees.
- *Section 7.2 Board Committees* – New provision adding list of NPCC Board Committees. Board Committees previously listed in 7.1 were moved to 7.2.
- *Section 7.3 Board Committee Structure* – Clarifies that NPCC Board Committees shall be comprised of at least three Board Directors and adds that each Committee shall have a chair designated by the Board.
- *Former Section 7.4 Hearing Body* - References to Hearing Body are deleted as hearings are addressed in other documents, including the Regional Delegation Agreement with NERC and in Canadian Memorandums of Understanding.

ARTICLE IX - MEMBERS' RIGHTS AND OBLIGATIONS

- *Former Section 9.3 Procedures for Enforcing Compliance with Reliability Standards* – Removes provisions regarding compliance enforcement as those issues are addressed in other documents and not necessary for Bylaws.

ARTICLE XI – MEETINGS

- *Section 11.1 Meetings* – Clarifies that NPCC Board and Member meetings may be held outside of New York, as per NY N-PCL.
- *Section 11.3 Action by Remote Communication* – Modifies provision allowing NPCC Board to participate in meetings remotely to more closely track N-PCL.

ARTICLE XV - CONFLICTS OF INTEREST

- *Section 15.1 Conflicts of Interest Policy* – Modifies provision to simply provide that all Directors and NPCC representatives shall follow NPCC’s conflict of interest policies, consistent with N-PCL.



AMENDED AND RESTATED BYLAWS
OF
NORTHEAST POWER COORDINATING COUNCIL, INC.
(a New York not-for-profit corporation)

Adopted on May 18, 2006

Amended on July 24, 2007

Amended on January 1, 2012

Amended on X, 2021

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**AMENDED AND RESTATED BYLAWS OF
NORTHEAST POWER COORDINATING COUNCIL, INC.
(a New York not-for-profit corporation)**

ARTICLE I – DEFINITIONS

1.1 Definitions. As used herein, the following terms have the respective meanings set forth below:

“*Affiliate*” means, with respect to any entity, any other entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such entity, as determined in the sole discretion of the Board. For this purpose, “control” may be presumed by the direct or indirect ownership of ten percent (10%) or more of the outstanding voting capital stock or other equity interests having ordinary voting power. Notwithstanding the foregoing, “Affiliate” excludes any entity wholly-owned or controlled by a Canadian Provincial government.

“*Board*” means the Board of Directors of NPCC.

“*Board Chair*” means the independent non-executive ~~chairman~~ chair of the Board who is retained by NPCC pursuant to a separate Board-approved agreement.

“*Bulk Power System*” shall have the meaning in the United States set forth in Section 215 of the Federal Power Act, as amended (16 U.S.C. § ~~824-824o~~ et seq.), and such meaning in Canada as is consistent with applicable Provincial regulatory and/or governmental authority determinations.

“*Bylaws*” means these Amended and Restated Bylaws of NPCC, ~~as approved by the Members of NPCC on April 12, 2011 and effective as of January 1, 2012.~~

“*Certificate of Incorporation*” means the Certificate of Incorporation of NPCC filed with the Secretary of State of the State of New York, as may be amended from time to time.

“*ERO*” or *Electric Reliability Organization* means the organization certified by FERC as defined in 18 C.F.R. §39.1.

“*FERC*” means the Federal Energy Regulatory Commission.

~~“*Hearing Body*” means a group comprising the Hearing Officer and two (2) Independent Directors (excluding the Board Chair) which has been authorized by NPCC to conduct and render decisions in a formal compliance hearing of any entity registered in the NERC compliance registry who is the subject of a notice of alleged violation, proposed penalty or sanction, contested mitigation plan or contested remedial action directive.~~

~~“*Hearing Officer*” means an individual employed or contracted by NPCC and designated by NPCC to preside over formal compliance hearings.~~

“*Independent Director*” means a director who satisfies the “independence” criteria in Section 6.7(b) and serves in Sector 8 (*Independent Directors*) of the Board.

“*NERC*” means the North American Electric Reliability Corporation, or any successor entity, which has been certified by FERC as the ERO pursuant to Section 215 of the Federal Power Act, as amended (16 U.S.C. § 824-824o et seq.).

“*Northeastern North America*” means the geographical area within the perimeter border enclosing the ~~State states~~ of New York, ~~the six New England States of the United States Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont~~, and the Canadian ~~Provinces~~ provinces of Ontario, Québec, New Brunswick and Nova Scotia, including any radial load or generation connecting to these systems.

“*NPCC*” means Northeast Power Coordinating Council, Inc., ~~or any successor entity.~~

“*NPCC Reliability Criteria*” means NPCC’s more stringent operating, design and protection criteria that are regionally specific reliability requirements that apply to the Full Members of NPCC that own or operate generation or transmission facilities for which faults or disturbances can have a significant adverse impact outside of the local area and which have been identified utilizing an impact-based methodology.

“*NPCC Reliability Criteria Compliance and Enforcement Program*” means the program in which Full Members of NPCC are obliged to certify compliance with a subset of NPCC Reliability Criteria that are being actively monitored.

“*Stakeholder Director*” means a director who serves in one of the seven (7) stakeholder sectors of the Board described in Section 4.4.

~~1.2 Additional Defined Terms. Terms not defined in these Bylaws shall have the definitions set forth in the Federal Power Act, Part 39 of the regulations of the FERC, as further clarified in FERC’s April 19, 2007 Order 119 FERC ¶ 61,060, and if not defined in any of those sources, shall be defined in accordance with their commonly understood and used technical meanings in the electric power industry, including applicable codes and standards.~~

ARTICLE II – OFFICES

2.1 Principal Office. The principal office of NPCC shall be located in New York County, State of New York.

2.2 Other Offices. NPCC may have other offices at such place or places as the Board of Directors may from time to time appoint or the business of the corporation may require.

ARTICLE III - PURPOSE

3.1 Not-for-Profit Corporation. NPCC is operated as a New York not-for-profit corporation and is organized pursuant to the Not-for-Profit Corporation Law of the State of New York (“*N-PCL*”).

3.2 Purpose. The purpose of NPCC is to promote and enhance the reliable and efficient operation of the international, interconnected Bulk Power System in Northeastern North America through (i) the development of Regional Reliability Standards and compliance assessment and enforcement of continent-wide and Regional Reliability Standards, coordination of system planning, design and operations, and assessment of reliability, pursuant to an agreement with the Electric Reliability Organization (“ERO”) which designates NPCC as a Regional Entity and delegates authority from FERC, and by Memoranda of Understanding with applicable Canadian Provincial regulatory and/or governmental authorities (collectively, “Regional Entity activities”), and (ii) the establishment of regionally-specific reliability criteria, and the monitoring and enforcement of compliance with such criteria (collectively, “Criteria Services activities”). ~~In the development of regionally specific reliability criteria, NPCC, to the extent possible, facilitates the attainment of fair, effective and efficient competitive electric markets.~~

ARTICLE IV – MEMBERSHIP

4.1 ~~—List of Members. The Members of NPCC are listed on Schedule A attached hereto.~~

4.24.1 Eligibility. Upon suitable application describing the nature and activities of the applicant, additional persons or entities shall be accepted by the Board as Members in the appropriate categories, defined as follows:

- (1) **General Membership** is voluntary and is open to any person or entity, including any person or entity ~~participating in the Registered Ballot Body of the ERO~~ that has an interest in the reliable operation of the Northeastern North American Bulk Power System. ~~General Members that are also registered entities within the NPCC Region are subject to compliance with reliability standards, consistent with their registration, and are also entitled to receive additional services from the Regional Entity division of NPCC.~~
- (2) **Full Membership** shall be available to entities which are General Members ~~that also participate in electricity markets in the international, interconnected bulk power system in Northeastern North America.~~ Independent system operators (“ISOs”), regional transmission organizations (“RTOs”), Transcos and other organizations or entities that perform the Balancing Authority function operating in Northeastern North America are expected to be Full Members of NPCC. The New York State Reliability Council and any other sub-regional reliability councils which may be formed are also expected to be Full Members. Full Members are subject to compliance with regionally-specific more stringent reliability criteria for their generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area and which are identified utilizing a reliability impact-based methodology. Full Members are ~~also subject to compliance with reliability standards, and are~~ entitled to receive additional services from the Criteria Services division of NPCC.

4.34.2 Application as a Member and Renewal of Membership.

(a) Any person or entity that is eligible to become a Member of NPCC in accordance with Section 4.12 may become either a General Member or a Full Member by completing and submitting to

NPCC a membership application on a form prescribed by the Board. Any person or entity that applies to NPCC as a Member shall comply with the conditions and obligations of ~~membership~~ Membership specified in these Bylaws. As an additional condition of ~~membership~~ Membership in NPCC, each person or entity registering as a Member shall execute an agreement with NPCC, in a form to be specified by the Board, that such person or entity will hold harmless all Directors, officers, employees and agents of NPCC, as well as volunteers participating in good faith in the activities of NPCC, to the extent permitted by U.S. ~~Federal~~ federal or Canadian Provincial laws, rules and regulations, for any injury or damage caused by any act or omission of any Director, officer, employee, agent or volunteer in the course of performance of his or her duties on behalf of NPCC, other than for acts of gross negligence, intentional misconduct or a breach of confidentiality.

(b) If not a natural person, the Member shall designate a representative and an alternate representative with authority to receive notices, cast votes, execute waivers and consents, and enter into binding agreements on behalf of the Member. NPCC shall maintain a current roster of the Members of NPCC, including each Member's designated representative and alternate representative.

~~(b)~~(c) From time to time, the Board may establish a date by which Members shall submit their application renewals. All Members shall confirm their applications within thirty (30) calendar days of the date of receipt of request by NPCC, using an application renewal form prescribed by the Board. Any Member that has not submitted an application renewal within thirty (30) calendar days following the date established by the Board ~~shall be removed from the NPCC roster~~ may have its Membership terminated. NPCC shall notify any ~~Member that is removed from the roster of Members of such removal~~ person or entity that has its Membership terminated pursuant to this Section 4.23(c), by written notice sent to such former Member's last known address on the records of NPCC.

4.44.3 Voting. Members are eligible to vote in one of the seven (7) stakeholder voting sectors described below:

Sector (1). Transmission Owners: This voting sector shall consist of any entity within Northeastern North America that owns at least 200 circuit miles of integrated transmission facilities or has an Open Access Transmission Tariff or equivalent on file with the FERC or the appropriate regulatory or governmental authority. This sector includes transmission owners that have placed their transmission under the operational control of an ISO/RTO, independent transmission companies ~~and or~~ merchant transmission owners/developers.

Sector (2). Reliability Coordinators: This voting sector shall consist of any entity within Northeastern North America certified as a Reliability Coordinator.

Sector (3). Transmission Dependent Utilities ("TDUs"); Distribution Companies and Load-Serving Entities ("LSEs"). This voting sector shall consist of entities within Northeastern North America that are:

- a. Entities with a regulatory contract, or other legal obligation to serve wholesale aggregators or end-use customers, and that depend primarily on the transmission systems of third parties to provide this service;
- b. Agents or associates that represent groups of TDUs;

- c. Electric distribution companies;
- d. Entities serving end-use customers under a regulated tariff, a contract governed by a regulatory tariff, or other legal obligation to serve; or Members of a generation and transmission (“G&T”) cooperative or a joint-action agency permitted to designate the G&T or joint action agency to represent such entities in this sector.

Sector (4). Generator Owners: This voting sector shall consist of entities within Northeastern North America that are affiliated and/or independent generators.

Sector (5). Marketers, Brokers and Aggregators: This voting sector shall consist of entities within Northeastern North America that are:

- a. Entities providing energy to end-use customers under a power marketing agreement or other authorization not classified as a regulated tariff;
- b. Entities that buy, sell, or broker energy and related services for resale in wholesale or retail markets, whether a non-jurisdictional entity operating within its charter or an entity licensed by a jurisdictional regulator; or
- c. Generation and transmission cooperatives and joint-action agencies that perform an electricity broker, aggregator, or marketer function.

Sector (6). State and Provincial Regulatory and/or Governmental Authorities~~:-~~: This voting sector shall consist of ~~State-state~~ and Provincial regulatory or governmental authorities within Northeastern North America.

Sector (7). Sub-Regional Reliability Councils, Customers, Other Regional Entities and Interested Entities: This voting sector shall consist of:

- a. Any entity within Northeastern North America authorized by an appropriate regulatory and/or governmental authority to be a Sub-Regional Reliability Council;
- b. Entities or customers that take delivery of energy that is not purchased for resale within Northeastern North America;
- c. Agents or associations representing groups of large end users within Northeastern North America;
- d. Agents, state consumer advocates, or other advocate groups representing groups of small customers within Northeastern North America;
- e. Any other ~~delegated~~ Regional Entity; or

- f. Any person or entity, including any entity participating in the Registered Ballot Body of the ERO, that has an interest in the reliable operation of the bulk power system in Northeastern North America.

4.4 Assignment to Voting Sector. -A new applicant for ~~membership~~ Membership shall request to be assigned to a stakeholder voting sector, subject to Board approval. An applicant may request to be assigned to any stakeholder voting sector so long as ~~membership~~ Membership in that stakeholder voting sector is consistent with the applicant's business or other activities within the NPCC region. Multiple ~~memberships~~ Memberships of separate business functions of an entity are permitted, with each business function assigned to the appropriate separate sector. Each such business function may designate its own representative and alternate, however, no representative and alternate can represent more than one business function of an entity in a stakeholder voting sector. A consultant, attorney, agent, vendor, trade or industry association, state, provincial or local consumer advocate organization that provides services to or otherwise represents the interests of the Members of one or more stakeholder voting sectors may elect to be assigned to one such stakeholder voting sector subject to Board approval. ~~Entities~~ Members may request to change their stakeholder voting sector designation ~~during an Annual Meeting of Members of NPCC~~, subject to Board approval.

4.5 Term of Membership. -Membership in NPCC shall be retained so long as Member meets its respective qualifications, obligations, and conditions of ~~m~~Membership as set forth in ~~this Article IV~~ these B Bylaws.

4.6 Termination of Membership. In addition to a termination for non-renewal pursuant to Section 4.23(c), the Board may terminate the membership if, in the judgment of the Board, the Member has failed to meet its respective qualifications, obligations, and conditions of Membership as set forth in these b Bylaws.

ARTICLE V - ORGANIZATION OF NPCC

5.1 Member Representatives. Each Member shall designate a senior executive level representative and an alternate representative with full authority to act on its behalf in carrying out the work of NPCC.

5.2 Board of Directors. The business and affairs of NPCC shall be managed under the direction of the Board.

5.3 Officers. The officers of NPCC shall consist of a President and Chief Executive Officer (CEO), a Secretary and a Treasurer, with assistants as appropriate, and such additional officers as may be approved by the ~~Members~~ Board. Officers, except for the President and CEO, shall hold office for one (1) year ~~or until the next Annual Meeting of Members of NPCC and~~, or in the event of a vacancy, until their successors are duly ~~elected~~ approved and qualified.

5.4 President and CEO. NPCC shall employ a President and CEO and staff, as required, to carry out NPCC's mission and to perform the functions of NPCC. The President and CEO shall be appointed by the Board and shall serve at the Board's discretion. In the event of a vacancy in the ~~presidency~~ position of President and CEO, the Board shall appoint an interim President and CEO who shall serve until such time as the Board appoints a new President and CEO. The authority and responsibilities of the President and CEO shall be defined by the Board.

~~5.5~~ Vacancies.

~~In the event a vacancy occurs in the Board, or in the office of Co-Vice Chair, Secretary, or Treasurer, in the interim between Annual Meetings of Members of NPCC, the Board Chair may designate (i) a person from the same stakeholder voting sector to fill such vacancy with the approval of a majority vote of the Directors, or (ii) in the case of a vacancy in the office of the Secretary or Treasurer, from outside of NPCC to fill such vacancy with the approval of a majority vote of the Directors.~~

~~5.5~~ In the event a vacancy occurs in the office of Board Chair in the period between Annual Meetings of Members of NPCCVacancies. In the event a vacancy occurs in the Board or Board Chair, or in the office of Secretary, Treasurer or other officers as determined by the Board, the Board may fill such vacancy by ~~a two-~~two-thirds (2/3) affirmative majority of the weighted sector votes, with each Director casting ~~one~~ (1) vote within the applicable sector, at a meeting of the Board at which a quorum is present. The term of office of ~~the persons~~ a person designated to fill any such vacancy shall ~~expire on the date of the next subsequent Annual Meeting of Members of NPCC~~extend until such person's successor is approved and qualified. The authority and responsibilities of the Board Chair shall be defined by the Board and set forth in a separate agreement approved by the Board.

5.6 NPCC Activities. NPCC engages in (i) Regional Entity activities-, which are conducted by its Regional Entity division, and (ii) Criteria Services activities-, which are conducted by its Criteria Services division.

ARTICLE VI - BOARD OF DIRECTORS

6.1 Hybrid Board.

(a) The Board shall consist of fourteen (14) Stakeholder Directors, two (2) Independent Directors, an independent Board Chair and the President and CEO.

(b) While serving on the Board or its Committees, the President and CEO shall not be entitled to vote on any Board or Board Committee matters.

(c) Two (2) Co-Vice Chairs from different voting sectors on the Board shall be selected by the Directors and approved by a vote of the entire membership. In the temporary absence of the Board Chair, a Vice Chair designated by a two-thirds (2/3) vote of the Directors shall perform the duties of the Board Chair. The Co-Vice Chairs shall retain the voting rights that they otherwise held by virtue of serving as a Director.

6.2 Term and Compensation.

(a) The term of office of each Stakeholder Director shall be ~~two (2) years. Initial terms of Stakeholder Directors shall be staggered by the Board so that these Board members serve initial terms of one (1) or~~ two (2) years. There shall be no limit on the number of terms which may be served by any Stakeholder Director. Stakeholder Directors shall serve without compensation, including when performing duties of a Co-Vice Chair.

(b) The term of office of each Independent Director shall be two (2) years. Independent Directors may serve up to ~~three (3)~~four (4) terms for a maximum of ~~six (6)~~eight (8) years. Each Independent Director shall be entitled to receive compensation as the Board may from time to time determine in its sole discretion.

(c) The term of office of the Board Chair shall be two (2) years, with no limitations on the number of terms that may be served. Compensation arrangements of the Board Chair shall be contained in a separate written agreement approved by the Board.

6.3 Powers and Duties.

(a) The Board shall develop NPCC policies, direct the activities of NPCC, accept additional entities as Members, review and approve or modify Member voting sector assignment, and make assignments to the committees of NPCC. The Board shall (i) approve a Regional Delegation Agreement, and any amendments thereto, with the ERO that delegates authority from FERC and any additional agreements with appropriate Canadian Provincial regulatory and/or governmental authorities, (ii) approve and oversee NPCC's Regional Reliability ~~Standards Development Process Standard Processes Manual~~ and submit Regional Standards to the ERO for ~~adoption approval~~ by FERC and appropriate Canadian Provincial regulatory and/or governmental authorities, (iii) ~~approve the NPCC Compliance Monitoring and Enforcement Program and~~ oversee the assessment and enforcement of mandatory compliance with Reliability Standards consistent with the Regional Delegation Agreement and agreements with Canadian Provincial regulatory and/or governmental authorities, and (iv) oversee NPCC's assessment and enforcement of mandatory compliance with regionally-specific more stringent reliability criteria through administration of the NPCC Reliability Criteria Compliance and Enforcement Program. The duties of the Board shall also include consideration and resolution of budgetary matters, including the levying of any special assessments and the determination of any annual membership fee for Full Members. Notwithstanding the foregoing, the Board may not amend these Bylaws or establish, modify or eliminate any of NPCC's Regional Reliability Standards or regionally-specific more stringent reliability criteria; nor may the Board add, modify, or eliminate voting sectors established pursuant to these Bylaws.

(b) To carry out the purposes of NPCC, the Board, acting through the President and CEO and NPCC staff shall ~~shall enlist such personnel from Members as may be necessary; and, within the limits of the annual budget, may employ such personnel~~, incur such administrative expenses, and retain such independent professional consulting services for NPCC and the committees of NPCC as it may deem desirable.

6.4 Board Composition. The Board shall consist of an independent Board Chair, the President and CEO, such officers as shall from time to time be determined by the Board, and Directors in eight (8) voting sectors comprising seven (7) stakeholder sectors and one (1) independent sector, as described below:

Sector (1). Transmission Owners (Maximum of 2, with no more than 1 per Balancing Authority Area)

Sector (2). Reliability Coordinators (Maximum of 2)

Sector (3). Transmission Dependent Utilities (~~“TDUs”~~); Distribution Companies and Load-Serving Entities (~~“LSEs”~~) (Maximum of 2)

Sector (4). Generator Owners (Maximum of 2)

Sector (5). Marketers, Brokers and Aggregators (Maximum of 2)

Sector (6). Regulators (Maximum of 2)

Sector (7). Sub-Regional Reliability Councils, Customers, Other Regional Entities and Interested Entities (Maximum of 2)

Sector (8). Independent Directors (Maximum of 2)

6.5 Quorum and Voting Requirements for the Board.

(a) At any meeting of the Board, attendance in person ~~or by proxy~~ by at least one-half (1/2) of the Stakeholder Directors in each of at least sixty percent (60%) of the ~~stakeholders-stakeholder~~ sectors and at least one (1) Independent Director shall constitute a quorum. Except as otherwise expressly provided in NPCC's Certificate of Incorporation, these Bylaws or applicable law, actions by the Board shall be approved upon receipt of a two-thirds (2/3) affirmative majority of the weighted sector votes, with each Director casting one (1) vote within the applicable sector, at a meeting of the Board at which a quorum is present. The Board Chair shall also be entitled to cast one (1) vote during any meeting of the Board at which a quorum is present to prevent any deadlock. The following process shall be used to determine if there are sufficient affirmative votes:

- The number of votes cast is the sum of affirmative and negative votes, excluding abstentions.
- The number of affirmative votes cast in each voting sector will be divided by the sum of affirmative and negative votes cast in that voting sector to determine the fractional affirmative vote for each voting sector. Abstentions will not be counted for the purposes of determining the fractional affirmative vote for a voting sector.
- The sum of the fractional affirmative votes from all sectors divided by the number of sectors voting will be used to determine if a two-thirds (2/3) affirmative majority has been achieved. A sector will be considered as "voting" if any Director of the sector casts either an affirmative or a negative vote.

(b) An action of the Board will be approved if the sum of fractional affirmative votes from all sectors divided by the number of voting sectors is at least two-thirds (2/3).

6.6 Board Action Without Meeting. Any action required, or permitted to be taken at a meeting of the Board, may be taken without a meeting if the action is taken by all members of the Board. The action must be evidenced by one or more written consents (which may be in electronic form) describing the action taken, signed by each Director, and included in the ~~minute book of~~ NPCC Board's secure portal. Any action taken under this Section 6.6 shall be deemed effective when the last Director signs the consent, unless the consent specifies a different effective date.

6.7 Election and Removal of Directors.

(a) ~~The Initial Board shall be the persons named in the Certificate of Incorporation and shall serve until the first Annual Meeting of the Members. The Initial Board shall nominate a list of Stakeholder Directors consistent with the Board composition requirements set forth in Bylaws at such time. At the first meeting of the Members, the Members from each sector shall vote to elect the Stakeholder Directors in their respective sector.~~ Stakeholder Directors shall be elected by a vote of the majority of the Members in the respective stakeholder sector. No stakeholder sector shall elect more than two Stakeholder Directors in such sector. No Member or any Affiliate of a Member may designate more than one (1) Stakeholder Director to represent such Member or Affiliate. Stakeholder Director candidates will be selected in accordance with the Rules of Procedure set forth in Schedule BA.

(b) Individual Members may nominate an Independent Director candidate by petition. Each petition shall present only one Independent Director candidate who has met requirements in the Rules of Procedure set forth in Schedule BA. Petitions shall be received by the Corporate Governance and Nominating Committee on a date set by the committee. The names on the petition shall reflect at least ten percent (10%) of the Members of NPCC as of January 1 of the year in which the election is to be held. Upon receipt of a valid petition, the Corporate Governance and Nominating Committee shall add the petitioned candidate's name to the slate of director nominees to be presented to the Members for approval at the Annual Meeting of Members.

(c) Independent Directors shall be nominated in accordance with the Rules of Procedure set forth in Schedule B-A and recommended by the Board to the Members for consideration and approval. In order to contribute to the effective functioning of the Board and NPCC, Independent Directors will be drawn from diverse backgrounds and will possess a broad range of industry expertise, perspectives, experiences, skill sets and knowledge. An individual is eligible to serve as an Independent Director if such individual (i) is not an officer or employee of NPCC, (ii) is not an officer, director or employee of a Member, (iii) is not an officer, director or employee of any entity that would reasonably be perceived as having a direct financial interest in the outcome of Board decisions, and (iv) does not have a relationship that would interfere with the exercise of independent judgment in performing the responsibilities of a director. Independent Directors shall be elected by an affirmative vote of the majority of the Members present at a meeting where a quorum exists.

(d) ~~A~~ Stakeholder Director may be removed for cause by at least two-thirds (2/3) of the Members in their respective sector at a regular meeting of the Members or at a special meeting called for that purpose; *provided* that there is a quorum of that sector's Members present at that meeting; and *provided, further*, that there is a quorum of not less than a majority present at the meeting of Directors at which such action is recommended.

(e) An Independent Director may be removed for cause by the affirmative vote of at least two-thirds (2/3) of the Directors present at a meeting called for that purpose; *provided* that there is a quorum of not less than ten (10) Directors present at the meeting of Directors at which such action is taken.

(f) For purposes of Section 6.7(d) and (e), grounds for removal "for cause" include, but are not limited to, failure to adequately perform either Board duties ~~and committee or Board Committee~~ responsibilities, a felony conviction, misappropriation of funds, mental incapacity, and misconduct. In accordance with the N-PCL, an action to procure a judgment removing any Director for cause may also be brought by the Attorney-General of the State of New York.

6.8 Indemnification. -Subject to the limitation set forth in Section 6.9 below, NPCC shall indemnify its Directors, officers, ~~employees~~ and other corporate agents, ~~including volunteers participating in good faith in the activities of NPCC and persons serving on duly constituted committees of NPCC~~ (collectively, “NPCC Indemnitees”), and may indemnify employees, in each case, up to the full extent ~~from time to time~~ permitted by the N-PCL and other applicable law. Such right of indemnification shall inure to the benefit of the legal representative of any NPCC Indemnitee. The foregoing right of indemnification shall be in addition to, and not in restriction or limitation of, any right such NPCC Indemnitee may have under applicable law (including the N-PCL).

6.9 Limitation on Indemnification. -The maximum amount of losses (~~i.e.g.~~, damages, judgments, fines, penalties, liability, costs and expenses, including reasonable attorneys’ fees and expenses) for which NPCC will be obligated to indemnify the NPCC Indemnitees under Section 6.8 will be the policy limit of directors’ and officers’ (“D&O”) liability insurance set forth in the D&O insurance policy maintained by NPCC.

ARTICLE VII ~~ARTICLE VII~~ - COMMITTEES ~~AND HEARING BODY~~

7.1 Number of Committees of the Corporation. NPCC shall have such technical committees, subcommittees, task forces and other working groups ~~as the Board may deem appropriate, including which may include~~ a Regional Standards Committee (~~RSC~~ “RSC”), a Compliance Committee (~~CC~~, “CC”) and a Reliability Coordinating Committee (~~RCC~~, NPCC’s principal technical committee), a ~~Public Information Committee (PIC) and a Finance and Audit Committee (FAC):~~ “RCC”).

7.2 Board Committees. NPCC shall have the following Board Committees and may have additional Board Committees, as determined by the Board.

(a) Finance and Audit Committee

(b) Corporate Governance and Nominating Committee

(c) Management Development and Compensation Committee

(d) Pension Committee

7.2.7.3 Finance and Audit Committee. The Finance and Audit Committee shall be comprised of at least three (3) members of the Board and shall include one (1) Director which shall be designated a finance and audit committee financial expert by the Board. A chairperson of the Finance and Audit Committee shall be designated by the Board from among the members of the committee.

7.3.7.4 Board Committee Structure. Board Committees shall be comprised of at least three Board Directors. Board Committee members shall be nominated and approved by the Board in accordance with guidelines established by the Board. Each Board Committee shall have a chair designated by the Board from among the members of the Board Committee. Quorum and voting rules applicable to the Board shall also apply to voting on any such ~~NPCC decision-making committees~~ Board Committee, unless otherwise determined by the Board. Each ~~committee~~ Board Committee shall establish a charter ~~or scope of work~~, which shall be presented to the Board for approval.

~~7.4 — Hearing Body. The Hearing Body shall conduct all compliance proceedings in accordance with the hearing procedures set forth in the NERC Hearing Procedure.~~

ARTICLE VIII - MEMBERS' VOTING RIGHTS

8.1 Quorum and Voting Requirements for Meetings of Members.

(a) At any meeting of the Members of NPCC, attendance in person or by proxy by one-half (1/2) of the Members in each of at least sixty percent (60%) of the stakeholder voting sectors on the roster of Members maintained by NPCC shall constitute a quorum. Except as otherwise expressly provided in NPCC's Certificate of Incorporation, these Bylaws or applicable law, actions by the Members of NPCC shall be approved upon receipt of a two-thirds (2/3) affirmative majority vote of the sectors at a meeting of the Members of NPCC at which a quorum is present, where (i) each Member shall have one (1) vote within a sector, except that if less than one-half (1/2) of the Members in a sector are present, in person or by proxy, at the meeting, the vote of that sector shall be weighted by a percentage equal to the number of Members of the sector present in person or by proxy at the meeting divided by one-half (1/2) of the Members in the sector; (ii) the vote of each sector of NPCC shall be allocated for and against the proposed action based on the respective percentages of votes cast for and against the proposed action by the Members in that sector voting in person or by proxy; and (iii) the proportions of the votes of each sector allocated for and against the proposed action shall be summed to determine the total number of votes for and against the proposed action.

- (b) The following process shall be used to determine if there are sufficient affirmative votes:
- The number of votes cast will be the sum of affirmative and negative votes, excluding abstentions.
 - The number of affirmative votes cast in each sector will be divided by the sum of affirmative and negative votes cast to determine the fractional affirmative vote for each sector. Abstentions will not be counted for the purposes of determining the fractional affirmative vote for a sector.
 - The sum of the fractional affirmative votes from all sectors divided by the number of sectors voting will be used to determine if a two-thirds (2/3) affirmative majority has been achieved. (A sector will be considered as "voting" if any Member of the sector casts either an affirmative or a negative vote.)

8.2 Waivers of Notice of Meetings of Members; Member Meeting Adjournments. Notice of a Meeting of Members need not be given to any Member who signs a waiver of notice, in person or by proxy, whether before or after the meeting. The attendance of any Member at a meeting, in person or by proxy, without protesting prior to the conclusion of the meeting the lack of notice of such meeting, shall constitute a waiver of notice of the meeting by such Member. When any Meeting of Members is adjourned to another time or place, it shall not be necessary to give notice of the adjourned meeting if the time and place to which the meeting is adjourned are announced at the meeting at which the adjournment is taken, and if at the adjourned meeting only such business is transacted as might have been transacted at the original meeting.

8.3 Actions Without a Meeting of Members. Any action, required or permitted to be taken at a Meeting of Members, may be taken without a meeting if the action is consented to in writing by the minimum number of Members that would be required to approve the action at a Meeting of Members at which all Members were present. The call for action without a Meeting of Members may be initiated by the Board Chair or by a number of Members constituting at least ten percent (10%) of the Members on the roster of Members maintained by NPCC, which number shall include Members in at least four (4) of the voting sectors. Notice of the proposal for action without a meeting shall be provided to all Members on the roster of Members maintained by NPCC at least seven (7) days prior to the date established for the tabulation of consents. The Members shall receive written notice of the results within fourteen (14) days of the action vote, and all written responses of the Members shall be filed with the minutes of proceedings of Members.

8.4 Meeting of Members to be Open. Notice to the public of the dates, places, and times of Meetings of Members, and all non-confidential material provided to the Members, (via a BOD approved method) shall be posted on NPCC's web site given at approximately the same time that notice is given to the Members. Meetings of Members shall be open to the public, subject to reasonable limitations due to the availability and size of in-person meeting facilities; *provided* that the meeting may be held in or adjourn to closed session to discuss matters of a confidential nature, including, but not limited to, personnel matters, compliance and enforcement matters, litigation, or commercially sensitive or critical energy infrastructure information of any entity.

8.5 Electronic Voting. Upon completion of applicable processes that permit parties to comment on the subject issue(s), electronic voting on matters before the Members, Board or any committee is permitted. A quorum will be determined to exist for purposes of conducting an electronic vote when NPCC receives completed ballots from two-thirds (2/3) of the total number of outstanding ballots. In the event that a quorum exists for purposes of an electronic vote but the matter has not been resolved, NPCC may continue to solicit additional responses in order to resolve the matter by electronic voting. In the event that quorum has not been achieved for purposes of an electronic vote, NPCC may continue to solicit electronic ballots, including abstentions, to obtain quorum and resolve the matter.

ARTICLE IX - MEMBERS' RIGHTS AND OBLIGATIONS, ~~AND ORGANIZATIONAL~~ PROCESS

9.1 Members' Rights and Obligations. All General and Full Members shall have the following rights and obligations:

- (1) Rights:
 - a. Attendance at all meetings of the ~~general membership~~ General Membership of NPCC; and, subject to procedures established by the committees and to the terms of applicable confidentiality agreements, attendance at meetings of NPCC's committees of the corporation, task forces and any other such NPCC groups.
 - b. Access to minutes of each committee of the corporation, subcommittee, task force or any other NPCC group, subject to procedures established by the committees and to the terms of applicable confidentiality agreements.

- c. Vote to amend these Bylaws in accordance with Section 19.1.
- d. Vote to establish, modify or eliminate NPCC Regional Reliability Standards and programs.
- e. For Full Members only: Vote to establish, modify or eliminate NPCC's regionally-specific more stringent reliability criteria.

(2) Obligations:

- a. Each Member shall agree, in writing, to accept the responsibility to promote, support, and comply with the purposes and policies of NPCC as set forth in its Certificate of Incorporation and Bylaws as from time to time adopted, approved or amended.
- b. Each Member acknowledges that it has the responsibility to plan and design its bulk power system components, where applicable, and conduct its operations, consistent with its registration, in compliance with ~~ERO~~-Reliability Standards, Regional Reliability Standards and Regional Variances consistent with applicable laws, regulations, permits and licenses.
- c. Each Member agrees to submit such data and reports as required by NPCC in order to perform compliance enforcement obligations delegated to it by the ERO, subject to established procedures and to the terms of applicable confidentiality agreements.
- d. In addition, each Full Member shall:
 - (i) plan and design its generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area, as identified utilizing a reliability impact-based methodology, in compliance with criteria, guides and procedures established by NPCC and applicable ERO-Reliability Standards;
 - (ii) conduct its operations in compliance with criteria, guides and procedures established by NPCC and applicable ~~ERO~~-Reliability Standards, and consistent with applicable laws, regulations, permits and licenses;
 - (iii) assure that, whenever it enters into arrangements with non- ~~members~~ Members which could have an impact on the reliability of the international, interconnected Bulk Power System in Northeastern North America, the arrangements will not adversely impact the ability of the Full Members to comply with regionally-specific more stringent reliability criteria established by NPCC, ERO-Reliability Standards, or the criteria of regional reliability organizations established in areas in which the facilities used for such arrangements are located;
 - (iv) notify NPCC of its existing facilities and operating procedures and of its plans for major additions or modifications affecting the operation of the interconnected systems; and shall report to NPCC any decision as to

significant alterations or changes proposed for their respective electric systems, whether in generation, transmission, inter-system communication or control and protective equipment, or in operating procedures; such report to be submitted promptly and, except in cases of emergency, before final commitments are undertaken or changes in operating procedures become effective;

- (v) promptly notify NPCC and all other Members in writing or electronically if its generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area, as identified utilizing a reliability impact-based methodology, are not being designed or operated, or its operations are not being conducted, in compliance with ~~Criteria~~criteria, ~~Guides~~guides, and ~~Procedures~~procedures established by NPCC, stating its reasons, and providing its plan and schedule to achieve compliance;
- (vi) submit such data and reports as required by the ~~NPCC Reliability Criteria~~NPCC Reliability Criteria Compliance and Enforcement Program and to abide by the compliance assessments and sanctions prescribed by NPCC's ~~enforcement~~Reliability Criteria Compliance and Enforcement Program procedures, subject to Alternative Dispute Resolution; and
- (vii) undertake and perform the administrative and financial obligations described in Article XIII of these Bylaws.

9.2 ~~Standards Development Procedure~~Regional Standard Processes Manual. NPCC's ~~shall develop a~~ Regional ~~Reliability Standards Development Procedure~~Processes Manual that provides the design-basis approach to a consensus building process by which NPCC may develop Regional Reliability Standards and Regional Variances to be proposed to the ERO for ~~adoption approval~~adoption approval; ~~under delegated authority~~ by the FERC and the Canadian Provincial regulatory and/or governmental authorities.

9.3 ~~Procedures for Enforcing Compliance with Reliability Standards. Where regulatory approval has been obtained or governmental authority has been provided, upon the determination of NPCC compliance staff and verification by the President and CEO that a user, owner or operator of the Bulk Power System has violated a reliability standard, NPCC shall enforce compliance for such violation, pursuant to procedures and processes that shall be specified in the NERC Compliance Monitoring and Enforcement Program. Such procedures and processes shall provide for reasonable notice and opportunity for hearing. Any sanction imposed for a violation of a Reliability Standard shall bear a reasonable relation to the seriousness of the violation and shall take into consideration circumstances surrounding the violation and efforts of the owner, operator, or user of the Bulk Power System to remedy the violation in a timely manner. Subject to any necessary action by any applicable governmental authorities, no sanction imposed for a violation of a reliability standard shall take effect (i) until the thirty-first (31st) day after NPCC, where authorized by law or agreement, files with the FERC or other applicable Canadian Provincial regulatory and/or governmental authorities notice of the sanction and the record of the proceedings in which the violation and sanction were determined, or (ii) such other date as ordered by the FERC or other applicable Canadian Provincial regulatory and/or governmental authorities or as prescribed by applicable law.~~

ARTICLE X - FULL MEMBERS: ENFORCEMENT OF MANDATORY COMPLIANCE WITH REGIONALLY-SPECIFIC CRITERIA

10.1 Compliance Enforcement. Subject to approval of the Full Members, NPCC shall establish an NPCC Reliability Criteria Compliance and Enforcement Program, including matrices for measuring compliance, levying non-monetary sanctions, and developing procedures for Alternative Dispute Resolution. Such program shall be administered by the Board. The Reliability Coordinating Committee, with the full cooperation of each Member, shall expeditiously evaluate, as appropriate, alterations or measures designed to correct any assessed non-compliance and shall report such studies to the Board.

ARTICLE XI - MEETINGS

11.1 Meetings. Meetings of NPCC may be held on such dates as the Board may from time to time determine and shall be held in such places as the Board may from time to time designate, in the state or outside the state. Special meetings may be called from time to time by the Board Chair, the Board or by a number of Members constituting at least ten percent (10%) of the Members on the roster of Members maintained by NPCC, which number shall include Members in at least four (4) of the voting sectors. Except as provided in Section 19.1, notice of all meetings, stating the time and place, shall be given by NPCC in writing to each Member by issuing the notice at least one (1) week prior to the date of the meeting. The Secretary, Assistant Secretary, or, in their absence, a secretary *pro tempore* designated by either the Board Chair or the President and CEO, shall keep the records of NPCC meetings.

11.2 Proxies. When appropriate, Members, ~~Directors and committee members~~ may appoint a proxy, consistent with NPCC proxy procedures, to vote or otherwise act for such Member, ~~Director or committee member~~ at any meeting. Such participation by proxy shall constitute attendance for purposes of quorum requirements. For the avoidance of doubt, proxy voting by Directors and Board Ceommittee members is not permitted.

11.3 Action by Remote Communication. Participation by remote communication shall constitute presence in person at a meeting of the Board as long as all persons participating in the meeting can hear each other at the same time and each can participate in all matters, including, without limitation, the ability to propose, object to, and vote upon a specific action to be taken by the Board.

~~11.3—Action by Remote Communication. A meeting among the Members or the Board by means of a communication through which the participants may simultaneously hear each other during the conference shall constitute a meeting of the Members or the Board, as the case may be, if the same notice is given of the conference as would be required for a meeting and if the number of persons participating in such conference constitute a quorum. Participation in any meeting by this means shall constitute personal presence at such meeting.~~

ARTICLE XII - BUDGET

12.1 Annual Budget. The Board shall ~~prepare or~~ cause to be prepared an annual budget for the administrative and other expenses of NPCC, including the expenditures for the fiscal year for any material special projects undertaken by NPCC and reasonable and proper reserves and provisions for contingencies, an accompanying business plan for NPCC, and a funding mechanism including any supplemental funding mechanism, for each fiscal year. The annual budget, business plan, and funding mechanism of NPCC shall be developed in the form and format and on the schedule stipulated by the ERO

for a fiscal year commencing on January 1 and ending on December 31. Each annual budget, business plan, and funding mechanism shall be approved by the Board at a regular meeting or a special meeting of the Board duly called for that purpose. The Board shall approve each annual budget, business plan, and funding mechanism on or before the date stipulated by the ERO during the year prior to the start of the fiscal year in order to allow for timely submittal of the approved annual budget, business plan, and funding mechanism to the FERC and the applicable Canadian Provincial regulatory and/or governmental authorities.

12.2 Budget Remands. If the ERO or a regulatory and/or governmental authority by order remands an annual budget, business plan, or annual, modified, or supplemental funding mechanism, the Board shall promptly address such order through appropriate follow-up measures with the Members and regulatory and/or governmental authorities.

12.3 Criteria Services Budget. Each Full Member shall be notified of the annual administrative expense budget for the Criteria Services division, on or about December 1 of the preceding year.

ARTICLE XIII - FUNDING

13.1 Funding Sources. NPCC's annual administrative expenses, including any special assessments approved by the Board, shall be apportioned and funded as follows:

- (a) Funding of NPCC ~~General Member~~ Regional Entity division activities shall be through mechanisms established by the ERO, FERC and applicable Canadian Provincial regulatory and/or governmental authorities.
- (b) General Members shall not be assessed an annual membership fee.
- (c) Full Members, other than Full Members that perform the Balancing Authority function, shall not be assessed an annual membership fee.
- (d) Full Members that perform the Balancing Authority function shall be assessed and pay a proportional share of the expenses for criteria services in proportion to the ratio of the second previous year's Net Energy for Load within the Balancing Authority Area to the aggregate Net Energy for Load within all Balancing Authority Areas in Northeastern North America. NPCC will directly assign Criteria Services division costs to a Balancing Authority Area or ~~entity Full Member~~ where significant costs are incurred by NPCC for such Balancing Authority Area or ~~entity Full Member~~.
- (e) No Full Member shall, without its consent, be responsible for expenses of NPCC in any one calendar year in excess of its assessed portion of the amount budgeted for the Criteria Services division for that year; *provided, however*, that special assessments may be separately budgeted and their cost allocated by the Board to the Full Members that perform the Balancing Authority function.

ARTICLE XIV - TERMINATION OF MEMBERSHIP AND CESSATION OF CRITERIA SERVICES DIVISION RELIABILITY ACTIVITIES

14.1 Termination. All General Members and Full Members, other than Full Members that perform the Balancing Authority function, may terminate their ~~membership~~-Membership in NPCC at any time upon fifteen (15) days' written or electronic notice ~~without liability~~ to NPCC. A Full Member that performs the Balancing Authority function may terminate its rights and obligations under these Bylaws (other than its obligation to pay its proportionate share of the Criteria Services division expenses of NPCC, including special assessments, if applicable, for the full calendar year within which such termination is effective) at any time upon one (1) year's written notice to the President and CEO; whereupon, it shall cease to be a Full Member of NPCC as of the date such termination is effective. The President and CEO shall promptly inform all Members of receipt of any such notices.

14.2 Cessation of Criteria Services Division Reliability Activities. The Full Members of NPCC may elect by a majority vote to cease Criteria Services division reliability activities.

ARTICLE XV - CONFLICTS OF INTEREST

~~15.1—Conflicts of Interest Policy. NPCC has developed a Code of Conduct that sets forth NPCC policies with respect to, among other things, conflicts of interest. On an annual basis, Directors shall evidence their compliance with NPCC conflict of interest principles by either: (i) signing an Individual Participant Implementation Agreement and thereby agreeing to comply with NPCC's Code of Conduct to the best of his/her ability; or (ii) agreeing that the execution of a Member Entity Implementation Agreement by the employer of such Director evidences the Director's agreement to be bound by its employer's Code of Conduct when performing NPCC activities. The Board shall establish similar Code of Conduct compliance requirements for NPCC staff and membership personnel participating on committees, task forces, and working groups as appropriate.~~

15.1 Conflicts of Interest Policy. All Directors and NPCC representatives shall comply with NPCC's policies that prohibit conflict of interest including its Conflict of Interest Policy.

ARTICLE XVI - GENERAL

16.1 Member Liability. No Member shall be liable for the failure of any other Member to perform its obligations hereunder.

16.2 No Personal Liability. No NPCC officer, member of the Board or ~~member~~-Member of any other NPCC committee or group, or employee of NPCC shall be ~~personally~~ liable to NPCC or any ~~member~~-Member thereof, for damages for breach of any duty owed to NPCC or any ~~member~~-Member thereof, except for liabilities arising from breach of any duty based upon an act or omission (i) in breach of the duty of loyalty owed to NPCC ~~or any individual member,~~ (ii) not in good faith or involving a knowing violation of law, or (iii) resulting in receipt of an improper personal benefit by such NPCC officer, member of the Board or member of any other NPCC committee or group, or employee of NPCC. Neither the amendment nor repeal of this paragraph, nor the adoption of any provision of these Bylaws inconsistent with this paragraph, shall eliminate or reduce the protection offered by this paragraph to an NPCC officer, ~~member~~-Member of the Board or ~~member~~-Member of any other such NPCC committee or group, or employee of NPCC in respect of any matter which occurred, or any cause of action, suit or claim which, but for this paragraph, would have accrued or arisen, prior to such amendment, repeal, or adoption.

~~16.3 Binding Nature. Those entities listed as Members on Schedule A and subsequent applicants granted membership in NPCC shall be deemed to have accepted and to be bound by all the terms and conditions of these Bylaws, as effective on January 1, 2012.~~

ARTICLE XVII - CONTRACTS, CHECKS, DEPOSITS

17.1 Contracts. The Board may authorize, by resolution, any officer or officers, agent or agents of NPCC, in addition to the officers so authorized by these Bylaws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of NPCC, and such authority may be general or confined to specific instances.

17.2 Checks, Drafts or Orders. All checks, drafts or orders for the payment of money, notes or other evidences of indebtedness issued in the name of NPCC shall be signed by such officer or officers, or agent or agents of NPCC and in such manner as shall from time to time be determined by resolution of the Board. In the absence of such determination by the Board, such instruments shall be signed by the President and CEO.

17.3 Deposits. All funds of NPCC shall be deposited from time to time to the credit of NPCC in such banks, trust companies or other depositories as the Board may select.

ARTICLE XVIII - DISSOLUTION

18.1 Distribution of Assets. Upon dissolution of NPCC, in accordance with ~~paragraph EIGHTH of~~ the Certificate of Incorporation, the remaining assets of NPCC after payment of debts shall be distributed in the manner determined by the Board, provided that (i) no part of the assets shall be distributed to any Director, and (ii) the distribution of assets shall be consistent with the requirements of Section 501(c)(6) of the United States Internal Revenue Code of 1986, as amended.

ARTICLE XIX - AMENDMENT OF BYLAWS

19.1 Amendment of Bylaws. These Bylaws may be modified, amended or repealed by an affirmative vote of two-thirds (2/3) of the Members entitled to vote at a meeting at which quorum is present, or by electronic voting in accordance with Section 8.5. Written notice of the subject matter of the proposed changes to the Bylaws shall be provided, as appropriate, to the Members no less than fourteen (14) nor more than sixty (60) days prior to the date of the meeting of the Members at which the vote is to be taken. Any modification, amendment or repeal of these Bylaws shall be subject to any application requirements for filing with or approval by NERC and FERC and other applicable governmental authority.

~~**ARTICLE XX - EFFECTIVE DATE**~~

~~20.1 Effective Date. These Bylaws shall take effect on January 1, 2012.~~

SCHEDULE A

MEMBERS OF NPCC Sector 1, Transmission Owners

Bangor Hydro Electric Company	General
Central Hudson Gas and Electric Corporation	Full
Central Maine Power Company	Full
Consolidated Edison Company of New York, Inc.	Full
Hydro One, Inc.	Full
Hydro-Quebec TransÉnergie	Full
Long Island Power Authority	Full
National Grid USA	Full
New Brunswick Power Transmission Corporation	Full
New Hampshire Transmission, LLC	Full
New York Power Authority	Full
New York State Electric & Gas Corporation	Full
Northeast Utilities	Full
Nova Scotia Power, Inc.	Full
NSTAR Electric Company	Full
Orange & Rockland Utilities, Inc.	Full
Rochester Gas & Electric Corporation	Full
The United Illuminating Company	Full
Vermont Transco	Full

Sector 2, Reliability Coordinators

Hydro-Québec TransÉnergie	Full
Independent Electricity System Operator	Full

ISO New England, Inc. — Full

New Brunswick System Operator — Full

New York Independent System Operator — Full

Braintree Electric Light Department

— General



Consolidated Edison Company of New York, Inc. — Full

Hingham Municipal Lighting Plant — General

Hydro One, Inc. — Full

Hydro Québec Distribution — Full

Groton Electric Light — Full

Ipswich Municipal Light Department — Full

Long Island Power Authority
— Full

†

Marblehead Municipal Light Department

— General

National Grid USA
— Full

†

New York Power Authority — Full

Northeast Utilities — Full

Orange and Rockland Utilities, Inc. — Full

Princeton Municipal Light Department — General

Shrewsbury Electric & Cable Operations — General

Sterling Municipal Light Department — Full

Sector 4, Generator Owners

AES North America Generation	General
Consolidated Edison Company of New York, Inc.	Full
†	
Covanta Energy	General
Dominion Resources Services, Inc.	Full
Dynegy, Inc.	General
Entergy Nuclear Northeast	Full
Exelon Generation Company, LLC	Full
First Wind Energy Marketing, LLC	Full
International Power America	General
Long Island Power Authority	Full
Massachusetts Municipal Wholesale Electric Company	Full
New York Power Authority	Full
NextEra Energy Resources, LLC	Full
Northeast Utilities	Full
Nova Scotia Power, Inc.	Full
NRG Energy, Inc.	Full
Ontario Power Generation, Inc.	Full
PSEG Power Connecticut LLC	General
PSEG Power New York, LLC	General
PurEnergy LLC	General
TransCanada	General
US Power Generating Company	General

Wheelabrator Westchester LP ————— General

Sector 5, Marketers, Brokers and Aggregators

Brookfield Power Corporation ————— Full

Consolidated Edison Company of New York, Inc. — Full

Consolidated Edison Energy/Development, Inc. — Full

Constellation Energy Commodities Group, Inc. — Full

HQ Energy Marketing, Inc. ————— Full

HQ Energy Services (U.S.), Inc. ————— Full

Long Island Power Authority ————— Full

Massachusetts Municipal Wholesale Electric Company Full

Nalcor Energy ————— General

New York Power Authority ————— Full

PPL EnergyPlus, LLC ————— Full

PSEG Energy Resources & Trade LLC ————— General

Shell Energy North America ————— Full

Utility Services, Inc. ————— Full

Windy Bay Power LLC ————— General

Sector 6, State and Provincial Regulatory and/or Governmental Authorities

Long Island Power Authority ————— Full

Maine Public Utilities Commission ————— General

New Hampshire Public Utilities Commission — General

New York Power Authority ————— Full

New York State Department of Public Service — General

Vermont Department of Public Service — General

Sector 7, Sub-Regional Rel Councils, Customers, Other Regional Entities and Interested Entities

4g Technologies, LP	General
Ascendant Energy Solutions, Inc.	Full
ERLPhase Power Technologies	General
International Business Machines Corporation	General
McCoy Power Consultants, Inc.	General
Midwest Reliability Organization	General
New York State Reliability Council, LLC	Full
Oxbow Sherman Energy, LLC	General
PLM, Inc.	General
SGC Engineering, LLC	General
VIASYN, Inc.	General

SCHEDULE B – RULES OF PROCEDURE (SELECTION OF NPCC DIRECTORS)

1. Selection of Director Candidates

In selecting candidates to serve as Stakeholder Directors and Independent Directors on the NPCC Board of Directors (“*Board*”), NPCC's Corporate Governance and Nominating Committee (“*CGNC*”) will endeavor to find individuals of high integrity who have a solid record of accomplishment in their chosen fields and who display the independence of mind and strength of character to effectively represent the best interests of NPCC. Candidates will be selected for their ability to exercise good judgment, and to provide practical insights and diverse perspectives. Consistent with its charter, the CGNC is responsible for screening director candidates, establishing criteria for nominees, and recommending a slate of nominees to the Board for consideration. The slate of director nominees will be presented to the Members for approval at the Annual Meeting of Members.

2. Criteria for Board Service

The CGNC will consider and recruit candidates for director nominees based upon recommendations from Members, current directors, NPCC management, outside consultants or search firms engaged for the purpose, and any other source recommended by the Board. All candidates recommended will be evaluated for nomination based on the criteria set forth below:

- (a) Stakeholder Directors must reflect the geographic diversity of the NPCC Region, which comprises the ~~State-state~~ of New York, ~~the six New England States of the United States~~ Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, and the Canadian ~~Provinces~~ provinces of Ontario, Québec, New Brunswick and Nova Scotia.
- (b) Directors must possess corporate and business experience at the senior-executive level, or the equivalent thereof.
- (c) Each Stakeholder Director must be an officer or senior executive-level employee of a Member of NPCC.
- (d) Each Independent Director must be an individual who:
 - (i) is not an officer or employee of NPCC;
 - (ii) is not an officer, director or employee of a Member;
 - (iii) is not an officer, director or employee of any entity that would reasonably be perceived as having a direct financial interest in the outcome of Board decisions; and
 - (iv) does not have a relationship that would interfere with the exercise of independent judgment in performing the responsibilities of a director of NPCC.
- (e) Directors must have no actual or potential conflicts of interests that would or could interfere with the diligent performance of the responsibilities of a Board member in the best interests of NPCC.

ReliabilityFirst Proposed Bylaws Amendments

Action

Approve amendments to the ReliabilityFirst Bylaws.

Background

Between 2020 and 2021, ReliabilityFirst prepared revisions to its Bylaws that were predominately minor language changes to improve overall clarity and precision throughout. These revisions included: (i) updating references to the Articles of Incorporation; (ii) revising language to more accurately describe ReliabilityFirst Board activities, including removing language stating that the ReliabilityFirst Board may establish and impose penalties and sanctions for noncompliance; and (iii) incorporating edits to comport with Delaware Corporate Law Changes.

The ReliabilityFirst Board approved the proposed Bylaw amendments on June 4, 2020 and June 17, 2021. The ReliabilityFirst Members approved the proposed revisions, as a consolidated package, on August 6, 2021.

Management recommends that the Board approve the proposed revisions. Upon Board approval, the proposed revisions will be submitted to the Federal Energy Regulatory Commission for approval, .

Summary of ReliabilityFirst Proposed Bylaw Amendments

Below is a summary of specific proposed changes:

Governance

- Section 7.1. General:
Revised this section to clarify that the composition of ReliabilityFirst's Board and terms of office should be as provided in the Bylaws, rather than "the Certificate of Incorporation and these Bylaws if not inconsistent therewith."
- Section 7.2. Management of Corporation:
Deleted language stating that the ReliabilityFirst Board might establish and impose penalties and sanctions for noncompliance as that language did not describe the role of the ReliabilityFirst Board.

Corrected and simplified language stating that the ReliabilityFirst Board could approve, revise, and enforce Regional Reliability Standards, to state that the ReliabilityFirst Board could "create Regional Reliability Standards."

- Section 7.7(b) Vacancies:
Revised this section to provide that upon an increase in the number of directors on the ReliabilityFirst Board to fifteen, the independent directorship created might be filled for a term through the next annual meeting of the Members, at which time the chosen director's first term commences after election. This replaced duplicative language from an earlier sentence describing vacancies where a director resigns or is removed, which

also stated that a permanent successor would be elected for the remainder of such director's unexpired term.

Limitations on Liability

- Section 15.2. Limitations on Liability:
Updated this, as in Section 7.1, to delete references to the Certificate of Incorporation.

Indemnification

- Section 15.3 Right to Indemnification:
Updated this section to comport with changes to Delaware law as follows.

Section 15.3.1 Indemnified Persons:

Updated this provision to comport with changes in Delaware law and added limiting language stating that indemnification "shall only apply if the Indemnified Person is successful on the merits or otherwise in defense of any Proceeding. Such indemnification shall not apply if the Indemnified Person is adjudged to have acted in bad faith, acted contrary to the interests of the Corporation, or engaged in unlawful conduct unless such indemnification is mandatory under the DGCL."

Section 15.3.2 Denial of Authorization for Certain Proceedings:

Added a sentence that the provision would not apply when Delaware law makes indemnification of a Director or Officer mandatory.

Section 15.3.3 Certain Defined Terms:

Updated definitions and added a sentence that "[a]t the discretion of the Corporation, the Corporation may elect to indemnify any of its employees or agents."

Section 15.3.4 Expenses:

Included language that ReliabilityFirst reserves the right to impose certain restrictions upon advancement of Expenses.



RELIABILITY FIRST

AMENDED AND RESTATED BYLAWS

OF

ReliabilityFirst Corporation

a Delaware nonprofit corporation

Adopted December 19, 2006

Amended September 21, 2007¹

Amended December 6, 2007²

Amended May 22, 2008³

Amended December 4, 2008⁴

Amended December 1, 2011⁵

Amended August 17, 2012⁶

Amended May 15, 2019⁷

Amended October 3, 2019⁸

Amended August 6, 2021⁹

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¹ Section 5.9.2

² Sections 1.2, 1.26, 16.1

³ Sections 1.12, 7.13, 7.14

⁴ Sections 5.8, 6.8, 6.9, 6.10.2, 6.10.4, 7.4, 7.5, 7.7, 7.9, 7.11, 7.13

⁵ Sections 1.24, 2.2, 6.8, 7.4, 7.7

⁶ Sections 2.1, 2.2

⁷ Section 7.14

⁸ Sections 7.2, 7.4, 7.5, 7.10

⁹ Sections 1.7, 7.1, 7.2, 7.4, 15.2

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**AMENDED AND RESTATED
BYLAWS OF
ReliabilityFirst Corporation
a Delaware nonprofit corporation
(the "Corporation")**

[As adopted by the Members on December 19, 2006,
amended by the Board of Directors on September 21, 2007,
amended by the Members on December 6, 2007,
amended by the Board of Directors on May 22, 2008,
amended by the Members on December 4, 2008,
amended by the Members on December 1, 2011,
and amended by the Members on August 17, 2012]

**ARTICLE I.
DEFINITIONS**

Section 1.1. Act. "Act" shall mean Section 215 of the Federal Power Act (16 U.S.C. §824n).

Section 1.2. Adjunct Member. "Adjunct Member" shall mean any entity that does not qualify to join an Industry Sector but has been approved for membership. Adjunct Members may include Regulatory Participants.

Section 1.3. Affiliate. "Affiliate" shall mean, with respect to any entity, any other entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such entity, as determined in the sole discretion of the Board of the Corporation. For this purpose, "control" may be presumed by the direct or indirect ownership of ten percent (10%) or more of the outstanding voting capital stock or other equity interests having ordinary voting power.

Section 1.4. Associate Member. "Associate Member" shall mean any entity that has joined an Industry Sector and is an Affiliate or Related Party of a Regular Member.

Section 1.5. Board. "Board" shall mean the Board of Directors of the Corporation.

Section 1.6. Bulk Power System. "Bulk Power System" shall mean facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof) and electric energy from generation facilities needed to maintain transmission system reliability, but does not include facilities used in the local distribution of electricity.

Section 1.7. Certificate of Incorporation. "Certificate of Incorporation" shall mean the Certificate of Incorporation of the Corporation filed with the Delaware Secretary of State, as from time to time amended and/or restated.

Section 1.8. Commission. "Commission" shall mean the Federal Energy Regulatory Commission.

Section 1.9. Delegation Agreement. "Delegation Agreement" shall mean the delegation agreement, as supplemented or amended from time to time, between NERC and the Corporation pursuant to which NERC has delegated its authority to the Corporation to propose and enforce Reliability Standards within the Region.

Section 1.10. Electronic Transmission. "Electronic transmission" shall mean any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

Section 1.11. ERO. "ERO" shall mean the electric reliability organization established under the Act to enforce Reliability Standards applicable to all owners, operators and users of the Bulk Power System in North America.

Section 1.12. Hearing Body. "Hearing Body" shall mean a group established with authority to conduct and render decisions in a formal compliance hearing of an entity registered in the NERC compliance registry who is the subject of a notice of alleged violation, proposed penalty or sanction, contested mitigation plan or contested remedial action directive.

Section 1.13. Industry Sector. "Industry Sector" shall mean a group of Bulk Power System owners, operators or users in the Region with substantially similar interests as pertinent to the purposes and operations of the Corporation of the Bulk Power System. The Industry Sectors shall consist of the following: (1) Suppliers, (2) Transmission Companies, (3) RTOs, (4) Small LSEs, (5) Medium LSEs, and (6) Large LSEs.

Section 1.14. Large LSEs. "Large LSEs" shall mean entities that serve, or whose Related Parties serve, end use load with annual energy delivery to such load in the Region of 50,000 GWh or greater.

Section 1.15. Medium LSEs. "Medium LSEs" shall mean entities that serve, or whose Related Parties serve, end use load with annual energy delivery to such load in the Region between 10,000 GWh and 50,000 GWh.

Section 1.16. Members. "Members" shall mean Regular Members, Associate Members and Adjunct Members.

Section 1.17. NERC. "NERC" shall mean the North American Electric Reliability Corporation, or any successor entity, which has been certified by the Commission as the ERO pursuant to the Act to establish and enforce Reliability Standards for the Bulk Power System.

Section 1.18. NERC Rules. “NERC Rules” shall mean the NERC Rules of Procedure as approved by the Commission.

Section 1.19. Net Energy for Load. “Net Energy for Load” shall mean net generation of an electric system plus energy received from others less energy delivered to others through interchange. It includes system losses, but excludes energy required for storage of energy at energy storage facilities. Calculations of net energy for load for all purposes under these Bylaws shall be based on the most recent calendar year for which data on net energy for load of the Region is available.

Section 1.20. Person. “Person” shall mean a natural person, corporation, cooperative, partnership, association, or other private or public entity.

Section 1.21. Region. “Region” shall mean the geographic boundaries of the Corporation described in the Delegation Agreement.

Section 1.22. Regional Entity. “Regional Entity” shall mean any entity with which NERC has entered into a delegation agreement to delegate, or which the Commission or a governmental authority in Canada or Mexico has directly assigned, enforcement authority for reliability standards for the Bulk Power System in a defined geographic area of North America.

Section 1.23. Regional Variance. “Regional Variance” shall mean an aspect of a Reliability Standard that applies only within a particular Regional Entity or group of Regional Entities. A Regional Variance may be used to qualify how a particular Regional Entity or Regional Entities achieves the objectives of a Reliability Standard or may establish different measures or performance criteria as necessary to achieve reliability within the particular Regional Entity or group of Regional Entities. A Regional Variance may not be inconsistent with any Reliability Standard as it would otherwise exist without the Regional Variance. Such a Regional Variance may be proposed by a Regional Entity and, if adopted by NERC and approved by the Commission, shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authority.

Section 1.24. Regional Reliability Standard. “Regional Reliability Standard” shall mean a type of Reliability Standard that is applicable only within a particular Regional Entity or group of Regional Entities. A Regional Reliability Standard may augment, add detail to, or implement another Reliability Standard or cover matters not addressed by other Reliability Standards. A Regional Reliability Standard is not binding upon any Member or Registered Entity, nor is it effective or enforceable, until the Regional Reliability Standard has been adopted by NERC and approved by the Commission as a Reliability Standard within the applicable Regional Entity or Regional Entities pursuant to delegated authorities.

Section 1.25. Regular Member. “Regular Member” shall mean any entity that has joined an Industry Sector that either (i) has no Affiliates or Related Parties that are Members or (ii) is the entity designated to be the Regular Member by any related group of Associate Members.

Section 1.26. Regulatory Participant. “Regulatory Participant” shall mean any state, District of Columbia or any provincial regulatory agency in the Region exercising authority over the rates, terms or conditions of electric service of an entity other than itself within the Region, or the planning, siting, construction or operation of electric facilities of an entity other than itself within the Region, as well as the Commission, regional advisory bodies that may be established by the Commission, or any federal regulator or agency or any entity authorized by any state, the District of Columbia or any province to represent utility consumers.

Section 1.27. Related Party. “Related Party” shall mean, solely for purposes of the governance provisions of these Bylaws, any entity that is registered as part of another entity or is registered for other entities in the NERC Compliance Registry. For purposes of these Bylaws, a representative of a state or federal government agency shall not be deemed a Related Party with respect to each other, and a public body’s regulatory authority, if any, over a Member shall not be deemed to make it a Related Party with respect to that Member.

Section 1.28. Reliability Coordinator. “Reliability Coordinator” shall mean any entity that is recognized as a reliability coordinator by NERC in the Region that does not otherwise qualify as a Transmission Company or RTO.

Section 1.29. Reliability Standard. “Reliability Standard” shall mean a requirement to provide for Reliable Operation of the Bulk Power System, including, without limitation, the foregoing requirements for the operation of existing Bulk Power System facilities, including cyber security protection, and the design of planned additions or modifications to such facilities to the extent necessary for reliable operation of the Bulk Power System, but shall not include any requirement to enlarge Bulk Power System facilities or to construct new transmission capacity or generation capacity.

Section 1.30. Reliable Operation. “Reliable Operation” shall mean operating the elements of the Bulk Power System within equipment and electric system thermal, voltage and stability limits so that instability, uncontrolled separation, or cascading failure of the Bulk Power System will not occur as a result of a sudden disturbance, including a cyber security incident, or unanticipated failure of system elements.

Section 1.31. RTOs. “RTOs” shall mean PJM Interconnection L.L.C. and Midwest Independent Transmission System Operator, Inc., or such other entity that has been recognized by the Commission as a regional transmission operator or recognized functional equivalent in the Region.

Section 1.32. Small LSEs. “Small LSEs” shall mean (i) owners or operators of entities (or their representatives) that serve, or whose Related Parties serve, end use load with annual energy delivery to such load in the Region of 10,000 GWh or less, and (ii) end-use customers interconnected with the Bulk Power System with load of at least 100 MW at one location in the Region.

Section 1.33. Suppliers. "Suppliers" shall mean owners or operators of electric generation connected to the transmission system and wholesale power marketers in the Region.

Section 1.34. Transmission Companies. "Transmission companies" shall mean (i) owners (or those with ownership entitlement), planners and operators of transmission facilities included in the Bulk Power System in the Region and (ii) Reliability Coordinators.

ARTICLE II. PURPOSE AND ACTIVITIES

Section 2.1. Purpose. The business or purposes to be conducted or promoted by the Corporation are:

- (a) to be a Regional Entity and exercise enforcement authority for Reliability Standards for the Bulk Power System in the Region pursuant to the Delegation Agreement;
- (b) to carry out certain of NERC's activities that are in furtherance of NERC's responsibilities as the ERO under the Act or in support of delegated functions, as specified in the NERC Rules or the Delegation Agreement; and
- (c) to engage in any other lawful act or activity for which not for profit corporations may be organized under the Delaware General Corporation Law.

The Corporation shall be exempt from federal income taxation pursuant to Section 501(c) of the Internal Revenue Code of 1986, as amended (hereinafter the "Code") as an organization described in Section 501(c)(3) of the Code. The Corporation shall not engage directly or indirectly in any activity which would invalidate its status as an organization exempt from taxation under Section 501(a) of the Code as an organization described in Section 501(c)(3) of the Code. No part of the net income to the Corporation shall inure to the benefit of or be distributed to its directors, officers, members or other private persons, except that the Corporation shall be authorized and empowered to pay reasonable compensation for services actually rendered.

Section 2.2. Activities. In support and furtherance of its purpose, and in accordance with and at all times subject to the NERC Rules and the Delegation Agreement, the Corporation's responsibilities shall include, but not be limited to, the following:

- (a) Reliability Standards. The Corporation shall:
 - (1) propose Reliability Standards, Regional Variances or modifications thereof to NERC; and

(2) develop Regional Reliability Standards through the Corporation's standards development procedure.

(b) Enforcement. The Corporation shall enforce Reliability Standards (including Regional Variances) within the Region through the Corporation's compliance enforcement program.

(c) Delegation-Related Services. The Corporation, on behalf of NERC, shall carry out certain of NERC's activities that are in furtherance of NERC's responsibilities as the ERO under the Act or in support of delegated functions, including:

- (1) Organization registration and certification.
- (2) Reliability readiness audit and improvement.
- (3) Reliability assessment and performance analysis.
- (4) Training and education.
- (5) Situational awareness and infrastructure security.

(d) Budget. The Corporation shall prepare and submit a budget to NERC for the amount of costs the Corporation will incur in support of delegated functions that are in furtherance of NERC's responsibilities as the ERO under the Act.

(e) Non-delegated Functions. The Corporation may conduct such other activities for or on behalf of the Members that are not delegated to the Corporation by NERC under the Delegation Agreement if authorized by the Board and not inconsistent with the Act, NERC Rules, Section 501(c)(3) of the Internal Revenue Code, the Delegation Agreement or these Bylaws.

Section 2.3. Not-for-Profit Corporation. The Corporation is operated as a Delaware non-stock nonprofit corporation and is organized pursuant to the general corporation law of the State of Delaware.

ARTICLE III. POWERS

Section 3.1. Powers. The Corporation shall have the power to engage in any lawful act or activity for which corporations may be organized under the general corporation law of the State of Delaware, subject to any limitations provided in applicable federal, provincial or state law or in the Certificate of Incorporation or these Bylaws.

ARTICLE IV.
OFFICES

Section 4.1. Principal Office. The principal office of the Corporation shall be located initially within the Region, at such location as the Board may from time to time determine, giving consideration to the total cost to the Corporation and convenience of travel for staff, Members and Regulatory Participants. Once established, the principal office may remain in its location, even if outside the Region.

ARTICLE V.
MEMBERS

Section 5.1. General. The terms and conditions of membership in the Corporation shall be as provided in the Certificate of Incorporation and these Bylaws if not inconsistent therewith. All Regular Members and Associate Members shall be required to join a single Industry Sector.

Section 5.2. Classes of Members. The Corporation shall have three (3) classes of Members: Regular Members, Associate Members and Adjunct Members.

5.2.1 Regular Members. Except as set forth in Sections 5.5 and 6.5 of these Bylaws, Regular Members shall have the right to vote on all matters within their Industry Sector. Regular Members shall have all the rights and obligations of being a Member in the Corporation.

5.2.2 Associate Members. Associate Members shall not be entitled to vote within their Industry Sector or for any other purpose as a Member. Associate Members shall otherwise have all the rights and obligations of being a Member in the Corporation.

5.2.3 Adjunct Members. Adjunct Members shall not be entitled to vote for any purpose as a Member. Adjunct Members shall otherwise have all the rights of being a Member in the Corporation.

Section 5.3. Qualifications of Members. Any entity eligible to join an Industry Sector may be a Regular Member or Associate Member of the Corporation. Any entity not eligible to join an Industry Sector may be an Adjunct Member of the Corporation.

Section 5.4. Admission of Members. New Members may join the Corporation upon submittal of an application, in a form approved by the Board, and upon payment of such fees or charges, if any, as may be established by the Board or required by NERC. Each Regular Member and Associate Member shall designate the Industry Sector it wishes to join. A Regular Member and Associate Member may change its Industry Sector designation once each calendar year upon notice to the Corporation. Such notice must be provided to the Secretary of the Corporation at least sixty (60) days before an annual or other meeting of Members if the change is to be effective for such meeting. The President shall review a membership application and may request demonstration by the applicant that it qualifies for membership in a particular Industry Sector. Any dispute with respect to a Regular Member's or Associate Member's

qualifications for a particular Industry Sector shall be resolved by the Board. The President shall have authority to approve an application for membership, subject to review by the Board.

Section 5.5. Voting Rights. Each Regular Member in good standing shall be entitled to one vote in the Industry Sector in which it belongs on all matters submitted to a vote of Members. The Board may suspend voting rights for a Regular Member delinquent by more than 60 days in payment of any penalties or because of the Regular Member's failure to meet other obligations to the Corporation. Except with respect to the election of Industry Sector directors as described elsewhere in the Certificate of Incorporation and these Bylaws, matters properly brought before the Members at an annual or special meeting shall be acted upon by the Industry Sectors voting together as a single class. The vote of each Industry Sector shall be split into an affirmative component based on votes for the matter(s) presented, and a negative component based on votes against the matter(s) presented, in direct proportion to the votes cast within the Industry Sector for and against the matter presented, rounded to two decimal places. If authorized in advance by the Board, voting may be held electronically under such terms and conditions as are approved by the Board.

Section 5.6. Transfer of Membership. A Member of the Corporation may not transfer its membership or a right arising from it except to any Person succeeding to all or substantially all of the assets of the Member. If challenged, the President shall have authority to approve any such transfer, subject to review by the Board.

Section 5.7. Obligations of Members. By applying for and becoming a Regular or Associate Member of the Corporation, each Member agrees to comply with all Reliability Standards, all NERC standards and requirements, and the other obligations of Members of the Corporation set forth in these Bylaws or duly adopted by the Board in order to achieve the purposes of the Corporation. A Regular or Associate Member also agrees to obligate all of its Affiliates that have an impact on reliability in the Region to comply with all Reliability Standards and NERC standards and requirements. These obligations include but are not limited to: (a) obligations to provide data and information needed to perform the functions of the Corporation, (b) payment of any authorized penalties resulting from non-compliance with Reliability Standards, (c) in the case of Regular Members, electing the Board, and (d) providing qualified candidates to serve on organizational working groups. Adjunct Members agree to provide data and information needed to perform the functions of the Corporation.

Section 5.8. Withdrawal. A Member may withdraw from participation in the Corporation upon notice given in writing or by electronic transmission to the Corporation. Such notice shall specify a date, not earlier than thirty (30) days from the date of notice, on which the withdrawal shall become effective.

Section 5.9. Funding and Dues.

5.9.1 NERC Funding. In accordance with and at all times subject to the NERC Rules and the Delegation Agreement, the Corporation shall equitably allocate its dues, fees and other charges for the delegated functions conducted by the Corporation

among all end users. The Corporation shall submit to NERC annually a list of all load-serving entities within the Region. NERC will bill all load-serving entities in the Region for the Corporation's costs for the Delegated functions based on Net Energy for Load and be responsible for collection.

5.9.2 Application Fee, User-Fees and Other Charges. The Corporation may charge a nominal fee, which shall be determined by the President, for the submission of applications for membership. The Board of Directors may from time to time fix the amount of user-fees or other charges, if any, for activities that are not delegated to the Corporation by NERC under the Delegation Agreement and determine the methods of collection from entities that choose to participate in such activities.

Section 5.10. Penalties. If the Corporation initiates an investigation that leads to the imposition of a penalty, the Corporation shall receive any penalty monies that results from the investigation. All monies which the Corporation collects from the issuance of penalties shall be applied as a general offset to the Corporation's budget requirements for the subsequent fiscal year. Funds from financial penalties shall not be directly applied to any program maintained by the Corporation.

ARTICLE VI. MEETING OF MEMBERS

Section 6.1. Annual Meeting of Members. The Members shall hold an annual meeting in December of each year, or at such other time specified by the Board. At the annual meeting of Members: (i) each Industry Sector shall elect the successor(s), if any, for any director(s) from their Industry Sector whose term will expire before the next annual meeting of the Members, provided however, that any Industry Sector may elect a successor director representing such Industry Sector prior to such annual meeting, in accordance with the provisions of this Article VI, in which case the election of such succeeding director(s) shall be reported to the Corporation at such annual meeting; (ii) the President and Treasurer shall report on the activities and financial condition of the Corporation; (iii) the Industry Sectors shall elect a slate of at-large and independent directors to fill vacancies or expiring terms; and (iv) the Industry Sectors shall consider and act upon such other matters as are consistent with the notice of the annual meeting. The failure to hold an annual meeting in accordance with these Bylaws shall not affect the validity of a corporate action.

Section 6.2. Special Meetings of Members. Special meetings of the Members may be called by six (6) directors on the Board, by the President, or by Members if at least ten percent (10%) of the Regular Members sign, date, and deliver to the President one or more written demands for a special meeting describing the purpose for which it is to be held. Within fifteen (15) days after receipt of a demand for a special meeting from Regular Members, the President shall cause a special meeting to be called and held on notice in accordance with Section 6.4 of these Bylaws. If the President fails to cause a special meeting to be called and held as required by this Section 6.2, a Regular Member making the demand may call the meeting by giving notice under Section 6.4. In either event, notice of the meeting and the costs of the meeting shall be at the expense of the Corporation. The business transacted at a special meeting is limited to

the purposes stated within the notice of the meeting. Business transacted at a special meeting that is not included in those stated purposes is voidable by or on behalf of the Corporation, unless ninety percent (90%) of the Regular Members entitled to vote were present at such meeting or have waived notice of the meeting under Section 6.4.

Section 6.3. Location of Meetings of Members. Meetings of Members shall be held at a location designated by the President or the Board. If a Regular Member calls a meeting pursuant to Section 6.2, the Regular Members making the demand for the meeting may designate the location, provided the meeting must be held within the Region and in a facility of appropriate size to accommodate the Members.

Section 6.4. Notice of Meetings.

6.4.1 Notice Requirements. Notice of meetings of Members must be given at least five (5) days before the date of a meeting and not more than sixty (60) days before the date of a meeting. The notice must contain the date, time and place of the meeting, instructions for electronic attendance or voting, if applicable, and an agenda of the matters upon which action may be taken at the meeting. A matter may be added to the agenda of a meeting at the meeting upon the affirmative vote of three-quarters (3/4) of the Industry Sector votes cast on a motion to amend the agenda. If the meeting is an adjourned meeting and the date, time and place of the meeting were announced at the time of the adjournment, notice is not required unless a new record date for the adjourned meeting is or must be fixed. Notice shall be deemed given by the Corporation to the Members when (a) posted on the Corporation's public website in a reasonably prominent location, and (b) sent by mail, facsimile or reputable overnight delivery service or by electronic transmission to each Member's representative authorized pursuant to Section 6.10.1

6.4.2 Waiver of Notice; Objections. A Member may waive notice of a meeting of Members. A waiver of notice by a Member entitled to notice is effective whether given before, at, or after the meeting, and whether given in writing, or by attendance. Attendance by a Member at a meeting is a waiver of notice of that meeting, unless the Member objects at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened, or objects before a vote on an item of business because the item may not lawfully be considered at that meeting and does not participate in the consideration of the item at that meeting.

Section 6.5. Record Date. The Board may fix a date not more than sixty (60) days before the date of a meeting of Members as the date for the determination of the Members entitled to notice of and entitled to vote at the meeting. When a date is so fixed, only Members on that date are entitled to notice and to vote at the meeting unless the Board fixes a new date for determining the right to notice and to vote, which it must do if the meeting is adjourned to a date more than sixty (60) days after the record date for determining Members entitled to notice of the original meeting.

Section 6.6. Right to Vote; Act of Members.

6.6.1 Industry Sector Voting. Voting of the Members shall be by Industry Sector, with each Industry Sector entitled to cast one vote. Each Member entitled to vote in an Industry Sector shall be entitled to cast one vote in its Industry Sector. The vote of each Industry Sector shall be split into an affirmative component based on votes for the pending motion, and a negative component based on votes against the pending motion, in direct proportion to the votes cast within the Industry Sector for and against the pending motion, rounded to two decimal places. To the extent practicable, all Member votes may be held electronically under such terms and conditions as are approved by the Board.

6.6.2 Act of Members. If a quorum is present, except with respect to any matter described in Section 6.6.3, a majority of the Industry Sector votes cast on the matter shall be the act of the Members.

6.6.3 Special Voting Requirements. Notwithstanding any other provision of these Bylaws, and except as set forth in the Certificate of Incorporation and Section 13.2 of these Bylaws, two-thirds (2/3) of the Industry Sector votes cast shall be required to:

- (a) Amend the Bylaws, except as otherwise provided in Section 19.1 of these Bylaws. The substance of the proposed amendment must be contained in the notice of the meeting at which the vote will be taken; however, the Members may modify a proposed Bylaw amendment at the meeting.
- (b) Approve any proposal to terminate the Corporation.

Section 6.7. Quorum. A quorum for a meeting of Members is a majority of the Regular Members entitled to vote in each Industry Sector at the meeting. A quorum for a meeting of an Industry Sector is a majority of the Regular Members of that Industry Sector entitled to vote at the meeting. In both cases, electronic participation is acceptable if authorized by the Board. A quorum is necessary for the transaction of business at a meeting of Members or of any Industry Sector. If a quorum is not present, a meeting may be adjourned for that reason by the Industry Sectors or Regular Members then represented or present.

Section 6.8. Action by Written Ballot. All elections of directors shall be by written ballot. The requirement of a written ballot shall be satisfied by a ballot submitted by electronic transmission provided that any such electronic transmission must either set forth or be submitted with information from which it can be determined that the electronic transmission was authorized by the Member.

Section 6.9. Action by Electronic Communication. A conference among Members by a means of communication through which the participants may simultaneously hear each other during the conference is a meeting of the Members, if the same notice is given of the conference as would be required for a meeting and if the number of persons participating in the conference is a quorum. Participation in a meeting by this means is personal presence at the meeting. A Member may participate in a meeting of the Members by a means of communication through which the Member,

other persons participating, and all persons physically present at the meeting may simultaneously communicate with each other during the meeting. Participation in a meeting by this means constitutes personal presence at the meeting.

Section 6.10. Member Representatives; Proxies.

6.10.1 Designation of Representative. Each year prior to the annual meeting of Members, each Regular Member shall designate the individual authorized to vote on Corporation matters on behalf of the Member, in accordance with procedures approved by the Board. A Regular Member may change such designation at any time by providing at least twenty-four (24) hour written notice to the Secretary of the Corporation. Such notice may be provided by electronic transmission.

6.10.2 Authorization. The individual designated to vote by a Regular Member may appoint a proxy to vote or otherwise act for the Regular Member at any meeting by signing an appointment form either personally or by an attorney so designated by the Regular Member. Such authorization may be in writing or by means of electronic transmission to the person who will be the holder of the proxy, provided that such electronic transmission must either set forth or be submitted with information from which it can be determined that the electronic transmission was authorized by the Member representative.

6.10.3 Effective Period. An appointment of a proxy is effective when received by the Secretary or other officer or agent authorized to tabulate votes. An appointment is valid for the next regular or specially scheduled meeting or ballot by electronic transmission. However, a proxy is not valid for more than sixty (60) days from its date of execution.

6.10.4 Revocation. An appointment of a proxy is revocable by a Regular Member. Appointment of a proxy is revoked by the person appointing the proxy either by open declaration at a meeting or by signing and delivering a revocation in writing or by electronic transmission to the Secretary or other officer or agent authorized to tabulate proxy votes. This may be done either in a statement that the appointment of the proxy is revoked or by a subsequent appointment that shall serve to cancel all prior proxies.

Section 6.11. Public Notice of Member Meetings. Notice to the public of the dates, times and places of meetings of the Members, and all nonconfidential material provided to the Members, shall be posted on the Corporation's website at approximately the same time that notice is given to the Members. Meetings of the Members shall be open to the public, subject to reasonable limitations due to the availability and size of meeting facilities; provided, that the meeting may be held in or adjourn to closed session to discuss matters of a confidential nature, including, but not limited to, personnel matters, compliance and enforcement matters, litigation or commercially sensitive or critical infrastructure information of a Member or other Person.

Section 6.12. Posting of Minutes. Minutes of meetings of Members shall be posted on the Corporation's website when available.

Section 6.13. Reimbursement of Member Expenses. The Corporation will be under no obligation to reimburse Members for expenses associated with their attendance at regular or special Member meetings.

ARTICLE VII.
BOARD OF DIRECTORS

Section 7.1. General. The composition of the Board and the terms of office of the directors, the manner of their nomination, election or appointment, and other terms and conditions of their service, shall be as provided in ~~the Certificate of Incorporation and these Bylaws if not inconsistent therewith.~~

Section 7.2. Management of Corporation. The business of the Corporation shall be managed under the direction of the Board. Specific functions of the Board shall include, but not be limited to:

- (a) govern the Corporation and oversee all of its activities;
- (b) establish and oversee all organizational groups;
- (c) ~~approve, revise and enforce create~~ Regional Reliability Standards ~~utilizing a fair, open, balanced and inclusive process;~~
- (d) establish compliance monitoring procedures and requirements, ~~and penalties and sanctions for non-compliance~~ consistent with applicable NERC Rules;
- ~~(e) impose penalties and sanctions consistent with the NERC Rules and the procedures approved by the Board;~~
- ~~(f)~~(e) establish and approve an annual budget for submission to NERC;
- ~~(g)~~(f) hire the Corporation's president and approve his or her salary;
- ~~(h)~~(g) annually at the first regular Board meeting following the annual meeting of Members, elect a Chair ("Chair") and a vice-chair from among the directors on the Board, and a lead independent director from among the independent directors on the Board; and
- ~~(i)~~(h) establish Board committees as appropriate.

Section 7.3. Voting. Each director shall have one vote with respect to decisions of the Board.

Section 7.4. Composition of the Board.

(a) The Board shall consist of fourteen (14) or fifteen (15) directors which number shall be established from time to time by resolution of the Board, which resolution shall in no event have the effect of terminating the term of any incumbent director. The President of ~~the Corporation ReliabilityFirst~~ shall be a non-voting ex officio member of the Board of Directors. The President shall be entitled to notice of and attendance at meetings, except those portions of a meeting at which matters directly relating to the President's performance, contract and/or compensation are discussed.

(b) Eight directors shall be elected by the Industry Sectors as follows:

- (i) Suppliers shall elect two (2) directors;
- (ii) Transmission Companies shall elect two (2) directors;
- (iii) RTOs shall select one (1) director;
- (iv) Small LSEs shall elect one (1) director;
- (v) Medium LSEs shall elect one (1) director; and
- (vi) Large LSEs shall elect one (1) director.

(c) Three (3) directors shall be at-large. At-large directors shall be elected by all of the Industry Sectors voting together as a single class.

(d) Three (3) directors, if the Board consists of fourteen (14) directors, and four (4) directors, if the Board consists of fifteen (15) directors, shall be independent from the Corporation and any Member or any Affiliate or Related Party of any Member. Independent directors shall be elected by all of the Industry Sectors voting together as a single class.

(e) Industry Sectors shall elect their respective sector and at-large directors from among individuals holding senior management positions in Member organizations. Any sector-elected or at-large director whose Member organization changes Industry Sectors or who ceases to hold a senior management position in a Member organization shall continue to serve out his or her remaining term, unless such director resigns or is removed. No two directors may be employees of a single Member or any Affiliate or Related Party of a Member or any Affiliate.

(f) An independent director is a person (i) who is not an officer or employee of the Corporation, an officer, director, or employee of a Member, or an officer, director or employee of any entity that would reasonably be perceived as having a direct financial interest in the outcome the Board's decisions, or (ii) who does not have a relationship that would interfere with the exercise of independent judgment in ~~carrying~~ out the responsibilities of a director. The Board may adopt additional standards for director independence not inconsistent therewith.

(g) At-large and independent directors shall be nominated by the

nominating and governance committee of the Board. When nominating at-large directors, the nominating and governance committee shall consider such factors as the geographic and functional representation of the Board. The nominating and governance committee shall seek out for nomination independent directors from diverse backgrounds, who will contribute to the effective functioning of the Board and the Corporation by bringing a broad range of industry expertise, viewpoints, experiences, skill sets and knowledge. If an incumbent independent director is not re-nominated, the nominating and governance committee will use reasonable efforts to ensure that diverse candidates are in the pool of potential nominees for the open independent director position and may retain an independent consultant to identify individuals qualified and willing to serve as an independent director.

(h) Any director which the full Board has determined has a conflict of interest on any compliance or enforcement matter brought before the Board shall not vote on such matter and shall recuse himself or herself from all Board deliberations concerning such matter.

(i) There will be no alternates or proxies for directors.

Section 7.5. Terms of Directors. The directors will be divided into three classes. The number of directors in each class shall be as nearly equal as possible. The term of office of the first class will expire at the second annual meeting of Members; the term of office of the second class will expire one year thereafter; and the term of office of the third class two years thereafter. At each annual meeting of Members, directors shall be chosen for a three year term to succeed those whose term expires. No two at-large directors and no two directors of the same Industry Sector shall be in the same class. At least one (1) independent director shall be in each class. Each director shall hold office until (a) the expiration of the term for which he or she was elected and until his or her successor is elected and qualified, or (b) his or her earlier death, resignation or removal. Any director may be removed at any time by the affirmative vote of two-thirds of the Industry Sector or Industry Sectors, as applicable, electing such director. A director may be removed by the Board for non-attendance at three consecutive Board meetings.

Directors shall not be eligible to serve more than four (4) consecutive full terms; provided, however, that the Board may act to allow a one (1) term discretionary exception to this limitation for any director.

Section 7.6. Reimbursement. Independent directors shall have the right to reimbursement by the Corporation of their actual reasonable travel expenses to Board meetings or when specifically selected to represent the Corporation at a business meeting. The directors elected by the Industry Sectors and the at-large directors shall not be reimbursed by the Corporation for any expenses, unless specifically approved in advance by resolution of the Board.

Section 7.7. Resignations; Vacancies.

(a) **Resignations.** A director may resign from the Board upon notice

given in writing or by electronic transmission to the Corporation. Such resignation shall take effect at the time identified in the notice as the effective date of resignation.

(b) Vacancies. If a notice of resignation provides that the effective date of resignation will occur on a future date within an unexpired term, the Industry Sector or Industry Sectors, as applicable, may elect a successor director to fill the impending vacancy prior to the effective date of the resignation, in accordance with the procedures and requirements set forth above. The successor director elected by the Industry Sector or Industry Sectors, as applicable, shall commence on the effective date of the resigning director's resignation and hold office for the unexpired term of the vacated directorship replaced.

If a successor Industry Sector or at-large director is not elected prior to the resignation effective date, or if an Industry Sector or at-large director resigns, dies or otherwise becomes incapacitated or is removed during the term of office for which elected, the directorship shall thereupon be vacant and shall be filled by the Industry Sector or Industry Sectors, as applicable, by written or electronic ballot in accordance with the procedures and requirements set forth above. The successor director elected by the Industry Sector or Industry Sectors, as applicable, shall hold office for the unexpired term of the vacated directorship replaced.

If a successor independent director is not elected prior to the resignation effective date, or if an independent director resigns, dies or otherwise becomes incapacitated or is removed during the term of office for which elected or ceases to be independent, as determined by the Board, his or her directorship shall thereupon be vacant and may be filled by resolution of the Board and any independent director so chosen shall hold office until the next annual meeting of Members, at which time a permanent successor shall be elected by the Industry Sectors for the remainder of the unexpired term. Upon an increase in the number of directors on the Board in accordance with Section 7.4(a) of these Bylaws, the independent directorship created thereby may be filled by resolution of the Board and any independent director so chosen shall hold office until the next annual meeting of Members, at which time ~~a permanent successor shall be elected by the chosen director's first term commences after election by~~ the Industry Sectors ~~for the remainder of such director's unexpired term.~~

Section 7.8. Meetings; Notice; Waiver.

(a) Meetings. An annual meeting of the Board shall be held without notice immediately following the annual meeting of the Members. The Board shall elect the Chair and Vice-Chair for the next year at the annual meeting. In addition, regular meetings may be held at such time or times as fixed by the Board. Special meetings of the Board may be called by the Board's Chair, the President or by any three directors and shall be held at the principal office of the Corporation, or such other place within the Region as determined by the Chair or the President after consultation with the Board.

(b) Notice. Notice of the dates, times, and places of all regular and special meetings of the Board shall be published by the Secretary and provided to all directors and Members not less than three (3) days prior to the date of the meeting. Notice shall be deemed given by the Corporation to directors and the Members when (a) posted on the Corporation's public website in a reasonably prominent location, and (b) sent by mail, facsimile or reputable overnight delivery service or by electronic transmission to each director and each Member's representative authorized pursuant to Section 6.10.1.

(c) Waiver. Any person entitled to notice of a regular or special meeting of the Board may waive notice thereof. A waiver of notice by a person entitled to notice is effective whether given before, at, or after the meeting, and whether given in writing or by attendance. Attendance by a director at a meeting of the Board is a waiver of notice of that meeting, unless the director objects at the beginning of the meeting to the transaction of business because the meeting is not lawfully called or convened, or objects before a vote on an item of business because the item may not lawfully be considered at that meeting and does not participate in the consideration of the item at that meeting.

Section 7.9. Quorum. For the Board to take action at a meeting, a quorum of directors must be present. A quorum is a majority of the directors then in office, provided that: (a) if there are three or four independent directors holding office, two independent directors must be present to constitute a quorum, or (b) if there are two independent directors holding office, one independent director must be present to constitute a quorum. If there is only one independent director or no independent directors holding office, there is no requirement that an independent director be present in order for the Board to have a quorum. In the absence of a quorum, a majority of the directors present may adjourn a meeting, without notice, except as may be given at such meeting, until a quorum is present.

Section 7.10. Board Action. The act of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board, unless the act of a greater number is required by law or these Bylaws.

Section 7.10.1 Board Approval of President's Compensation. Notwithstanding the foregoing, Board approval of the President's compensation requires both: 1) endorsement by all independent directors, and 2) approval by a majority of the Board.

Section 7.11. Action Without a Meeting. Any action required or permitted to be taken at any meeting of the Board or any committee thereof may be taken without a meeting if all members of the Board or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceeding of the Board or the committee. Any nonconfidential material provided to the Board or a committee in connection with such action shall be posted on the Corporation's website at approximately the same time that it is given to the Board or the committee. The results of all actions taken by the Board or any committee thereof without a meeting shall be

promptly posted on the Corporation's website.

Section 7.12. Action by Electronic Communication. A conference among directors by a means of communication through which the directors may simultaneously hear each other during the conference is a Board meeting if the same notice is given of the conference as would be required for a meeting and if the number of directors participating in the conference is a quorum. Participation in a meeting by this means constitutes personal presence at the meeting. A director may participate in a Board meeting by any means of communication through which the director, other directors participating, and all directors physically present at the meeting may simultaneously communicate with each other during the meeting.

Section 7.13. Board Committees. The Board shall have an audit committee, compensation committee, nominating and governance committee and compliance committee, and such other committees the Board deems necessary and appropriate. Each committee shall be comprised of not less than three directors. The compliance committee shall be comprised of a minimum of five directors, a majority of whom are independent directors. All independent directors shall serve on the compliance committee. The Board may require that a minimum number of independent directors serve on any or all other Board committees. The Board shall have the power to appoint, and to delegate authority to, such other committees of the Board as it determines to be appropriate from time to time. The Board may require any committee to adopt a charter, subject to approval by the Board, governing the activities and authority of the committee and the composition of its members.

Section 7.14. Hearing Body. The Board shall establish policies and procedures governing the designation of members to the Hearing Body pursuant to the NERC Rules of Procedure's Consolidated Hearing Process.

Section 7.15. Public Notice of Board Meetings. Notice to the public of the dates, times and places of Board meetings, including committees thereof, and all nonconfidential material provided to the Board or the committees, shall be posted on the Corporation's website, and notice of Board and committee meetings shall be sent by electronic transmission to Members, at approximately the same time that notice is given to the Board or the committee, as the case may be. Board and committee Meetings shall be open to all Members and the public, subject to reasonable limitations due to the availability and size of meeting facilities; provided, that any meeting may be held in or adjourn to closed session to discuss matters of a confidential nature, including, but not limited to, personnel matters, compliance and enforcement matters, litigation or commercially sensitive or critical infrastructure information of a Member or other Person.

Section 7.16. Posting of Minutes. Minutes of Board and committee meetings shall be posted on the Corporation's website when available.

Section 7.17. Compensation of Directors. The directors elected by the Industry Sectors and the at-large directors shall not receive compensation for their service to the Corporation as directors on the Board. The independent directors shall be entitled to such compensation as the Board may from time to time determine. Nothing contained in these Bylaws shall preclude any director from receiving compensation for services to the Corporation in any other capacity.

ARTICLE VIII.
ORGANIZATIONAL GROUPS

Section 8.1. Establishment of Organizational Groups. The Board shall establish such organizational groups, consisting of committees, sub-committees, task forces and working groups of Members, as are necessary and appropriate to accomplish the purposes of the Corporation in an efficient and cost-effective manner. All organizational groups shall be subject to the direction and control of the Board. The membership of organizational groups shall be determined based upon experience, expertise and geographic diversity and to the extent practicable shall include balanced representation of the Industry Sectors. The Board shall establish policies and procedures governing the creation of organizational groups, how they are populated, how voting and related matters are conducted, how they may be reorganized and the direction and termination of such groups. The Board shall conduct a review of all organizational groups of the Corporation on an annual basis to ensure that the business of the Corporation is conducted in an efficient, cost-effective manner.

Section 8.2. Reimbursement. The Board may authorize reimbursement for persons acting on behalf of the Corporation, as necessary in the interests of the Corporation.

ARTICLE IX.
OFFICERS

Section 9.1. Officers. The officers of the Corporation shall include a President, one or more Vice Presidents, a Secretary, a Treasurer and any other officers as may be elected or appointed in accordance with the provisions of this Article. The Board may elect or appoint any additional officers that it deems desirable, such other officers to have the authority and perform the duties prescribed by the Board. The same individual may hold any number of offices, except that of President.

Section 9.2. Election and Term of Office. The officers of the Corporation shall be elected annually by the Board at the annual meeting of the Board. Each officer shall hold office at the pleasure of the Board. If the election of officers is not held at such meeting, such election shall be held as soon thereafter as is convenient. New officers may be created and the positions filled at any meeting of the Board. Each elected officer shall hold office until his or her successor has been duly elected and qualified or upon his or her earlier resignation or removal.

Section 9.3. Removal. Any officer elected by the Board may be removed by the affirmative vote of two-thirds (2/3) of the Board whenever in its judgment the best interests of the Corporation would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the officer so removed. Election or appointment of an officer or agent shall not of itself create contract rights.

Section 9.4. Vacancies. A vacancy in any office because of death, incapacity, resignation, removal, disqualification, or otherwise, may be filled by the Board for the unexpired portion of the term.

Section 9.5. President. The President shall:

- (a) be the principal executive and operating officer of the Corporation;
- (b) sign certificates of membership, and may sign any deeds, mortgages, deeds of trust, notes, bonds, contracts or other instruments authorized by the Board to be executed, except in cases in which the signing and execution thereof shall be expressly delegated by the Board or by these Bylaws to some other officer or agent of the Corporation; and
- (c) perform all duties incident to the office of President, including hiring and directing staff, and such other duties as may be prescribed by the Board from time to time.

Section 9.6. Vice Presidents. The Vice President(s) shall perform such duties and have such powers as the Board or President may from time to time prescribe. At the request of the Board, the Vice President (or in the event there be more than one Vice President, the Vice Presidents in the order designated, or in the absence of any designation, then in the order of their election) shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President.

Section 9.7. Secretary. The Secretary shall ensure that the following duties are carried out:

- (a) the minutes of the meetings of the Members and of the Board, and each committee thereof, are recorded;
- (b) all required notices are duly given in accordance with these Bylaws and as required by law;
- (c) a register of the current names and addresses of all Members is maintained and posted on the Corporation's website;
- (d) a complete copy of the Certificate of Incorporation and Bylaws of the Corporation containing all amendments thereto are kept on file at all times and posted on the Corporation's website, which copies shall always be open to the inspection of any Member; and

(e) generally perform all duties incident to the office of Secretary and such other duties as may be prescribed by the Board from time to time.

Section 9.8. Treasurer. The Treasurer shall be responsible for the following activities:

- (a) maintain custody of all funds and securities of the Corporation;
- (b) receipt of and the issuance of receipts for all monies due and payable to the Corporation and for deposit of all such monies in the name of the Corporation in such bank or banks or financial institutions as shall be selected by the Board; and
- (c) generally perform all duties incident to the office of Treasurer and such other duties as may be prescribed by the Board from time to time.

ARTICLE X.
CERTIFICATES OF MEMBERSHIP

Section 10.1. Certificates of Membership. The Board may, but need not, provide for the issuance of certificates evidencing membership in the Corporation, which certificates shall be in such form as may be determined by the Board.

ARTICLE XI.
BOOKS AND RECORDS

Section 11.1. Books and Records; Financial Statements. The Corporation shall keep at such office selected by the Board correct and complete copies of its Certificate of Incorporation and Bylaws, accounting records, and minutes of meetings of Members, Board, and committees having any of the authority of the Board. A Member, or the agent or attorney of a Member, may inspect all books and records for any proper purpose at any reasonable time. Upon request, the Corporation shall give the Member a statement showing the financial result of all operations and transactions affecting income and expenses during its last annual accounting period and a balance sheet containing a summary of its assets and liabilities as of the closing date of the accounting period.

ARTICLE XII.
FISCAL YEAR

Section 12.1. Fiscal Year. The fiscal year of the Corporation shall be the calendar year.

ARTICLE XIII.
TRANSFER OF ASSETS

Section 13.1. Member Approval Not Required. Subject to restrictions set forth in the Certificate of Incorporation, the Corporation, by affirmative vote of the Board, may sell, lease, transfer, or dispose of its property and assets in the usual and regular course of its activities and grant a security interest in all or substantially all of its property and assets in the usual and regular course of its activities, upon those terms and conditions and for those considerations, which may be money, securities, or other instruments for the payment of money or other property, as the Board considers expedient, in which case no Member approval is required.

Section 13.2. Member Approval Required. Subject to restrictions set forth in the Certificate of Incorporation, the Corporation may sell, lease, transfer, or dispose of all or substantially all of its property and assets, including its good will, not in the usual and regular course of its activities, upon those terms and conditions and for those considerations, which may be money, securities, or other instruments for the payment of money or other property, as the Board considers expedient only when approved at a regular or special meeting of the Members by the affirmative vote of two-thirds (2/3) of all the Members. Notice of the meeting must be given to the Members. The notice must state that a purpose of the meeting is to consider the sale, lease, transfer, or other disposition of all or substantially all of the property and assets of the Corporation.

ARTICLE XIV.
CONTRACTS, CHECKS, DEPOSITS, AND GIFTS

Section 14.1. Contracts. The Board may authorize any officer or officers or agent or agents of the Corporation, in addition to the officers so authorized by these Bylaws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Corporation, and such authority may be general or may be confined to specific instances.

Section 14.2. Checks, Drafts, or Orders. All checks, drafts, or orders for the payment of money, notes, or other evidences of indebtedness issued in the name of the Corporation, may be signed by such officer or officers or agent or agents of the Corporation, and in such manner, as shall from time to time be determined by resolution of the Board.

Section 14.3. Deposits. All funds of the Corporation shall be deposited to the credit of the Corporation in such banks, trust companies, or other depositories as the Board may select.

Section 14.4. Gifts. The Board may accept on behalf of the Corporation any contribution, gift, bequest, or devise for any purpose of the Corporation.

ARTICLE XV.
INSURANCE, LIMITATION ON LIABILITY AND INDEMNIFICATION

Section 15.1. Insurance. The President is authorized to procure insurance to protect the Corporation against damages arising out of or related to any directive, order, procedure, action or requirement of the Corporation.

Section 15.2. Limitations on Liability. ~~As provided in Article Fourteenth of the Certificate of Incorporation, A~~ director of the Corporation shall not be personally liable to the Corporation or its Members for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its Members, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law or (iv) for any transaction from which the director derived any improper personal benefit. If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended. Any repeal or modification of Article Fifteenth of these Bylaws by the Members of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or modification.

Section 15.3. Right to Indemnification.

15.3.1 Indemnified Persons. Each person who was or is made a party or is threatened to be made a party to or is involved in or called as a witness in any Proceeding ~~because by reason of the fact that~~ he or she is an Indemnified Person shall be indemnified and held harmless by the Corporation to the fullest extent permitted under the Delaware General Corporation Law (the "DGCL"), as the same now exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than the DGCL permitted the Corporation to provide prior to such amendment). Such indemnification shall cover all expenses, actually and reasonably incurred by an Indemnified Person (including, but not limited to, attorneys' fees and other expenses of litigation) and all liabilities and losses (including, but not limited to, judgments, fines, ERISA or other excise taxes or penalties and amounts paid or to be paid in settlement) incurred by such person in connection therewith. Such indemnification shall only apply if the Indemnified Person is successful on the merits or otherwise in defense of any Proceeding. Such indemnification shall not apply if the Indemnified Person is adjudged to have acted in bad faith, acted contrary to the interests of the Corporation, or engaged in unlawful conduct unless such indemnification is mandatory under the DGCL.

15.3.2 Denial of Authorization for Certain Proceedings. Notwithstanding anything to the contrary in this Section 15.3, except with respect to indemnification of Indemnified Persons specified in paragraph 15.3.3 of this Section 15.3, the Corporation shall indemnify an Indemnified Person in connection with a Proceeding (or part thereof) initiated by such person only if authorization for such Proceeding (or part thereof) was

not denied by the Board of the Corporation prior to the earlier of 60 days after receipt of notice thereof from such Indemnified Person. Except this Provision, 15.3.2. shall not apply when the DGCL makes indemnification of a Director or Officer mandatory under §145(C).

15.3.3 Certain Defined Terms. For purposes of this Section 15.3, the following terms shall have the following meanings (such meanings to be equally applicable to both the singular and plural forms of the terms defined):

(1) a "Proceeding" is any threatened, pending or completed action, suit or proceeding whether civil, criminal, administrative, or investigative, and any appeal therefrom. ~~investigation, action, suit or proceeding, whether civil, criminal, administrative or investigative, and any appeal therefrom.~~

(2) an "Indemnified Person" is a person who is, was, or had agreed to become a Director or Officer of the Corporation (including, in the case of such person seeking indemnification while serving as a Director who is or was an officer of the Corporation, such person in his capacity as an officer-). At the discretion of the Corporation, the Corporation may elect to indemnify any of its employees or agents.

15.3.4 Expenses. Expenses, including attorneys' fees, incurred by a person indemnified pursuant to paragraph 15.3.1 in defending or otherwise being involved in a Proceeding shall be paid by the Corporation in advance of the final disposition of such Proceeding, including any appeal therefrom, upon receipt of an undertaking (the "Undertaking") by or on behalf of such person to repay such amount if it shall ultimately be determined that he or she is not entitled to be indemnified by the Corporation; provided that in connection with a Proceeding (or part thereof) initiated by such person, except a Proceeding authorized by paragraph 15.3.5, the Corporation shall pay said expenses in advance of final disposition only if authorization for such Proceeding (or part thereof) was not denied by the Board of the Corporation prior to the earlier of 60 days after receipt of a request for such advancement accompanied by the Undertaking. A person to whom expenses are advanced pursuant hereto shall not be obligated to repay such expenses until the final determination of any pending Proceeding in a court of competent jurisdiction concerning the right of such person to be indemnified or the obligation of such person to repay such expenses. The Corporation reserves the right to impose certain restrictions upon said advancement of expenses.

15.3.5 Protection of Rights. If a claim by an Indemnified Person under paragraph 15.3.1 is not promptly paid in full by the Corporation after a written claim has been received by the Corporation or if expenses pursuant to paragraph 15.3.4 have not been promptly advanced after a written request for such advancement by an Indemnified Person (accompanied by the Undertaking required by paragraph 15.3.4) has been received by the Corporation, the claimant may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim or the advancement of expenses. If successful, in whole or in part, in such suit, such claimant shall also be entitled to be paid the reasonable expense thereof. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses

incurred in defending any Proceeding in advance of its final disposition where the Undertaking has been tendered to the Corporation that indemnification of the claimant is prohibited by law, but the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including the Board, independent legal counsel, or the Members) to have made a determination, if required, prior to the commencement of such action that indemnification of the claimant is proper in the circumstances, nor an actual determination by the Corporation (including the Board, independent legal counsel, or the Members) that indemnification of the claimant is prohibited, shall be a defense to the action or create a presumption that indemnification of the claimant is prohibited.

15.3.6 Miscellaneous.

(a) Non-Exclusivity of Rights. The rights conferred on any person by this Section 15.3 shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, Bylaw, agreement, vote of Members or disinterested directors or otherwise. The Board shall have the authority, by resolution, to provide for such other indemnification of directors, and such indemnification of officers, delegates, employees, agents, or others of the Corporation as it shall deem appropriate.

(b) Insurance, contracts, and funding. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee, delegate or agent of the Corporation against any expenses, liabilities or losses, whether or not the Corporation would have the power to indemnify such person against such expenses, liabilities or losses under the DGCL. The Corporation may enter into contracts with any director, officer, agent or employee of the Corporation in furtherance of the provisions of this Section 15.3 and may create a trust fund, grant a security interest or use other means (including, without limitation, a letter of credit) to ensure the payment of such amounts as may be necessary to effect the advancing of expenses and indemnification as provided in such contracts or as otherwise provided in this Section 15.3.

(c) Contractual nature. The provisions of this Section 15.3 shall continue as to a person who has ceased to be a director and shall inure to the benefit of the heirs, executors and administrators of such person. This Section 15.3 shall be deemed to be a contract between the Corporation and each person who, at any time that this Section 15.3 is in effect, serves or agrees to serve in any capacity which entitles him to indemnification and advancement of expenses hereunder and any repeal or other modification of this Section 15.3 or any repeal or modification of the DGCL or any other applicable law shall not limit any rights of indemnification for Proceedings then existing or arising out of events, acts or omissions occurring prior to such repeal or modification, including, without limitation, the right to indemnification and advancement of expenses for Proceedings commenced after such repeal or modification to enforce this Section 15.3 with regard to Proceedings arising out of acts, omissions or events arising prior to such repeal or modification.

(d) Cooperation. Each Indemnified Person shall cooperate with the person, persons or entity making the determination with respect to such Indemnified Person's entitlement to indemnification under this Section 15.3, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to such Indemnified Person and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and disbursements) incurred by such Indemnified Person in so cooperating with the person, persons or entity making such determination shall be borne by the Corporation (irrespective of the determination as to such Indemnified Person's entitlement to indemnification) and the Corporation hereby indemnifies and agrees to hold such Indemnified Person harmless therefrom.

(e) Subrogation. In the event of any payment under this Section 15.3 to an Indemnified Person, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of such Indemnified Person, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Corporation to bring suit to enforce such rights.

(f) Severability. If this Section 15.3 or any portion hereof shall be invalidated or held to be unenforceable on any ground by any court of competent jurisdiction, the decision of which shall not have been reversed on appeal, this Section 15.3 shall be deemed to be modified to the minimum extent necessary to avoid a violation of law and, as so modified, this Section 15.3 and the remaining provisions hereof shall remain valid and enforceable in accordance with their terms to the fullest extent permitted by law.

ARTICLE XVI. TRANSITION

Section 16.1. Transition Standards. The Corporation will use the existing standards, criteria, rules or guides from each existing reliability council region for those Members that join the Corporation as in effect immediately prior to formation of the Corporation until such standards, criteria, rules or guides are adopted, superseded, or rejected by the Corporation. The Corporation will establish any necessary transition committees, subcommittees, working groups or task forces to administer the existing regional reliability standards, criteria, rules and guides until they are adopted, superseded, or rejected by the Corporation. The Corporation will employ its best efforts, within two (2) years of its formation, to work toward a uniform set of Reliability Standards for the entire Region. The Board will develop and implement a standards process and a plan for transition to new Reliability Standards. This process will include a requirement that two-thirds of the directors present at a meeting must vote to adopt new Reliability Standards.

ARTICLE XVII. PARTICIPATION BY REGULATORY

PARTICIPANTS

Section 17.1. Regulatory Participants. All Regulatory Participants shall be entitled to and be provided with the same rights to notice of and participation in meetings or other activities of the Corporation as are provided to Members, but shall not have the right to vote.

ARTICLE XVIII. BUDGET AND BUSINESS PLAN

Section 18.1. Budget and Business Plan. Each annual budget and business plan of the Corporation shall be approved by the Board in sufficient time in each fiscal year to allow for timely submittal of the approved annual budget and business plan to NERC in accordance with the NERC Rules. The Corporation shall post a draft of each budget and business plan on the Corporation's website for purposes of review and comment by the Members at least ten (10) days prior to the Board meeting at which the budget and business plan are to be approved.

ARTICLE XIX. AMENDMENT OF BYLAWS

Section 19.1. Amendment Of Bylaws. The power to adopt, amend or repeal these Bylaws is vested in the Members as set forth in Section 6.6.3 of these Bylaws; provided, however, that upon the passage of any federal electric reliability legislation, and/or the adoption of any rules or regulations of the Commission, NERC or other governmental entity with jurisdiction, the Board shall have authority to amend these Bylaws as necessary and appropriate to comply with such law, legislation, rules and regulations.

**Election and Appointment of Board Chair and Vice Chair, Board of Trustees
Committee Assignments and NERC Officers**

Action

Approve

Summary

Board of Trustees (Board) Committees, Chair and Vice Chair Appointments

Upon recommendation of the NERC Board of Trustees Chair Kenneth W. DeFontes, Jr. in consultation with the Corporate Governance and Human Resources Committee, the Board is asked to approve the attached 2022 Committee, Chair and Vice Chair appointments, and related assignments, as set forth in Attachment A.

The proposed committee appointments of Ms. Allen, Mr. Clarke, Ms. Sidford, and Mr. DeFontes are conditional upon their re-election by the Member Representatives Committee at its February 10, 2022 meeting.

NERC Officers

Upon recommendation of the President and Chief Executive Officer the Board is asked to approve the 2022 NERC officer slate, to be presented to the Board at the meeting.

2022 Board of Trustees Committee Assignments and Chair, Vice Chair Appointments

Chair: Kenneth W. DeFontes, Jr.

Vice Chair: George S. Hawkins

Immediate Past Chair: Roy Thilly

Corporate Governance and Human Resources

Chair: Suzanne Keenan

Robert G. Clarke
George S. Hawkins
Larry Irving
Robin E. Manning
Roy Thilly

Compliance Committee

Chair: Robin E. Manning

Jane Allen
George S. Hawkins
Susan Kelly
Roy Thilly

Finance and Audit

Chair: Jim Piro

Robert G. Clarke
George S. Hawkins
Susan Kelly
Colleen Sidford
Roy Thilly

Enterprise-wide Risk

Chair: Colleen Sidford

Robert G. Clarke
Suzanne Keenan
Susan Kelly
Larry Irving
Jim Piro

Technology and Security

Chair: Jane Allen

Larry Irving
Suzanne Keenan
Robin E. Manning
Jim Piro
Colleen Sidford

Nominating Committee

Chair: Robert G. Clarke

Jane Allen
George S. Hawkins
Larry Irving
Susan Kelly
Robin E. Manning
Colleen Sidford
Roy Thilly

MRC Members

Roy Jones, MRC Chair
Jennifer Flandermeyer, MRC Vice Chair
Additional MRC Members to be determined

Related Assignments

- **ESCC Observer:** Kenneth W. DeFontes, Jr.
- **MEC Liaison:** Suzanne Keenan
- **Liaison to the Standards Committee:** Susan Kelly
- **Liaison to the Reliability and Security Technical Committee:** Roy Thilly
- **International Liaison:** Colleen Sidford
- **Ex Officio all committees:** Kenneth W. DeFontes

Standards Committee Charter Amendments

Action

Approve

Background

At its meeting on November 4, 2021, the Board was asked to consider proposed revisions to the Standards Committee Charter that were endorsed by the Standards Committee (SC) on September 23, 2021.¹

In considering the proposed revisions, the Board determined to approve them but with directives for further action. Specifically, the Board approved the following resolutions:

RESOLVED, that the Board hereby approves the revised Standards Committee Charter, substantially in the form presented to the Board at this meeting, to replace the Standards Committee Charter approved by the Board on May 9, 2019.

FURTHER RESOLVED, that the Board hereby directs the Standards Committee to review its Charter to determine: (1) which further revisions to the Charter would be needed to clarify the role of the Committee as a procedural oversight body; and (2) which further revisions would enhance the ability of the Committee to address urgent reliability needs with appropriate agility.

FURTHER RESOLVED, that the Board directs the Standards Committee to present the results of this review, along with any proposed Charter revisions, at the February 2022 meeting.

Summary

In response to the Board's directive, the Standards Committee Charter was revised as follows:

- Chapter 1: Purpose was revised to clarify the role of the SC as a process oversight body. The purpose also includes a reference to Section 306 of the Rules of Procedure that states, "The Standards Committee shall provide oversight of the Reliability Standards development process to ensure stakeholder interests are fairly represented. The Standards Committee shall not under any circumstance change the substance of a draft or approved Reliability Standard."
- Chapter 3: Overview and Functions was revised to add a bullet to clarify that the SC may consult technical committees regarding the technical justification of Standard Authorization Requests.
- Chapter 6: Voting Members' Expectations and Responsibilities was revised to add a bullet regarding the expectation of the voting member to be familiar with the Standard Processes Manual.

¹ See Agenda for the NERC Board of Trustees November 4, 2021 Meeting and Draft Minutes, available at <https://www.nerc.com/gov/bot/Pages/Agenda-Highlights-and-Minutes-.aspx>.

- Lastly, Chapter 9: Meetings was revised to add a paragraph discussing waiver actions permitted by the SC, to highlight the SC's ability to address urgent reliability needs with appropriate agility.

NERC Staff supports the proposed changes.

Attachments

- Standards Committee Charter – Redline Copy
- Standards Committee Charter – Clean Copy

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Agenda Item 8a.i
Board of Trustees Meeting
February 10, 2022

Standards Committee Charter

Approved by the Standards Committee

September-December 2021

RELIABILITY | RESILIENCE | SECURITY



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Atlanta, GA 30326
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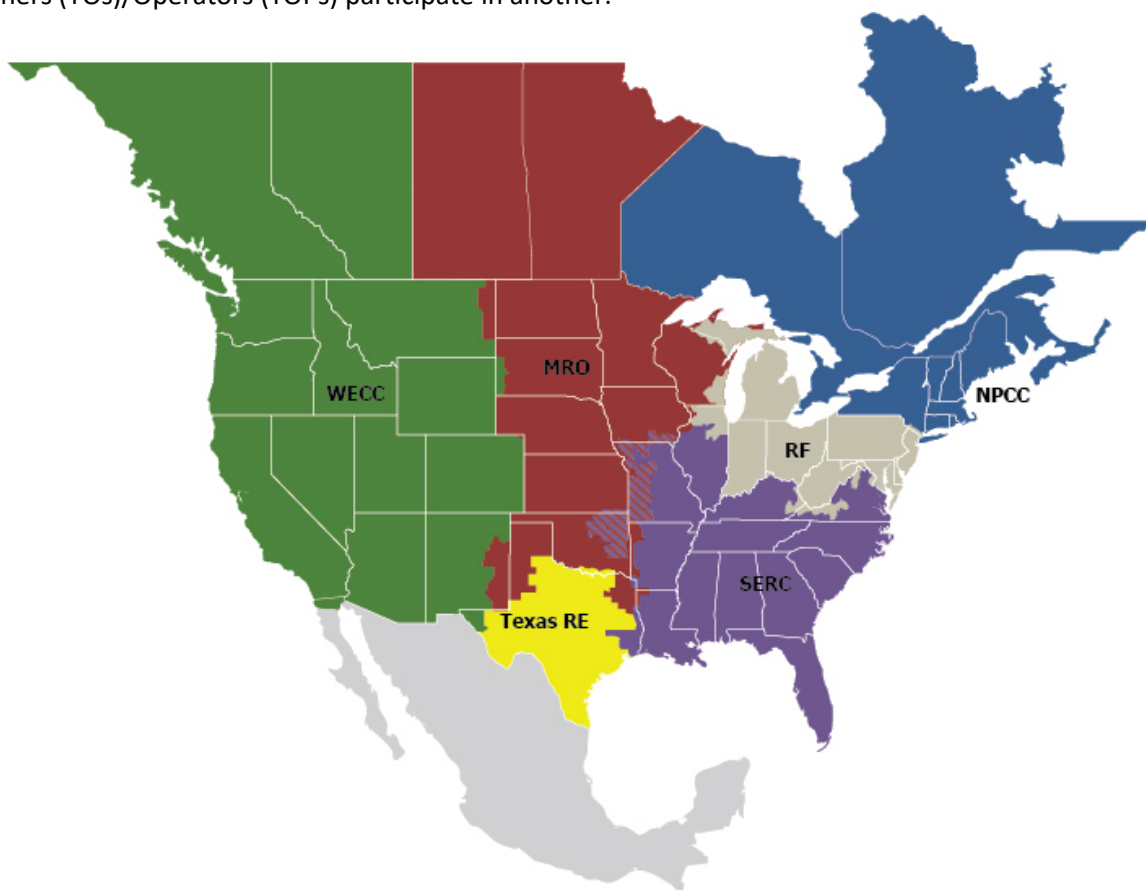
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Preface

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



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

Chapter 1: Purpose

The Standards Committee (the Committee) of the North American Electric Reliability Corporation (NERC), working with NERC Standards Staff, manages and executes the Reliability Standards development process to timely develop and maintain a comprehensive set of results-based Reliability Standards.

Section 306 of the Rules of Procedure establish that “The Standards Committee shall provide oversight of the Reliability Standards development process to ensure stakeholder interests are fairly represented. The Standards Committee shall not under any circumstance change the substance of a draft or approved Reliability Standard.”

The Committee is responsible for ensuring that the Reliability Standards, definitions, Variances and Interpretations developed by drafting teams are developed in accordance with the processes in the Standard Processes Manual, Appendix 3A of the NERC Rules of Procedure to support NERC’s benchmarks for Reliability Standards as well as criteria for governmental approval.

The Standards Committee, as a process oversight committee, does not base its process decisions on the technical content of Reliability Standards or Standards Authorization Requests.

Chapter 2: Reporting

The Committee reports and is accountable to the NERC Board of Trustees. The Committee members have the responsibility to keep the industry segments they represent informed regarding Reliability Standards matters. The NERC Board of Trustees shall approve amendments to this Charter pursuant to Section 1300 of the NERC Rules of Procedure.

Chapter 3: Overview and Functions

The Committee manages the NERC process to develop and maintain a comprehensive set of results-based Reliability Standards. Specifically, working together with NERC Standards Staff, the Committee has the following duties:

- Develop a long-term (multi-year) strategic vision describing the goals and direction for Reliability Standards development consistent with NERC's strategic and business plans.
- Coordinate with the Reliability Issues Steering Committee (RISC) to develop a Reliability Standards Development Plan (RSDP) prioritizing and aggressively pursuing work related to the purpose of the Committee.
- Assist to develop the RSDP, inclusive of preparing the initial posting for stakeholder comment.
- Establish and facilitate informal and formal collaborative, consensus building processes with stakeholder groups and NERC committees.
- Establish quality assurance and quality control processes to develop or modify Reliability Standards and applicable associated documents to align with the criteria established in the Standards Process Manual.
- Appoint, monitor and direct teams for work related to the Standards Process Manual (inclusive of, but not limited to, standard drafting teams) generally consisting of subject matter experts, a facilitator, a technical writer and compliance, legal and regulatory experts suitably equipped to address the desired reliability objectives.
- Receive and respond to decisions of appeals panels in accordance with the Reliability Standards process.
- Develop, maintain and implement a Standard Processes Manual ensuring the integrity of Reliability Standards development in a fair, balanced, open, and inclusive manner.
- Facilitate communication with regard to NERC Standards department and Standards Committee work, such as Reliability Standards under development and Standards Committee guiding documents.
- May consult with another NERC Committee for input to technical justification or alternate approaches to issues raised in a SAR.

Chapter 4: Membership

Segment Representation

The Committee membership consists of two members elected from each industry segment in accordance with Appendix 3B (*Procedures for Election of Members of the Standards Committee*) to the NERC Rules of Procedure. Each industry segment may establish its own rules for electing and replacing its SC representatives consistent with the following requirements:

Membership Requirements

No two persons employed by the same corporation or organization or an affiliate may serve concurrently as Committee members.

- Any Committee member with such a membership conflict shall notify the Committee secretary who will inform the Committee chair.
- Members impacted by a conflict, such as through a merger of organizations, may confer between themselves to determine which member should resign from the Committee and notify the Committee secretary and chair. If the impacted members do not resolve the conflict in a timely manner, the Committee chair shall notify all members of the affected industry segments of the need to resolve the conflict. If the membership conflict remains unresolved, the Committee chair shall take the conflict to the NERC Board of Trustees for resolution.
- Any Committee member aware of an unresolved membership issue shall notify the Committee chair.

Resignation from the Committee

Any member of the Committee who resigns from the Committee shall submit a written resignation to the Committee secretary and Committee chair.

- The Committee secretary shall facilitate election of a replacement member from the applicable industry segment to serve the remainder of the resigned member's term.
- If any member of the Committee fails to attend or send a proxy for more than two consecutive regularly scheduled meetings or conference calls, or more than two e-mail ballots between regularly-scheduled meetings, the Committee chair shall send a written notice to that member requesting the member either: (i) resign; or (ii) provide an explanation of the member's absences. If the member does not provide a written response within 30 calendar days of the date of the written notice, lack of response shall be deemed a resignation

Committee Member Change of Employment

- Any Committee member who leaves one organization and is subsequently employed by another organization in the same industry segment may retain the membership position.
- If a Committee member changes employment to an organization in a different industry segment, that Committee member shall resign from the Committee no later than the date of the employment change. The resignation letter shall be addressed to the Committee chair who will provide the letter to the Committee secretary and request an election to fill the vacant position. In the absence of a formal resignation, the Committee member will be deemed to have resigned as of the date the Committee chair or secretary becomes aware of the employment change.

Membership Terms

Committee members shall serve a term of two years without limitation to the number of terms the members may

serve, with members' terms staggered so half of the members (one per segment) is elected each year by industry segment election. Membership terms start on January 1 of each year.

Vacancies Caused by Election of Officers

The vacancies in the industry segments and/or Canada representation created by selection of the chair and vice chair shall be filled at the next annual election of Committee representatives. When a representative is elected to serve as the chair or vice chair during the second year of a two year term, the representative elected to fill the vacancy shall serve a one year term.

NERC Director of Standards or Designee

Acts as a non-voting Committee member to represent NERC's position on agenda items with the assistance of NERC Standards Staff.

Chapter 5: Officers

Selection

Prior to the annual election of Committee representatives in odd numbered years, the Committee members shall select a chair and vice chair from among their membership by majority vote. The chair and vice chair cannot represent the same industry segment. Approximately 150 calendar days prior to the end of each term, a nominating committee shall solicit nominations for chair and vice chair. The nominating committee shall consult with the NERC Board of Trustees' SC liaison on the nominations received.

No less than ten calendar days before the election date, the nominating committee shall provide to the Committee members the qualifications of the chair and vice chair nominees. At the time of the election, the Committee can accept nominations from the floor. Following the election, the successful candidates shall be presented to the NERC Board of Trustees for approval. The chair and vice chair, upon assuming such positions, shall cease to act as representatives of the industry segments that elected them and thereafter be responsible for acting in the best interests of the Committee as a whole.

Terms

The term of office for the Committee chair and vice chair is two years without limit on the number of terms an officer may serve. A member of NERC staff serves as the Committee's non-voting secretary.

Voting

The Committee chair and vice chair are non-voting Committee members.

Duties of the Chair

In addition to the duties, rights and privileges discussed elsewhere in this document, the Committee chair:

- Presides over and provides general supervision of Committee and Executive Committee activities and meetings.
- Presides over all Committee meetings, including the nature and length of discussion, recognition of speakers, motions and voting.
- In concert with NERC Staff, schedules Committee meetings.
- Reviews all substitute or proxy representatives.
- Acts as Committee spokesperson at forums within and outside of NERC.
- Reports Committee activities to the NERC Board of Trustees and attends Board of Trustees meetings.
- Reports all views and objections when reporting on items brought to the Committee.
- Performs other duties as directed by the NERC Board of Trustees.
- Participates as a member of the Standing Committees Coordinating Group (SCCG).

Duties of the Vice Chair

The Committee vice chair acts as the Committee chair if requested by the chair (for brief periods of time) or if the chair is absent or unable to perform the chair's duties. If the chair resigns prior to the next scheduled election, the vice chair shall act as the chair until the Committee selects a new chair. The vice chair:

- Assists the Committee chair in managing Committee meetings, including the nature and length of discussion, recognition of speakers, motions, and voting.

- Attends meetings of the NERC Board of Trustees in the chair's absence.
- Participates as a member of the SCCG.

Duties of the Secretary

A member of NERC staff shall serve under the direction of the Committee officers as a non-voting secretary and has the responsibility to:

- Conduct the day-to-day operation and business of the Committee.
- Prepare, distribute and post notices of Committee meetings, record meeting proceedings, and prepare, distribute and post meeting minutes.
- Maintain a record of all Committee proceedings, including attendance, responses, voting records, and correspondence.
- Maintain Committee membership records.
- Offer newly elected Committee members onboarding training, in partnership with the Committee Chair and Vice Chair.

Chapter 6: Voting Members' Expectations and Responsibilities

Voting members manage the NERC process to develop and maintain a comprehensive set of results-based Reliability Standards. Voting members have the following expectation and responsibilities:

- Contribute to the Committee's work and success by, among other things, executing the Committee Strategic Work Plan.
- Have familiarity with the Standard Processes Manual and ensure all actions adhere to the processes within.
- Serve as subject matter expert representatives of their industry segments and represent their industry segments.
- Be knowledgeable of NERC Reliability Standards development activities.
- Express opinions on behalf of their segments.
- Respond promptly to all Committee requests for attendance, reviews, comments and voting.
- Assist with outreach on the Reliability Standards development process.
- When unable to attend a Committee meeting notify the secretary and identify a proxy as described under Section 9. Meetings, sub section 9. Proxies, infra. The member shall instruct the proxy on the role and responsibilities.
- **Duty of Care:** Use due care and are diligent with respect to managing and administering the affairs of NERC and the Committee. This duty of care is generally thought to have two components: (i) the time and attention devoted to NERC's mission, and (ii) the skill and judgment reflected in the Committee's decisions.
- **Duty of Loyalty:** The duty of loyalty requires the members to faithfully promote the mission of NERC and the Committee, rather than their own or their entities' interests. This duty includes compliance with NERC's policies on conflicts of interest.
- **Duty to Adhere to High Ethical Standards:** The duty to adhere to applicable law and high ethical standards requires Committee members to devote themselves to ensuring they further NERC's stated objectives in compliance with legal requirements and high ethical standard

Chapter 7: Executive Committee

The Committee shall have an Executive Committee (SCEC) consisting of five members, including the Committee officers plus three segment members, elected by the Committee. The three segment members cannot represent the same industry segments the Committee officers previously represented, nor can any two of the segment members be from the same segment. The Executive Committee will be elected annually at the January Committee meeting. In the event of an SCEC vacancy before conclusion of the term, an election will be announced at the next regularly scheduled Committee meeting to be conducted at the following Committee meeting. The Executive Committee shall meet when necessary between regularly scheduled Committee meetings to conduct Committee business. However, the SCEC shall not reverse the Committee's decisions. Additionally, the Executive Committee shall have the authority to:

- Work with NERC Standards Staff to set agendas for Committee meetings.
- Act on the Committee's behalf to authorize postings of SARs, Reliability Standards, and other Standards-related documents.
- Provide advice and guidance to subcommittee chairs, as needed.
- Take any actions delegated by the full Committee.

Chapter 8: Subordinate Groups

The SC organizational structure will be aligned as described by the NERC Bylaws to support a superior-subordinate hierarchy.

The SC may establish subcommittees, working groups, and task forces as necessary. The SC will be the responsible sponsor of all subordinate subcommittees, working groups, or task forces that it creates, or that its subordinate subcommittees and working groups may establish.

Officers of subordinate groups will be appointed by the chair of the SC.

Subcommittees, working groups, and taskforces will conduct business in a manner consistent with all applicable sections of this Charter.

Subcommittees

The SC may establish subcommittees to which the SC may delegate some of SC's functions. The SC will approve the scope of each subcommittee it forms. The SC chair will appoint the subcommittee officers (typically a chair and a vice chair) for a specific term (generally two years). The subcommittee officers may be reappointed for an indefinite number of additional terms. The subcommittee will work within its assigned scope and be accountable for the responsibilities assigned to it by the committee. The formation of a subcommittee, due to the permanency of the subcommittee, will be approved by the NERC Board.

Working Groups

The SC may delegate specific continuing functions to a working group. The SC will approve the scope of each working group that it forms. The SC chair will appoint the working group officers (typically a chair and a vice chair) for a specific term (generally two years). The SC will conduct a "sunset" review of each working group every year. The working group will be accountable for the responsibilities assigned to it by the SC or subcommittee and will, at all times, work within its assigned scope. The SC should consider promoting to a subcommittee any working group that is required to work longer than one term.

Task Forces

The SC may assign specific work to a task force. The SC will approve the scope of each task force it forms. The SC chair will appoint the task force officers (typically a chair and a vice chair). Each task force will have a finite duration, normally less than one year. The SC will review the task force scope at the end of the expected duration and at each subsequent meeting of the SC until the task force is retired. Action of the SC is required to continue the task force past its defined duration. The SC should consider promoting to a working group any task force that is required to work longer than one year.

Chapter 9: Meetings

Open Meetings

Committee meetings shall be open to all interested parties, subject to any preregistration meeting requirements included in the meeting announcement. Meeting notices shall describe the meeting's purpose and identify a readily available source for further information about the meeting. Only voting members may act on items before the Committee. The Committee secretary shall post meeting notices and agendas on the NERC website contemporaneously with distribution to Committee members. The Committee secretary shall publicly post final minutes of Committee meetings on the NERC website within five business days of Committee approval.

General Requirements

The Committee shall hold meetings as needed and may use conference calls or e-mail to conduct its business.

Notice

The Committee secretary shall announce regularly scheduled meetings with a written notice (letter, facsimile, or e-mail) to all Committee members not less than ten nor more than sixty calendar days prior to the meeting date.

Agenda

The secretary shall provide an agenda with a written notice (letter, facsimile, or e-mail) for Committee meetings no less than five business days before a proposed meeting.

- The agenda shall include, as necessary, background material for agenda items requiring a decision or vote. The secretary shall post the agenda on the NERC website the same day it is distributed to Committee members.
- Items not in the agenda that require a vote cannot be added at a meeting without the unanimous consent of the members present. If such a matter arises, it may also be deferred to the next meeting to allow Committee members to consult with their industry segments.

Parliamentary Procedures

In the absence of specific provisions in this Charter, the Committee shall conduct its meetings guided by the most recent edition of *Robert's Rules of Order, Newly Revised*.

Quorum

A quorum requires two-thirds of the Committee voting members.

Voting

Voting may take place during regularly scheduled meetings or through electronic means.

- All Committee actions shall be approved upon receipt of the affirmative vote of a majority of the members present and voting at a meeting with a quorum present, with the exception of revisions to the Standard Processes Manual and the Committee Charter which can be approved only upon receipt of the affirmative vote of two-thirds of the members present and voting at a meeting with a quorum present.
- Each individual member's vote for each action taken shall be included in the minutes of each meeting, unless the vote is unanimous with no abstentions.

Actions without a Meeting

The Committee may act by mail or e-mail ballot without a regularly scheduled meeting. A majority of the members participating in the voting is required to approve any action. A quorum for actions without a meeting is two-thirds of

Committee members. The Committee chair or four members (each from a different industry segment) may initiate the request for an action without a meeting. The secretary shall post a notice on the NERC website and provide Committee members a written notice (letter, facsimile, or e-mail) of the subject matter for action not less than three business days prior to the date on which the vote is to be counted. The secretary shall both distribute a written notice to the Committee (letter, facsimile, or e-mail) of the results of such action within five business days following the vote and post the results on the NERC website. The secretary shall keep a record of all responses (e-mails, facsimiles, etc.) from the Committee members with the Committee minutes.

Waivers

From time to time it may be necessary to develop a new or modified Reliability Standard, definition, Variance, Interpretation, or implementation plan under specific time constraints (such as to meet a time constrained regulatory directive) or to meet an urgent reliability issue such that there isn't sufficient time to follow all the steps in the normal Reliability Standards development process. The Standards Committee may waive any of the provisions contained in the Standard Processes Manual for good cause shown, but limited to the circumstances established in Section 16.0 of the Manual. A waiver request may be submitted to the Committee by any entity or individual. Prior to consideration of any waiver request, the Standards Committee must provide five business days' notice to stakeholders. This provision shall not be used to modify the requirements for achieving quorum or the voting requirements for approval of a standard.

Proxies

A Committee member may designate a proxy. Proxies may attend and vote at Committee meetings provided the absent Committee member notifies in writing (letter, facsimile, or e-mail) the Committee chair, vice chair or secretary along with the reason(s) for the proxy. The member shall name the proxy representative and affiliation in the correspondence. No Committee member can serve as a proxy for another Committee member. The proxy must adhere to the Voting Members' Expectations and Responsibilities as described in Section 6, above.

Critical Infrastructure Protection Board Resolution Updates

Action

Information

Background

The below information provides updates on activities in support of resolutions approved by the NERC Board of Trustees (Board) regarding Critical Infrastructure Protection (CIP) Reliability Standards.

Supply Chain Low Impact Resolutions

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 Bulk Electric System (BES) Cyber Systems. These standards collectively referred to as the Supply Chain Standards, consist of 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 are applicable to the highest-risk systems that have the greatest impact to the grid. When adopting the Supply Chain Standards in August 2017, the 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 understand these risks better, NERC collected data from registered entities pursuant to a request for data or information under Section 1600 of the NERC Rules of Procedure.

NERC staff's analysis of the data collected 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.

Based on the analysis of the data request, NERC staff recommended to the Board at its February 6, 2020 meeting that Reliability Standard CIP-003-8 be modified to include policies for low impact BES Cyber Systems to: (1) detect known or suspected malicious communications for both inbound and outbound communications; (2) determine when active vendor remote access sessions are initiated; and (3) disable active vendor remote access when necessary. The NERC Board approved a [resolution](#) at this meeting endorsing this action. Currently, the Project 2020-03 (Supply Chain Low Impact Revisions) standard drafting team is developing standards modifications to address this resolution.

CIP-002 Resolutions

On May 14, 2020, the Board adopted proposed Reliability Standard CIP-002-6. The proposed Reliability Standard CIP-002-6 addressed the recommendation from the Version 5 Transition Advisory Group² to clarify the phrase “used to perform the functional obligations of the Transmission Operator (TOP)” in CIP-002-5.1a, Attachment 1, Criterion 2.12.

Specifically, the CIP-002-6 addressed the applicability of requirements to a Control Center owned by a Transmission Owner (TO) that performs the functional obligations of a TOP. The proposed criterion established an average MVA line loading based on voltage class for BES Transmission Lines operated between 100 and 499 kV. The aggregate weighted value of the BES Transmission Lines must exceed 6,000 to meet the minimum threshold established in Criterion 2.12. In meeting that threshold, associated BES Cyber Systems would be categorized as medium; those Control Centers that did not meet the threshold would have low impact BES Cyber Systems (if not already identified as high).

In light of recent cybersecurity events and the evolving threat landscape, the Board took action at its February 4, 2021 to withdraw CIP-006-6. In doing so, they approved the following resolution:

WHEREAS, the Board adopted proposed Reliability Standard CIP-002-6 on May 14, 2020, in which a new criterion was proposed to address the applicability of the CIP Reliability Standards to Control Centers owned by Transmission Owners performing the functional obligations of a Transmission Operator;

WHEREAS, recent cybersecurity events and the evolving threat landscape warrant additional caution regarding any criteria that may permit more entities to categorize BES Cyber System as low impact and therefore subject to fewer requirements in the CIP Reliability Standards;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby withdraws the proposed Reliability Standard CIP-002-6, 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 resolution.

FURTHER RESOLVED, that NERC Staff, working with stakeholders, is directed to promptly conduct further study of the need to readdress the applicability of the CIP Reliability Standards to such Control Centers to safeguard reliability, for the purpose of recommending further action to the Board.

FURTHER RESOLVED, that NERC Staff, working with stakeholders, recognizing the complexity of the undertaking, is directed to expeditiously complete its broader review and analysis of degrees of risk presented by various facilities that meet the criteria that define low impact cyber facilities and report on whether those criteria should be modified.

FURTHER RESOLVED, that NERC Staff is directed to report to the Board on the status of this work on a quarterly basis until complete.

NERC staff is currently addressing the above resolutions. First, NERC filed notice of withdrawal of its CIP-002-6 petition with FERC on February 5, 2021. Second, NERC and industry initiated a field test under the NERC Rules of Procedure, Appendix 3A Section 6, as part of standards development Project 2021-03 CIP-002 Transmission Owner Control Centers to address the resolution regarding the applicability of CIP Reliability Standards to certain Control Centers. Finally, NERC assembled a team to review the risk posed by low impact BES Cyber Systems to address the resolution regarding a broader review and analysis of low impact cyber facilities. This team is currently working on a whitepaper. NERC staff will provide an update on these activities addressing low impact BES Cyber Systems.

Cold Weather Standard Development Update

Action

Information

Background

Since 2011, the ERO Enterprise has heightened its scrutiny over events during extreme winter weather conditions. Most recently, FERC and the ERO Enterprise initiated a joint inquiry to review the circumstances surrounding the February 2021 event that affected Texas and parts of the southern central United States. On September 23, 2021, FERC and NERC staff presented [preliminary findings and recommendations](#) during the FERC Open Meeting. The Board of Trustees (Board), at its November 4, 2021 meeting, adopted a resolution approving the 2022-2024 Reliability Standards Development Plan, substantially in the form presented to the Board at the meeting, subject to the addition of the Extreme Cold Weather Grid Operations, Preparedness, and Coordination standards development project as a high priority item. They further directed completion of the development of new or revised Reliability Standards to address the recommendations of the joint inquiry team for cold weather operations, preparedness, and coordination in accordance with the timelines recommended by the joint inquiry team, as follows:

- New and revised Reliability Standards to be submitted for regulatory approval before Winter 2022/2023: development completed by September 30, 2022, for the Board's consideration in October 2022;
- New and revised Reliability Standards to be submitted for regulatory approval before Winter 2023/2024: development completed by September 30, 2023, for the Board's consideration in October 2023.

On November 16, 2021, FERC and the ERO Enterprise published their final [report](#). NERC staff submitted a Standard Authorization Request (SAR) to initiate the standards recommendations in the report. The Standards Committee approved the SAR for posting at its November 17, 2021 meeting.

CIP-014 Compliance Evidence

Action

Approve and authorize staff to file with applicable regulatory authorities, to the extent necessary:

- Reliability Standard CIP-014-3 – Physical Security

Background

The Compliance section associated with Reliability Standard CIP-014 includes the following provision:

1.4. Additional Compliance Information

Confidentiality: To protect the confidentiality and sensitive nature of the evidence for demonstrating compliance with this standard, all evidence will be retained at the Transmission Owner's and Transmission Operator's facilities.

This provision is unique to CIP-014. It was initially included in the initial version of the Compliance section due to heightened concerns over securing the confidentiality of the sensitive information used to demonstrate compliance with CIP-014, particularly an entity's list of critical substations subject to the standard.

The ERO Enterprise has determined that it should no longer treat CIP-014 evidence any differently than other sensitive evidence it collects during its Compliance Monitoring and Enforcement Program (CMEP) activities. With the advent of Align and the SEL, NERC has a highly secure means of collecting and analyzing CIP-014 evidence in the same manner as any other evidence collected as part of CMEP activities. Additionally, the experiences of conducting remote auditing during the pandemic highlighted the effectiveness of remote work. The CIP-014 compliance evidence provision created challenges in the ERO Enterprise's ability to monitor CIP-014. For these reasons, NERC is seeking to harmonize CIP-014's Compliance section with every other Reliability Standard by removing the "Additional Compliance Information" provision. A Redline draft of the CIP-014 standard is attached hereto.

NERC staff has briefed the Compliance and Certification Committee and the Board of Trustees Compliance Committee on the proposed removal. Removal of the "Additional Compliance Information" provision in CIP-014 was not balloted. Per the Standards Process Manual, only the Applicability and Requirements sections of Reliability Standards are mandatory and enforceable, and modifications to those components would need approval through the ballot body.

A. Introduction

1. **Title:** Physical Security
2. **Number:** CIP-014-~~32~~
3. **Purpose:** To identify and protect Transmission stations and Transmission substations, and their associated primary control centers, that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or Cascading within an Interconnection.
4. **Applicability:**

4.1. Functional Entities:

- 4.1.1 Transmission Owner that owns a Transmission station or Transmission substation that meets any of the following criteria:

4.1.1.1 Transmission Facilities operated at 500 kV or higher. For the purpose of this criterion, the collector bus for a generation plant is not considered a Transmission Facility, but is part of the generation interconnection Facility.

4.1.1.2 Transmission Facilities that are operating between 200 kV and 499 kV at a single station or substation, where the station or substation is connected at 200 kV or higher voltages to three or more other Transmission stations or substations and has an "aggregate weighted value" exceeding 3000 according to the table below. The "aggregate weighted value" for a single station or substation is determined by summing the "weight value per line" shown in the table below for each incoming and each outgoing BES Transmission Line that is connected to another Transmission station or substation. For the purpose of this criterion, the collector bus for a generation plant is not considered a Transmission Facility, but is part of the generation interconnection Facility.

Voltage Value of a Line	Weight Value per Line
less than 200 kV (not applicable)	(not applicable)
200 kV to 299 kV	700
300 kV to 499 kV	1300
500 kV and above	0

- 4.1.1.3 Transmission Facilities at a single station or substation location that are identified by its Reliability Coordinator, Planning Coordinator, or

Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.

4.1.1.4 Transmission Facilities identified as essential to meeting Nuclear Plant Interface Requirements.

4.1.2 Transmission Operator.

Exemption: Facilities in a “protected area,” as defined in 10 C.F.R. § 73.2, within the scope of a security plan approved or accepted by the Nuclear Regulatory Commission are not subject to this Standard; or, Facilities within the scope of a security plan approved or accepted by the Canadian Nuclear Safety Commission are not subject to this Standard.

5. Effective Dates:

See Implementation Plan for CIP-014-2.

6. Background:

This Reliability Standard addresses the directives from the FERC order issued March 7, 2014, *Reliability Standards for Physical Security Measures*, 146 FERC ¶ 61,166 (2014), which required NERC to develop a physical security reliability standard(s) to identify and protect facilities that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection.

B. Requirements and Measures

R1. Each Transmission Owner shall perform an initial risk assessment and subsequent risk assessments of its Transmission stations and Transmission substations (existing and planned to be in service within 24 months) that meet the criteria specified in Applicability Section 4.1.1. The initial and subsequent risk assessments shall consist of a transmission analysis or transmission analyses designed to identify the Transmission station(s) and Transmission substation(s) that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection. *[VRF: High; Time-Horizon: Long-term Planning]*

1.1. Subsequent risk assessments shall be performed:

- At least once every 30 calendar months for a Transmission Owner that has identified in its previous risk assessment (as verified according to Requirement R2) one or more Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection; or
- At least once every 60 calendar months for a Transmission Owner that has not identified in its previous risk assessment (as verified according to Requirement R2) any Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection.

1.2. The Transmission Owner shall identify the primary control center that operationally controls each Transmission station or Transmission substation identified in the Requirement R1 risk assessment.

M1. Examples of acceptable evidence may include, but are not limited to, dated written or electronic documentation of the risk assessment of its Transmission stations and Transmission substations (existing and planned to be in service within 24 months) that meet the criteria in Applicability Section 4.1.1 as specified in Requirement R1. Additionally, examples of acceptable evidence may include, but are not limited to, dated written or electronic documentation of the identification of the primary control center that operationally controls each Transmission station or Transmission substation identified in the Requirement R1 risk assessment as specified in Requirement R1, Part 1.2.

R2. Each Transmission Owner shall have an unaffiliated third party verify the risk assessment performed under Requirement R1. The verification may occur concurrent with or after the risk assessment performed under Requirement R1. *[VRF: Medium; Time-Horizon: Long-term Planning]*

2.1. Each Transmission Owner shall select an unaffiliated verifying entity that is either:

- A registered Planning Coordinator, Transmission Planner, or Reliability Coordinator; or
 - An entity that has transmission planning or analysis experience.
- 2.2.** The unaffiliated third party verification shall verify the Transmission Owner’s risk assessment performed under Requirement R1, which may include recommendations for the addition or deletion of a Transmission station(s) or Transmission substation(s). The Transmission Owner shall ensure the verification is completed within 90 calendar days following the completion of the Requirement R1 risk assessment.
- 2.3.** If the unaffiliated verifying entity recommends that the Transmission Owner add a Transmission station(s) or Transmission substation(s) to, or remove a Transmission station(s) or Transmission substation(s) from, its identification under Requirement R1, the Transmission Owner shall either, within 60 calendar days of completion of the verification, for each recommended addition or removal of a Transmission station or Transmission substation:
- Modify its identification under Requirement R1 consistent with the recommendation; or
 - Document the technical basis for not modifying the identification in accordance with the recommendation.
- 2.4.** Each Transmission Owner shall implement procedures, such as the use of non-disclosure agreements, for protecting sensitive or confidential information made available to the unaffiliated third party verifier and to protect or exempt sensitive or confidential information developed pursuant to this Reliability Standard from public disclosure.
- M2.** Examples of acceptable evidence may include, but are not limited to, dated written or electronic documentation that the Transmission Owner completed an unaffiliated third party verification of the Requirement R1 risk assessment and satisfied all of the applicable provisions of Requirement R2, including, if applicable, documenting the technical basis for not modifying the Requirement R1 identification as specified under Part 2.3. Additionally, examples of evidence may include, but are not limited to, written or electronic documentation of procedures to protect information under Part 2.4.
- R3.** For a primary control center(s) identified by the Transmission Owner according to Requirement R1, Part 1.2 that a) operationally controls an identified Transmission station or Transmission substation verified according to Requirement R2, and b) is not under the operational control of the Transmission Owner: the Transmission Owner shall, within seven calendar days following completion of Requirement R2, notify the Transmission Operator that has operational control of the primary control center of

such identification and the date of completion of Requirement R2. [*VRF: Lower; Time-Horizon: Long-term Planning*]

- 3.1.** If a Transmission station or Transmission substation previously identified under Requirement R1 and verified according to Requirement R2 is removed from the identification during a subsequent risk assessment performed according to Requirement R1 or a verification according to Requirement R2, then the Transmission Owner shall, within seven calendar days following the verification or the subsequent risk assessment, notify the Transmission Operator that has operational control of the primary control center of the removal.
- M3.** Examples of acceptable evidence may include, but are not limited to, dated written or electronic notifications or communications that the Transmission Owner notified each Transmission Operator, as applicable, according to Requirement R3.
- R4.** Each Transmission Owner that identified a Transmission station, Transmission substation, or a primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall conduct an evaluation of the potential threats and vulnerabilities of a physical attack to each of their respective Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2. The evaluation shall consider the following: [*VRF: Medium; Time-Horizon: Operations Planning, Long-term Planning*]
 - 4.1.** Unique characteristics of the identified and verified Transmission station(s), Transmission substation(s), and primary control center(s);
 - 4.2.** Prior history of attack on similar facilities taking into account the frequency, geographic proximity, and severity of past physical security related events; and
 - 4.3.** Intelligence or threat warnings received from sources such as law enforcement, the Electric Reliability Organization (ERO), the Electricity Sector Information Sharing and Analysis Center (ES-ISAC), U.S. federal and/or Canadian governmental agencies, or their successors.
- M4.** Examples of evidence may include, but are not limited to, dated written or electronic documentation that the Transmission Owner or Transmission Operator conducted an evaluation of the potential threats and vulnerabilities of a physical attack to their respective Transmission station(s), Transmission substation(s) and primary control center(s) as specified in Requirement R4.
- R5.** Each Transmission Owner that identified a Transmission station, Transmission substation, or primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall develop and implement a documented physical security plan(s) that covers their respective Transmission station(s), Transmission substation(s), and primary control center(s). The physical security plan(s) shall be

developed within 120 calendar days following the completion of Requirement R2 and executed according to the timeline specified in the physical security plan(s). The physical security plan(s) shall include the following attributes: *[VRF: High; Time-Horizon: Long-term Planning]*

- 5.1.** Resiliency or security measures designed collectively to deter, detect, delay, assess, communicate, and respond to potential physical threats and vulnerabilities identified during the evaluation conducted in Requirement R4.
 - 5.2.** Law enforcement contact and coordination information.
 - 5.3.** A timeline for executing the physical security enhancements and modifications specified in the physical security plan.
 - 5.4.** Provisions to evaluate evolving physical threats, and their corresponding security measures, to the Transmission station(s), Transmission substation(s), or primary control center(s).
- M5.** Examples of evidence may include, but are not limited to, dated written or electronic documentation of its physical security plan(s) that covers their respective identified and verified Transmission station(s), Transmission substation(s), and primary control center(s) as specified in Requirement R5, and additional evidence demonstrating execution of the physical security plan according to the timeline specified in the physical security plan.
- R6.** Each Transmission Owner that identified a Transmission station, Transmission substation, or primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall have an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5. The review may occur concurrently with or after completion of the evaluation performed under Requirement R4 and the security plan development under Requirement R5. *[VRF: Medium; Time-Horizon: Long-term Planning]*
- 6.1.** Each Transmission Owner and Transmission Operator shall select an unaffiliated third party reviewer from the following:
- An entity or organization with electric industry physical security experience and whose review staff has at least one member who holds either a Certified Protection Professional (CPP) or Physical Security Professional (PSP) certification.
 - An entity or organization approved by the ERO.
 - A governmental agency with physical security expertise.

- An entity or organization with demonstrated law enforcement, government, or military physical security expertise.
- 6.2.** The Transmission Owner or Transmission Operator, respectively, shall ensure that the unaffiliated third party review is completed within 90 calendar days of completing the security plan(s) developed in Requirement R5. The unaffiliated third party review may, but is not required to, include recommended changes to the evaluation performed under Requirement R4 or the security plan(s) developed under Requirement R5.
- 6.3.** If the unaffiliated third party reviewer recommends changes to the evaluation performed under Requirement R4 or security plan(s) developed under Requirement R5, the Transmission Owner or Transmission Operator shall, within 60 calendar days of the completion of the unaffiliated third party review, for each recommendation:
- Modify its evaluation or security plan(s) consistent with the recommendation; or
 - Document the reason(s) for not modifying the evaluation or security plan(s) consistent with the recommendation.
- 6.4.** Each Transmission Owner and Transmission Operator shall implement procedures, such as the use of non-disclosure agreements, for protecting sensitive or confidential information made available to the unaffiliated third party reviewer and to protect or exempt sensitive or confidential information developed pursuant to this Reliability Standard from public disclosure.
- M6.** Examples of evidence may include, but are not limited to, written or electronic documentation that the Transmission Owner or Transmission Operator had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 as specified in Requirement R6 including, if applicable, documenting the reasons for not modifying the evaluation or security plan(s) in accordance with a recommendation under Part 6.3. Additionally, examples of evidence may include, but are not limited to, written or electronic documentation of procedures to protect information under Part 6.4.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority” (CEA) means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

1.2. Evidence Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the CEA may ask an entity to provide other evidence during an on-site visit to show that it was compliant for the full time period since the last audit.

The Transmission Owner and Transmission Operator shall keep data or evidence to show compliance, as identified below, unless directed by its Compliance Enforcement Authority (CEA) to retain specific evidence for a longer period of time as part of an investigation.

The responsible entities shall retain documentation as evidence for three years.

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

The CEA shall keep the last audit records and all requested and submitted subsequent audit records, subject to the confidentiality provisions of Section 1500 of the Rules of Procedure and the provisions of Section 1.4 below.

1.3. Compliance Monitoring and Assessment Processes:

Compliance Audits

Self-Certifications

Spot Checking

Compliance Violation Investigations

Self-Reporting

Complaints Text

~~1.4. Additional Compliance Information~~

~~Confidentiality: To protect the confidentiality and sensitive nature of the evidence for demonstrating compliance with this standard, all evidence will be retained at the Transmission Owner's and Transmission Operator's facilities.~~

2. Table of Compliance Elements

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Long-term Planning	High	<p>The Transmission Owner performed an initial risk assessment but did so after the date specified in the implementation plan for performing the initial risk assessment but less than or equal to two calendar months after that date;</p> <p>OR</p> <p>The Transmission Owner that has identified in its previous risk assessment one or more Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability,</p>	<p>The Transmission Owner performed an initial risk assessment but did so more than two calendar months after the date specified in the implementation plan for performing the initial risk assessment but less than or equal to four calendar months after that date;</p> <p>OR</p> <p>The Transmission Owner that has identified in its previous risk assessment one or more Transmission stations or Transmission substations that if rendered inoperable or damaged could</p>	<p>The Transmission Owner performed an initial risk assessment but did so more than four calendar months after the date specified in the implementation plan for performing the initial risk assessment but less than or equal to six calendar months after that date;</p> <p>OR</p> <p>The Transmission Owner that has identified in its previous risk assessment one or more Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability,</p>	<p>The Transmission Owner performed an initial risk assessment but did so more than six calendar months after the date specified in the implementation plan for performing the initial risk assessment;</p> <p>OR</p> <p>The Transmission Owner failed to perform an initial risk assessment;</p> <p>OR</p> <p>The Transmission Owner that has identified in its previous risk assessment one or more Transmission stations or</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p>uncontrolled separation, or Cascading within an Interconnection performed a subsequent risk assessment but did so after 30 calendar months but less than or equal to 32 calendar months;</p> <p>OR</p> <p>The Transmission Owner that has not identified in its previous risk assessment any Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection performed a</p>	<p>result in instability, uncontrolled separation, or Cascading within an Interconnection performed a subsequent risk assessment but did so after 32 calendar months but less than or equal to 34 calendar months;</p> <p>OR</p> <p>The Transmission Owner that has not identified in its previous risk assessment any Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection performed a</p>	<p>uncontrolled separation, or Cascading within an Interconnection performed a subsequent risk assessment but did so after 34 calendar months but less than or equal to 36 calendar months;</p> <p>OR</p> <p>The Transmission Owner that has not identified in its previous risk assessment any Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection performed a subsequent risk</p>	<p>Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection performed a subsequent risk assessment but did so after more than 36 calendar months;</p> <p>OR</p> <p>The Transmission Owner that has identified in its previous risk assessment one or more Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			subsequent risk assessment but did so after 60 calendar months but less than or equal to 62 calendar months.	subsequent risk assessment but did so after 62 calendar months but less than or equal to 64 calendar months.	assessment but did so after 64 calendar months but less than or equal to 66 calendar months; OR The Transmission Owner performed a risk assessment but failed to include Part 1.2.	Cascading within an Interconnection failed to perform a risk assessment; OR The Transmission Owner that has not identified in its previous risk assessment any Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection performed a subsequent risk assessment but did so after more than 66 calendar months; OR

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						The Transmission Owner that has not identified in its previous risk assessment any Transmission station and Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection failed to perform a subsequent risk assessment.
R2	Long-term Planning	Medium	The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 but did so in more than 90 calendar days but less than or equal to 100 calendar days	The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 but did so more than 100 calendar days but less than or equal to 110 calendar days	The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 but did so more than 110 calendar days but less than or equal to 120 calendar days	The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 but did so more than 120 calendar days following

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014- 13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			following completion of Requirement R1; OR The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 and modified or documented the technical basis for not modifying its identification under Requirement R1 as required by Part 2.3 but did so more than 60 calendar days and less than or equal to 70 calendar days from completion of the third party verification.	following completion of Requirement R1; Or The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 and modified or documented the technical basis for not modifying its identification under Requirement R1 as required by Part 2.3 but did so more than 70 calendar days and less than or equal to 80 calendar days from completion of the third party verification.	following completion of Requirement R1; OR The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 and modified or documented the technical basis for not modifying its identification under Requirement R1 as required by Part 2.3 but did so more than 80 calendar days from completion of the third party verification; OR The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1	completion of Requirement R1; OR The Transmission Owner failed to have an unaffiliated third party verify the risk assessment performed under Requirement R1; OR The Transmission Owner had an unaffiliated third party verify the risk assessment performed under Requirement R1 but failed to implement procedures for protecting information per Part 2.4.

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014- 13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
					but failed to modify or document the technical basis for not modifying its identification under R1 as required by Part 2.3.	
R3	Long-term Planning	Lower	<p>The Transmission Owner notified the Transmission Operator that operates the primary control center as specified in Requirement R3 but did so more than seven calendar days and less than or equal to nine calendar days following the completion of Requirement R2;</p> <p>OR</p> <p>The Transmission Owner notified the Transmission Operator that operates the primary</p>	<p>The Transmission Owner notified the Transmission Operator that operates the primary control center as specified in Requirement R3 but did so more than nine calendar days and less than or equal to 11 calendar days following the completion of Requirement R2;</p> <p>OR</p> <p>The Transmission Owner notified the Transmission Operator that operates the primary</p>	<p>The Transmission Owner notified the Transmission Operator that operates the primary control center as specified in Requirement R3 but did so more than 11 calendar days and less than or equal to 13 calendar days following the completion of Requirement R2;</p> <p>OR</p> <p>The Transmission Owner notified the Transmission Operator that operates the primary control center of the removal from</p>	<p>The Transmission Owner notified the Transmission Operator that operates the primary control center as specified in Requirement R3 but did so more than 13 calendar days following the completion of Requirement R2;</p> <p>OR</p> <p>The Transmission Owner failed to notify the Transmission Operator that it operates a control</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			control center of the removal from the identification in Requirement R1 but did so more than seven calendar days and less than or equal to nine calendar days following the verification or the subsequent risk assessment.	control center of the removal from the identification in Requirement R1 but did so more than nine calendar days and less than or equal to 11 calendar days following the verification or the subsequent risk assessment.	the identification in Requirement R1 but did so more than 11 calendar days and less than or equal to 13 calendar days following the verification or the subsequent risk assessment.	center identified in Requirement R1; OR The Transmission Owner notified the Transmission Operator that operates the primary control center of the removal from the identification in Requirement R1 but did so more than 13 calendar days following the verification or the subsequent risk assessment. OR The Transmission Owner failed to notify the Transmission Operator that operates the primary control center of the removal from the

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						identification in Requirement R1.
R4	Operations Planning, Long-term Planning	Medium	N/A	The Responsible Entity conducted an evaluation of the potential physical threats and vulnerabilities to each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 but failed to consider one of Parts 4.1 through 4.3 in the evaluation.	The Responsible Entity conducted an evaluation of the potential physical threats and vulnerabilities to each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 but failed to consider two of Parts 4.1 through 4.3 in the evaluation.	The Responsible Entity failed to conduct an evaluation of the potential physical threats and vulnerabilities to each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1; OR The Responsible Entity conducted an evaluation of the potential physical threats and vulnerabilities to each of its Transmission station(s), Transmission

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						substation(s), and primary control center(s) identified in Requirement R1 but failed to consider Parts 4.1 through 4.3.
R5	Long-term Planning	High	The Responsible Entity developed and implemented a documented physical security plan(s) that covers each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 but did so more than 120 calendar days but less than or equal to 130 calendar days after completing Requirement R2; OR	The Responsible Entity developed and implemented a documented physical security plan(s) that covers each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 but did so more than 130 calendar days but less than or equal to 140 calendar days after completing Requirement R2; OR	The Responsible Entity developed and implemented a documented physical security plan(s) that covers each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 but did so more than 140 calendar days but less than or equal to 150 calendar days after completing Requirement R2; OR	The Responsible Entity developed and implemented a documented physical security plan(s) that covers each of its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 but did so more than 150 calendar days after completing the verification in Requirement R2; OR

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			<p>The Responsible Entity developed and implemented a documented physical security plan(s) that covers its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2 but failed to include one of Parts 5.1 through 5.4 in the plan.</p>	<p>The Responsible Entity developed and implemented a documented physical security plan(s) that covers its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2 but failed to include two of Parts 5.1 through 5.4 in the plan.</p>	<p>The Responsible Entity developed and implemented a documented physical security plan(s) that covers its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2 but failed to include three of Parts 5.1 through 5.4 in the plan.</p>	<p>The Responsible Entity failed to develop and implement a documented physical security plan(s) that covers its Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2.</p> <p>OR</p> <p>The Responsible Entity developed and implemented a documented physical security plan(s) that covers its Transmission station(s), Transmission substation(s), and primary control</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						center(s) identified in Requirement R1 and verified according to Requirement 2 but failed to include Parts 5.1 through 5.4 in the plan.
R6	Long-term Planning	Medium	<p>The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 but did so in more than 90 calendar days but less than or equal to 100 calendar days;</p> <p>OR</p> <p>The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement</p>	<p>The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 but did so in more than 100 calendar days but less than or equal to 110 calendar days;</p> <p>OR</p> <p>The Responsible Entity had an unaffiliated third party review the evaluation performed</p>	<p>The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 but did so more than 110 calendar days but less than or equal to 120 calendar days;</p> <p>OR</p> <p>The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed</p>	<p>The Responsible Entity failed to have an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 in more than 120 calendar days;</p> <p>OR</p> <p>The Responsible Entity failed to have an unaffiliated third party review the evaluation performed under Requirement R4 and</p>

R #	Time Horizon	VRF	Violation Severity Levels (CIP-014-13)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			R4 and the security plan(s) developed under Requirement R5 and modified or documented the reason for not modifying the security plan(s) as specified in Part 6.3 but did so more than 60 calendar days and less than or equal to 70 calendar days following completion of the third party review.	under Requirement R4 and the security plan(s) developed under Requirement R5 and modified or documented the reason for not modifying the security plan(s) as specified in Part 6.3 but did so more than 70 calendar days and less than or equal to 80 calendar days following completion of the third party review.	under Requirement R5 and modified or documented the reason for not modifying the security plan(s) as specified in Part 6.3 but did so more than 80 calendar days following completion of the third party review; OR The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 but did not document the reason for not modifying the security plan(s) as specified in Part 6.3.	the security plan(s) developed under Requirement R5; OR The Responsible Entity had an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5 but failed to implement procedures for protecting information per Part 6.4.

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	October 1, 2015	Effective Date	New
2	April 16, 2015	Revised to meet FERC Order 802 directive to remove “widespread”.	Revision
2	May 7, 2015	Adopted by the NERC Board of Trustees	
2	July 14, 2015	FERC Letter Order in Docket No. RD15-4-000 approving CIP-014-2	
<u>3</u>	<u>January 19, 2022</u>	<u>Revised to remove Compliance Section 1.4</u>	<u>Revision</u>

Guidelines and Technical Basis

Section 4 Applicability

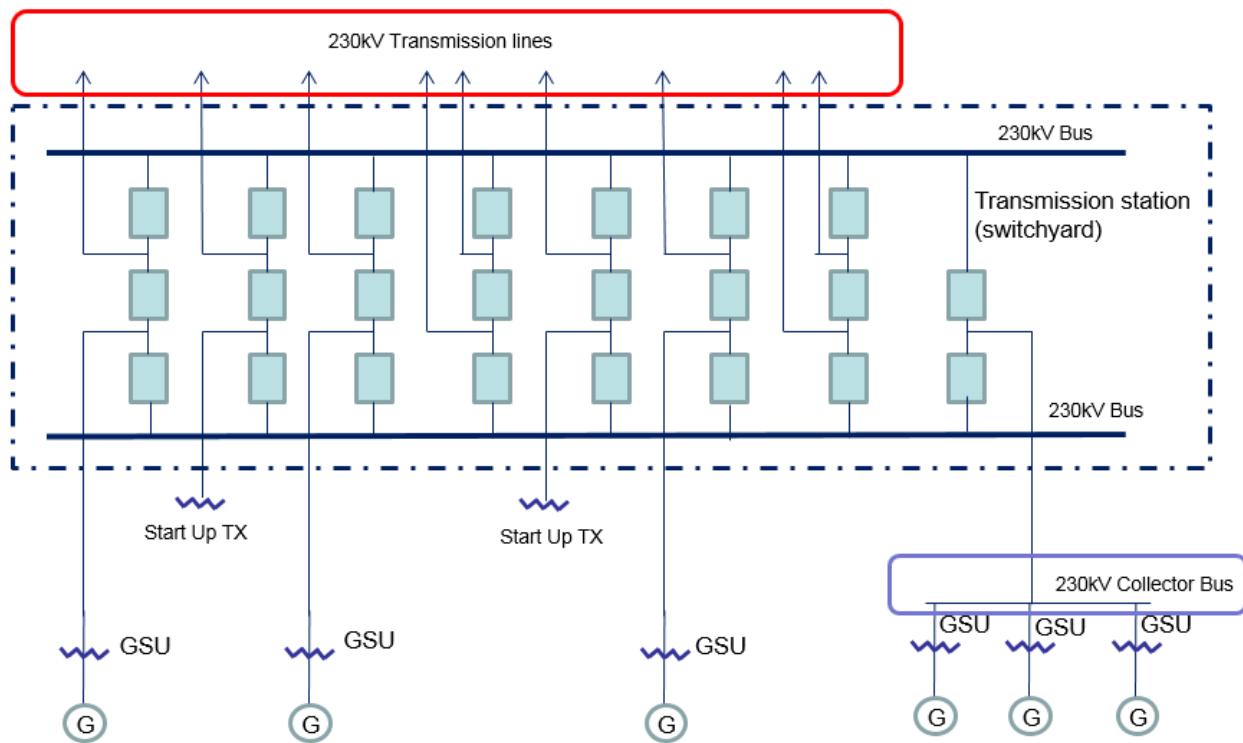
The purpose of Reliability Standard CIP-014 is to protect Transmission stations and Transmission substations, and their associated primary control centers that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or Cascading within an Interconnection. To properly include those entities that own or operate such Facilities, the Reliability Standard CIP-014 first applies to Transmission Owners that own Transmission Facilities that meet the specific criteria in Applicability Section 4.1.1.1 through 4.1.1.4. The Facilities described in Applicability Section 4.1.1.1 through 4.1.1.4 mirror those Transmission Facilities that meet the bright line criteria for “Medium Impact” Transmission Facilities under Attachment 1 of Reliability Standard CIP-002-5.1. Each Transmission Owner that owns Transmission Facilities that meet the criteria in Section 4.1.1.1 through 4.1.1.4 is required to perform a risk assessment as specified in Requirement R1 to identify its Transmission stations and Transmission substations, and their associated primary control centers, that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or Cascading within an Interconnection. The Standard Drafting Team (SDT) expects this population will be small and that many Transmission Owners that meet the applicability of this standard will not actually identify any such Facilities. Only those Transmission Owners with Transmission stations or Transmission substations identified in the risk assessment (and verified under Requirement R2) have performance obligations under Requirements R3 through R6.

This standard also applies to Transmission Operators. A Transmission Operator’s obligations under the standard, however, are only triggered if the Transmission Operator is notified by an applicable Transmission Owner under Requirement R3 that the Transmission Operator operates a primary control center that operationally controls a Transmission station(s) or Transmission substation(s) identified in the Requirement R1 risk assessment. A primary control center operationally controls a Transmission station or Transmission substation when the control center’s electronic actions can cause direct physical action at the identified Transmission station or Transmission substation, such as opening a breaker, as opposed to a control center that only has information from the Transmission station or Transmission substation and must coordinate direct action through another entity. Only Transmission Operators who are notified that they have primary control centers under this standard have performance obligations under Requirements R4 through R6. In other words, primary control center for purposes of this Standard is the control center that the Transmission Owner or Transmission Operator, respectively, uses as its primary, permanently-manned site to physically operate a Transmission station or Transmission substation that is identified in Requirement R1 and verified in Requirement R2. Control centers that provide back-up capability are not applicable, as they are a form of resiliency and intentionally redundant.

The SDT considered several options for bright line criteria that could be used to determine applicability and provide an initial threshold that defines the set of Transmission stations and Transmission substations that would meet the directives of the FERC order on physical security (*i.e.*, those that could cause instability, uncontrolled separation, or Cascading within an

Interconnection). The SDT determined that using the criteria for Medium Impact Transmission Facilities in Attachment 1 of CIP-002-5.1 would provide a conservative threshold for defining which Transmission stations and Transmission substations must be included in the risk assessment in Requirement R1 of CIP-014. Additionally, the SDT concluded that using the CIP-002-5.1 Medium Impact criteria was appropriate because it has been approved by stakeholders, NERC, and FERC, and its use provides a technically sound basis to determine which Transmission Owners should conduct the risk assessment. As described in CIP-002-5.1, the failure of a Transmission station or Transmission substation that meets the Medium Impact criteria could have the capability to result in exceeding one or more Interconnection Reliability Operating Limits (IROLs). The SDT understands that using this bright line criteria to determine applicability may require some Transmission Owners to perform risk assessments under Requirement R1 that will result in a finding that none of their Transmission stations or Transmission substations would pose a risk of instability, uncontrolled separation, or Cascading within an Interconnection. However, the SDT determined that higher bright lines could not be technically justified to ensure inclusion of all Transmission stations and Transmission substations, and their associated primary control centers that, if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or Cascading within an Interconnection. Further guidance and technical basis for the bright line criteria for Medium Impact Facilities can be found in the Guidelines and Technical Basis section of CIP-002-5.1.

Additionally, the SDT determined that it was not necessary to include Generator Operators and Generator Owners in the Reliability Standard. First, Transmission stations or Transmission substations interconnecting generation facilities are considered when determining applicability. Transmission Owners will consider those Transmission stations and Transmission substations that include a Transmission station on the high side of the Generator Step-up transformer (GSU) using Applicability Section 4.1.1.1 and 4.1.1.2. As an example, a Transmission station or Transmission substation identified as a Transmission Owner facility that interconnects generation will be subject to the Requirement R1 risk assessment if it operates at 500kV or greater or if it is connected at 200 kV – 499kV to three or more other Transmission stations or Transmission substations and has an "aggregate weighted value" exceeding 3000 according to the table in Applicability Section 4.1.1.2. Second, the Transmission analysis or analyses conducted under Requirement R1 should take into account the impact of the loss of generation connected to applicable Transmission stations or Transmission substations. Additionally, the FERC order does not explicitly mention generation assets and is reasonably understood to focus on the most critical Transmission Facilities. The diagram below shows an example of a station.



Also, the SDT uses the phrase “Transmission stations or Transmission substations” to recognize the existence of both stations and substations. Many entities in industry consider a substation to be a location with physical borders (i.e. fence, wall, etc.) that contains at least an autotransformer. Locations also exist that do not contain autotransformers, and many entities in industry refer to those locations as stations (switching stations or switchyards). Therefore, the SDT chose to use both “station” and “substation” to refer to the locations where groups of Transmission Facilities exist.

On the issue of joint ownership, the SDT recognizes that this issue is not unique to CIP-014, and expects that the applicable Transmission Owners and Transmission Operators will develop memorandums of understanding, agreements, Coordinated Functional Registrations, or procedures, etc., to designate responsibilities under CIP-014 when joint ownership is at issue, which is similar to what many entities have completed for other Reliability Standards.

The language contained in the applicability section regarding the collector bus is directly copied from CIP-002-5.1, Attachment 1, and has no additional meaning within the CIP-014 standard.

Requirement R1

The initial risk assessment required under Requirement R1 must be completed on or before the effective date of the standard. Subsequent risk assessments are to be performed at least once every 30 or 60 months depending on the results of the previous risk assessment per Requirement R1, Part 1.1. In performing the risk assessment under Requirement R1, the

Transmission Owner should first identify their population of Transmission stations and Transmission substations that meet the criteria contained in Applicability Section 4.1.1. Requirement R1 then requires the Transmission Owner to perform a risk assessment, consisting of a transmission analysis, to determine which of those Transmission stations and Transmission Substations if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection. The requirement is not to require identification of, and thus, not intended to bring within the scope of the standard a Transmission station or Transmission substation unless the applicable Transmission Owner determines through technical studies and analyses based on objective analysis, technical expertise, operating experience and experienced judgment that the loss of such facility would have a critical impact on the operation of the Interconnection in the event the asset is rendered inoperable or damaged. In the November 20, 2014 Order, FERC reiterated that “only an instability that has a “critical impact on the operation of the interconnection” warrants finding that the facility causing the instability is critical under Requirement R1.” The Transmission Owner may determine the criteria for critical impact by considering, among other criteria, any of the following:

- Criteria or methodology used by Transmission Planners or Planning Coordinators in TPL-001-4, Requirement R6
- NERC EOP-004-2 reporting criteria
- Area or magnitude of potential impact

The standard does not mandate the specific analytical method for performing the risk assessment. The Transmission Owner has the discretion to choose the specific method that best suites its needs. As an example, an entity may perform a Power Flow analysis and stability analysis at a variety of load levels.

Performing Risk Assessments

The Transmission Owner has the discretion to select a transmission analysis method that fits its facts and system circumstances. To mandate a specific approach is not technically desirable and may lead to results that fail to adequately consider regional, topological, and system circumstances. The following guidance is only an example on how a Transmission Owner may perform a power flow and/or stability analysis to identify those Transmission stations and Transmission substations that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or Cascading within an Interconnection. An entity could remove all lines, without regard to the voltage level, to a single Transmission station or Transmission substation and review the simulation results to assess system behavior to determine if Cascading of Transmission Facilities, uncontrolled separation, or voltage or frequency instability is likely to occur over a significant area of the Interconnection. Using engineering judgment, the Transmission Owner (possibly in consultation with regional planning or operation committees and/or ISO/RTO committee input) should develop criteria (e.g. imposing a fault near the removed Transmission station or Transmission substation) to identify a contingency or parameters that result in potential instability, uncontrolled separation, or Cascading within an Interconnection. Regional consultation on these matters is likely to be

helpful and informative, given that the inputs for the risk assessment and the attributes of what constitutes instability, uncontrolled separation, or Cascading within an Interconnection will likely vary from region-to-region or from ISO-to-ISO based on topology, system characteristics, and system configurations. Criteria could also include post-contingency facilities loadings above a certain emergency rating or failure of a power flow case to converge. Available special protection systems (SPS), if any, could be applied to determine if the system experiences any additional instability which may result in uncontrolled separation. Example criteria may include:

- (a) Thermal overloads beyond facility emergency ratings;
- (b) Voltage deviation exceeding $\pm 10\%$; or
- (c) Cascading outage/voltage collapse; or
- (d) Frequency below under-frequency load shed points

Periodicity

A Transmission Owner who identifies one or more Transmission stations or Transmission substations (as verified under Requirement R2) that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection is required to conduct a risk assessment at least once every 30 months. This period ensures that the risk assessment remains current with projected conditions and configurations in the planned system. This risk assessment, as the initial assessment, must consider applicable planned Transmission stations and Transmission substations to be in service within 24 months. The 30 month timeframe aligns with the 24 month planned to be in service date because the Transmission Owner is provided the flexibility, depending on its planning cycle and the frequency in which it may plan to construct a new Transmission station or Transmission substation to more closely align these dates. The requirement is to conduct the risk assessment at least once every 30 months, so for a Transmission Owner that believes it is better to conduct a risk assessment once every 24 months, because of its planning cycle, it has the flexibility to do so.

Transmission Owners that have not identified any Transmission stations or Transmission substations (as verified under Requirement R2) that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection are unlikely to see changes to their risk assessment in the Near-Term Planning Horizon. Consequently, a 60 month periodicity for completing a subsequent risk assessment is specified.

Identification of Primary Control Centers

After completing the risk assessment specified in Requirement R1, it is important to additionally identify the primary control center that operationally controls each Transmission station or Transmission substation that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection. A primary control center

“operationally controls” a Transmission station or Transmission substation when the control center’s electronic actions can cause direct physical actions at the identified Transmission station and Transmission substation, such as opening a breaker.

Requirement R2

This requirement specifies verification of the risk assessment performed under Requirement R1 by an entity other than the owner or operator of the Requirement R1 risk assessment.

A verification of the risk assessment by an unaffiliated third party, as specified in Requirement R2, could consist of:

1. Certifying that the Requirement R1 risk assessment considers the Transmission stations and Transmission substations identified in Applicability Section 4.1.1.
2. Review of the model used to conduct the risk assessment to ensure it contains sufficient system topology to identify Transmission stations and Transmission substations that if rendered inoperable or damaged could cause instability, uncontrolled separation, or Cascading within an Interconnection.
3. Review of the Requirement R1 risk assessment methodology.

This requirement provides the flexibility for a Transmission Owner to select from unaffiliated registered and non-registered entities with transmission planning or analysis experience to perform the verification of the Requirement R1 risk assessment. The term unaffiliated means that the selected verifying entity cannot be a corporate affiliate (*i.e.*, the verifying or third party reviewer cannot be an entity that corporately controls, is controlled by or is under common control with, the Transmission Owner). The verifying entity also cannot be a division of the Transmission Owner that operates as a functional unit.

The prohibition on registered entities using a corporate affiliate to conduct the verification, however, does not prohibit a governmental entity (e.g., a city, a municipality, a U.S. federal power marketing agency, or any other political subdivision of U.S. or Canadian federal, state, or provincial governments) from selecting as the verifying entity another governmental entity within the same political subdivision. For instance, a U.S. federal power marketing agency may select as its verifier another U.S. federal agency to conduct its verification so long as the selected entity has transmission planning or analysis experience. Similarly, a Transmission Owner owned by a Canadian province can use a separate agency of that province to perform the verification. The verifying entity, however, must still be a third party and cannot be a division of the registered entity that operates as a functional unit.

Requirement R2 also provides that the “verification may occur concurrent with or after the risk assessment performed under Requirement R1.” This provision is designed to provide the Transmission Owner the flexibility to work with the verifying entity throughout (*i.e.*, concurrent with) the risk assessment, which for some Transmission Owners may be more efficient and effective. In other words, a Transmission Owner could collaborate with their unaffiliated verifying entity to perform the risk assessment under Requirement R1 such that both Requirement R1 and Requirement R2 are satisfied concurrently. The intent of Requirement R2

is to have an entity other than the owner or operator of the facility to be involved in the risk assessment process and have an opportunity to provide input. Accordingly, Requirement R2 is designed to allow entities the discretion to have a two-step process, where the Transmission Owner performs the risk assessment and subsequently has a third party review that assessment, or a one-step process, where the entity collaborates with a third party to perform the risk assessment.

Characteristics to consider in selecting a third party reviewer could include:

- Registered Entity with applicable planning and reliability functions.
- Experience in power system studies and planning.
- The entity's understanding of the MOD standards, TPL standards, and facility ratings as they pertain to planning studies.
- The entity's familiarity with the Interconnection within which the Transmission Owner is located.

With respect to the requirement that Transmission owners develop and implement procedures for protecting confidential and sensitive information, the Transmission Owner could have a method for identifying documents that require confidential treatment. One mechanism for protecting confidential or sensitive information is to prohibit removal of sensitive or confidential information from the Transmission Owner's site. Transmission Owners could include such a prohibition in a non-disclosure agreement with the verifying entity.

A Technical feasibility study is not required in the Requirement R2 documentation of the technical basis for not modifying the identification in accordance with the recommendation.

On the issue of the difference between a verifier in Requirement R2 and a reviewer in Requirement R6, the SDT indicates that the verifier will confirm that the risk assessment was completed in accordance with Requirement R1, including the number of Transmission stations and substations identified, while the reviewer in Requirement R6 is providing expertise on the manner in which the evaluation of threats was conducted in accordance with Requirement R4, and the physical security plan in accordance with Requirement R5. In the latter situation there is no verification of a technical analysis, rather an application of experience and expertise to provide guidance or recommendations, if needed.

Parts 2.4 and 6.4 require the entities to have procedures to protect the confidentiality of sensitive or confidential information. Those procedures may include the following elements:

1. Control and retention of information on site for third party verifiers/reviewers.
2. Only "need to know" employees, etc., get the information.
3. Marking documents as confidential
4. Securely storing and destroying information when no longer needed.
5. Not releasing information outside the entity without, for example, General Counsel sign-off.

Requirement R3

Some Transmission Operators will have obligations under this standard for certain primary control centers. Those obligations, however, are contingent upon a Transmission Owner first completing the risk assessment specified by Requirement R1 and the verification specified by Requirement R2. Requirement R3 is intended to ensure that a Transmission Operator that has operational control of a primary control center identified in Requirement R1 receive notice so that the Transmission Operator may fulfill the rest of the obligations required in Requirements R4 through R6. Since the timing obligations in Requirements R4 through R6 are based upon completion of Requirement R2, the Transmission Owner must also include within the notice the date of completion of Requirement R2. Similarly, the Transmission Owner must notify the Transmission Operator of any removals from identification that result from a subsequent risk assessment under Requirement R1 or as a result of the verification process under Requirement R2.

Requirement R4

This requirement requires owners and operators of facilities identified by the Requirement R1 risk assessment and that are verified under Requirement R2 to conduct an assessment of potential threats and vulnerabilities to those Transmission stations, Transmission substations, and primary control centers using a tailored evaluation process. Threats and vulnerabilities may vary from facility to facility based on any number of factors that include, but are not limited to, location, size, function, existing physical security protections, and attractiveness as a target.

In order to effectively conduct a threat and vulnerability assessment, the asset owner may be the best source to determine specific site vulnerabilities, but current and evolving threats may best be determined by others in the intelligence or law enforcement communities. A number of resources have been identified in the standard, but many others exist and asset owners are not limited to where they may turn for assistance. Additional resources may include state or local fusion centers, U.S. Department of Homeland Security, Federal Bureau of Investigations (FBI), Public Safety Canada, Royal Canadian Mounted Police, and InfraGard chapters coordinated by the FBI.

The Responsible Entity is required to take a number of factors into account in Parts 4.1 to 4.3 in order to make a risk-based evaluation under Requirement R4.

To assist in determining the current threat for a facility, the prior history of attacks on similarly protected facilities should be considered when assessing probability and likelihood of occurrence at the facility in question.

Resources that may be useful in conducting threat and vulnerability assessments include:

- NERC Security Guideline for the Electricity Sector: Physical Security.
- NERC Security Guideline: Physical Security Response.
- ASIS International General Risk Assessment Guidelines.
- ASIS International Facilities Physical Security Measure Guideline.

- ASIS International Security Management Standard: Physical Asset Protection.
- Whole Building Design Guide - Threat/Vulnerability Assessments.

Requirement R5

This requirement specifies development and implementation of a security plan(s) designed to protect against attacks to the facilities identified in Requirement R1 based on the assessment performed under Requirement R4.

Requirement R5 specifies the following attributes for the physical security plan:

- *Resiliency or security measures designed collectively to deter, detect, delay, assess, communicate, and respond to potential physical threats and vulnerabilities identified during the evaluation conducted in Requirement R4.*

Resiliency may include, among other things:

- a. System topology changes,
- b. Spare equipment,
- c. Construction of a new Transmission station or Transmission substation.

While most security measures will work together to collectively harden the entire site, some may be allocated to protect specific critical components. For example, if protection from gunfire is considered necessary, the entity may only install ballistic protection for critical components, not the entire site.

- *Law enforcement contact and coordination information.*

Examples of such information may be posting 9-1-1 for emergency calls and providing substation safety and familiarization training for local and federal law enforcement, fire department, and Emergency Medical Services.

- *A timeline for executing the physical security enhancements and modifications specified in the physical security plan.*

Entities have the flexibility to prioritize the implementation of the various resiliency or security enhancements and modifications in their security plan according to risk, resources, or other factors. The requirement to include a timeline in the physical security plan for executing the actual physical security enhancements and modifications does not also require that the enhancements and modifications be completed within 120 days. The actual timeline may extend beyond the 120 days, depending on the amount of work to be completed.

- *Provisions to evaluate evolving physical threats, and their corresponding security measures, to the Transmission station(s), Transmission substation(s), or primary control center(s).*

A registered entity's physical security plan should include processes and responsibilities for obtaining and handling alerts, intelligence, and threat warnings from various

sources. Some of these sources could include the ERO, ES-ISAC, and US and/or Canadian federal agencies. This information should be used to reevaluate or consider changes in the security plan and corresponding security measures of the security plan found in R5.

Incremental changes made to the physical security plan prior to the next required third party review do not require additional third party reviews.

Requirement R6

This requirement specifies review by an entity other than the Transmission Owner or Transmission Operator with appropriate expertise for the evaluation performed according to Requirement R4 and the security plan(s) developed according to Requirement R5. As with Requirement R2, the term unaffiliated means that the selected third party reviewer cannot be a corporate affiliate (*i.e.*, the third party reviewer cannot be an entity that corporately controls, is controlled by or is under common control with, the Transmission Operator). A third party reviewer also cannot be a division of the Transmission Operator that operates as a functional unit.

As noted in the guidance for Requirement R2, the prohibition on registered entities using a corporate affiliate to conduct the review, however, does not prohibit a governmental entity from selecting as the third party reviewer another governmental entity within the same political subdivision. For instance, a city or municipality may use its local enforcement agency, so long as the local law enforcement agency satisfies the criteria in Requirement R6. The third party reviewer, however, must still be a third party and cannot be a division of the registered entity that operates as a functional unit.

The Responsible Entity can select from several possible entities to perform the review:

- *An entity or organization with electric industry physical security experience and whose review staff has at least one member who holds either a Certified Protection Professional (CPP) or Physical Security Professional (PSP) certification.*

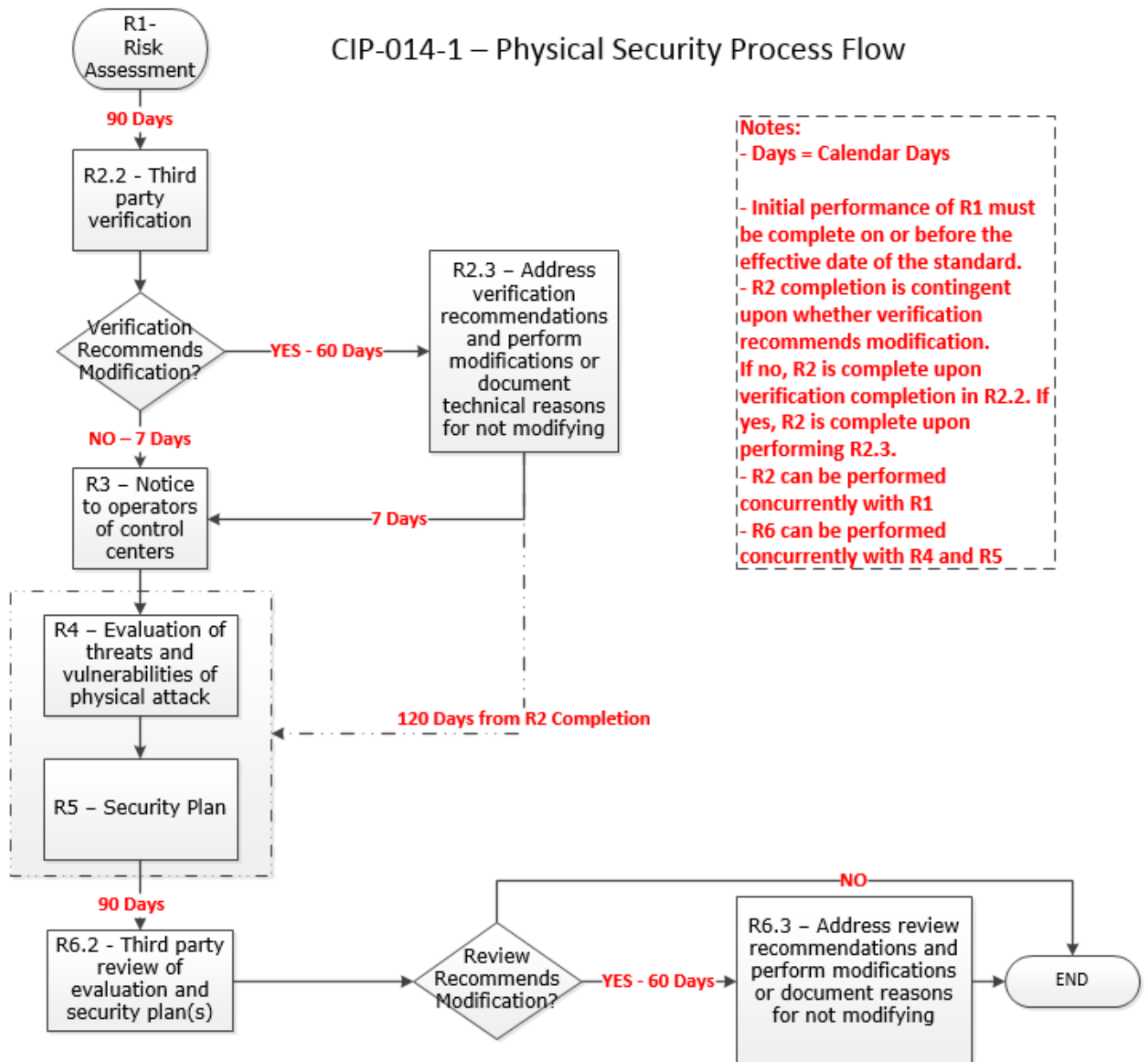
In selecting CPP and PSP for use in this standard, the SDT believed it was important that if a private entity such as a consulting or security firm was engaged to conduct the third party review, they must tangibly demonstrate competence to conduct the review. This includes electric industry physical security experience and either of the premier security industry certifications sponsored by ASIS International. The ASIS certification program was initiated in 1977, and those that hold the CPP certification are board certified in security management. Those that hold the PSP certification are board certified in physical security.

- *An entity or organization approved by the ERO.*
- *A governmental agency with physical security expertise.*
- *An entity or organization with demonstrated law enforcement, government, or military physical security expertise.*

As with the verification under Requirement R2, Requirement R6 provides that the “review may occur concurrently with or after completion of the evaluation performed under Requirement R4 and the security plan development under Requirement R5.” This provision is designed to provide applicable Transmission Owners and Transmission Operators the flexibility to work with the third party reviewer throughout (*i.e.*, concurrent with) the evaluation performed according to Requirement R4 and the security plan(s) developed according to Requirement R5, which for some Responsible Entities may be more efficient and effective. In other words, a Transmission Owner or Transmission Operator could collaborate with their unaffiliated third party reviewer to perform an evaluation of potential threats and vulnerabilities (Requirement R4) and develop a security plan (Requirement R5) to satisfy Requirements R4 through R6 simultaneously. The intent of Requirement R6 is to have an entity other than the owner or operator of the facility to be involved in the Requirement R4 evaluation and the development of the Requirement R5 security plans and have an opportunity to provide input on the evaluation and the security plan. Accordingly, Requirement R6 is designed to allow entities the discretion to have a two-step process, where the Transmission Owner performs the evaluation and develops the security plan itself and then has a third party review that assessment, or a one-step process, where the entity collaborates with a third party to perform the evaluation and develop the security plan.

Timeline

CIP-014-1 – Physical Security Process Flow



Rationale

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

Rationale for Requirement R1:

This requirement meets the FERC directive from paragraph 6 of its March 7, 2014 order on physical security to perform a risk assessment to identify which facilities if rendered inoperable or damaged could impact an Interconnection through instability, uncontrolled separation, or cascading failures. The requirement is not intended to bring within the scope of the standard a Transmission station or Transmission substation unless the applicable Transmission Owner determines through technical studies and analyses based on objective analysis, technical expertise, operating experience and experienced judgment that the loss of such facility would have a critical impact on the operation of the Interconnection in the event the asset is rendered inoperable or damaged. In the November 20, 2014 Order, FERC reiterated that “only an instability that has a “critical impact on the operation of the interconnection” warrants finding that the facility causing the instability is critical under Requirement R1.” The Transmission Owner may determine the criteria for critical impact by considering, among other criteria, any of the following:

- Criteria or methodology used by Transmission Planners or Planning Coordinators in TPL-001-4, Requirement R6
- NERC EOP-004-2 reporting criteria
- Area or magnitude of potential impact

Requirement R1 also meets the FERC directive for periodic reevaluation of the risk assessment by requiring the risk assessment to be performed every 30 months (or 60 months for an entity that has not identified in a previous risk assessment any Transmission stations or Transmission substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection).

After identifying each Transmission station and Transmission substation that meets the criteria in Requirement R1, it is important to additionally identify the primary control center that operationally controls that Transmission station or Transmission substation (*i.e.*, the control center whose electronic actions can cause direct physical actions at the identified Transmission station and Transmission substation, such as opening a breaker, compared to a control center that only has the ability to monitor the Transmission station and Transmission substation and, therefore, must coordinate direct physical action through another entity).

Rationale for Requirement R2:

This requirement meets the FERC directive from paragraph 11 in the order on physical security requiring verification by an entity other than the owner or operator of the risk assessment performed under Requirement R1.

This requirement provides the flexibility for a Transmission Owner to select registered and non-registered entities with transmission planning or analysis experience to perform the verification of the Requirement R1 risk assessment. The term “unaffiliated” means that the selected verifying entity cannot be a corporate affiliate (*i.e.*, the verifying entity cannot be an entity that controls, is controlled by, or is under common control with, the Transmission owner). The verifying entity also cannot be a division of the Transmission Owner that operates as a functional unit. The term “unaffiliated” is not intended to prohibit a governmental entity from using another government entity to be a verifier under Requirement R2.

Requirement R2 also provides the Transmission Owner the flexibility to work with the verifying entity throughout the Requirement R1 risk assessment, which for some Transmission Owners may be more efficient and effective. In other words, a Transmission Owner could coordinate with their unaffiliated verifying entity to perform a Requirement R1 risk assessment to satisfy both Requirement R1 and Requirement R2 concurrently.

Planning Coordinator is a functional entity listed in Part 2.1. The Planning Coordinator and Planning Authority are the same entity as shown in the NERC Glossary of Terms Used in NERC Reliability Standards.

Rationale for Requirement R3:

Some Transmission Operators will have obligations under this standard for certain primary control centers. Those obligations, however, are contingent upon a Transmission Owner first identifying which Transmission stations and Transmission substations meet the criteria specified by Requirement R1, as verified according to Requirement R2. This requirement is intended to ensure that a Transmission Operator that has operational control of a primary control center identified in Requirement R1, Part 1.2 of a Transmission station or Transmission substation verified according to Requirement R2 receives notice of such identification so that the Transmission Operator may timely fulfill its resulting obligations under Requirements R4 through R6. Since the timing obligations in Requirements R4 through R6 are based upon completion of Requirement R2, the Transmission Owner must also include notice of the date of completion of Requirement R2. Similarly, the Transmission Owner must notify the Transmission Operator of any removals from identification that result from a subsequent risk assessment under Requirement R1 or the verification process under Requirement R2.

Rationale for Requirement R4:

This requirement meets the FERC directive from paragraph 8 in the order on physical security that the reliability standard must require tailored evaluation of potential threats and vulnerabilities to facilities identified in Requirement R1 and verified according to Requirement R2. Threats and vulnerabilities may vary from facility to facility based on factors such as the facility’s location, size, function, existing protections, and attractiveness of the target. As such, the requirement does not mandate a one-size-fits-all approach but requires entities to account for the unique characteristics of their facilities.

Requirement R4 does not explicitly state when the evaluation of threats and vulnerabilities must occur or be completed. However, Requirement R5 requires that the entity’s security

plan(s), which is dependent on the Requirement R4 evaluation, must be completed within 120 calendar days following completion of Requirement R2. Thus, an entity has the flexibility when to complete the Requirement R4 evaluation, provided that it is completed in time to comply with the requirement in Requirement R5 to develop a physical security plan 120 calendar days following completion of Requirement R2.

Rationale for Requirement R5:

This requirement meets the FERC directive from paragraph 9 in the order on physical security requiring the development and implementation of a security plan(s) designed to protect against attacks to the facilities identified in Requirement R1 based on the assessment performed under Requirement R4.

Rationale for Requirement R6:

This requirement meets the FERC directive from paragraph 11 in the order on physical security requiring review by an entity other than the owner or operator with appropriate expertise of the evaluation performed according to Requirement R4 and the security plan(s) developed according to Requirement R5.

As with the verification required by Requirement R2, Requirement R6 provides Transmission Owners and Transmission Operators the flexibility to work with the third party reviewer throughout the Requirement R4 evaluation and the development of the Requirement R5 security plan(s). This would allow entities to satisfy their obligations under Requirement R6 concurrent with the satisfaction of their obligations under Requirements R4 and R5.

Supply Chain Risk Management

Action

Update

Background

In 2017, in response to the directives in the Federal Energy Regulatory Commission's (FERC) Order 829, the NERC Board of Trustees (Board) issued a resolution requesting the North American Transmission Forum (NATF) and others in industry to develop and share best and leading practices in supply chain management. Since that time, the NATF's ongoing supply chain work has continued to address the Board's resolution with a focus on security solutions. The NATF will present a summary of the progress that has been made toward supply chain security since the resolution was issued.

Summary

NERC and the NATF have common objectives but different roles and responsibilities. Over the past several years, much progress has been made to align respective efforts in an ever more complementary fashion. NATF was created to provide venues for members to share information and work toward excellence in reliability, resilience, and security. It follows that the work that the NATF has been doing in supply chain has been pursued from the perspective of security excellence.

The NATF and NATF-led Industry Organizations Team (consisting of electric utilities, energy industry trade and forum representatives, suppliers, third-party assessors, and solution providers) have produced—and openly shared—work that is responsive to the NERC Board's resolutions to address supply chain security and risk management issues. The NATF and the Industry Organizations Team's objectives are to further supply chain security through the identification and mitigation of risks; to converge industry on information needed for that purpose; and to develop practices that are efficient, effective, and meet compliance requirements.

With those objectives in mind, the NATF's "Supply Chain Security Assessment Model," the "NATF Supply Chain Security Criteria," and "Energy Sector Supply Chain Risk Questionnaire" were developed. The Industry Organizations Team also developed guides for entities on understanding third-party assessments and using solution providers for third-party risk management. A series of webinars was conducted to share entities' methods for conducting risk assessments, and APPA (an Industry Organization Team member) developed a guide with input from other team members on supply chain risk management, including methods for conducting a risk assessment. Information on available products and services to identify and mitigate risks was provided in another webinar series.

The NATF's work has complemented the efforts of the ERO Enterprise (ERO) as the ERO has worked with entities on addressing supply chain risk. Together, the ERO and the NATF have been working to memorialize the concept that a focus on security can meet the requirements of compliance through the ERO Enterprise's review for endorsement of implementation guidance.

Year-End Review of the Achievements of the 2021 ERO Enterprise Work Plan Priorities

Action

Update

Background

The Board of Trustees (Board) approved the 2021 ERO Enterprise Work Plan Priorities (2021 Priorities) at its November 2020 meeting. The 2021 Priorities identify key accomplishments that align closely with the [ERO Enterprise Long-Term Strategy](#). Due to extreme weather and cyber events in late 2020 and the first half of 2021, the Board requested NERC staff re-evaluate the priorities and provide recommended adjustments to address the following “big 3” areas:

1. Winterization
2. Energy Assurance
3. Cybersecurity

NERC updated the 2021 Priorities in May to address the areas noted above and provided a [semiannual update](#) to the Board during its meeting on August 12, 2021. This update reviewed the progress and projected end-of-year status for each objective as of the end of Q2.

Summary

NERC will provide an update on key accomplishments in 2021, as well as a summary of the end-of-year status of the 2021 Priorities.

Risk Registry Update

Action

Update

Background

In an effort to continually monitor the existing risks to the bulk power system (BPS) and manage the efforts of the ERO Enterprise to actively identify and address new threats, NERC created a Risk Registry. This registry overlaps some with the risk profiles identified in the latest [ERO Reliability Risk Priorities Report](#) and other risks identified in past reports and assessments, but the Risk Registry focuses on reporting current risks to the BPS, not just emerging ones.

This Risk Registry identifies public ERO Enterprise “tasks” to address current risks to the BPS. The most critical and high priority tasks currently address extreme natural events, security threats, and inverters. Energy Adequacy was a critical risk for 2021, but all of the critical tasks for 2021 have been completed. New Energy Adequacy tasks will be added as the year progresses. The security threats and extreme natural events mirror the risk profiles of the RISC report, but inverters are a different categorization. Future versions of the Risk Registry will be used as project/resource management tool, and it will eventually include a risk prioritization that is reviewed with the Reliability Issues Steering Committee.

Additional Information

A copy of the draft risk registry is available here: [NERC Risk Registry](#).

Personnel Certification Governance Committee Report

Action

Approve the System Operator Certification Manual and 2022 Personnel Certification Governance Committee (PCGC or Committee) Work Plan.

Review summary of recent activities by the PCGC.

Summary of Changes to System Operator Certification Manual

The PCGC presents to the Board of Trustees (Board) an updated System Operator Certification Manual for consideration and approval. The attached mapping document provides a summary of revisions between Version 3.2, April 2020 and Version 4.0, February 2022.

In addition, the PCGC 2022 Work Plan is presented for the Board's consideration and approval.

Highlights of Committee Activities

The PCGC's fourth quarter meeting was held virtually on November 1-3, 2021 via WebEx.

Current Items

- The Committee worked with a vendor to perform an updated Job Task Analysis for the System Operator Certification program. This Job Task Analysis is used by a Committee subgroup to develop appropriate questions for system operators. It will be complete in March 2022.
- NERC posted a notice on NERC.com to inform active credential holders about the continuing education hour's calculation correction that was scheduled to be implemented in System Operator Certification Continuing education Database on January 12, 2022.

Future Items

- The Committee Task Force continues to work with a vendor on the Credential Maintenance Research Project. This project will help the Committee determine how to validate the continuing education hours and it will conclude in August 2022.

Attachments

- System Operator Certification Manual Mapping Document
- System Operator Certification Manual Redline
- 2022 Work Plan

System Operator Certification Program Manual Mapping Document

Personnel Certification and Governance Committee

Purpose

The purpose of this document is to provide a method of tracking changes, provide a brief description of changes, and any other substantial changes from the current version to the next version.

System Operator Certification Program Manual Revision History

V 3.2 April 2020	V 4.0 February 2022	Description
Introduction	Introduction	Added reference to Credential Maintenance Working Group reporting to PCGC and mandate.
Chapter 1 Certification Examinations		
Examinations	Examinations	Minor edits to Table 1.1.
Examination Process	Examination Process	Updated Figure 1.1 with new flowchart.
Obtain an Authorization to Test (ATT)	Examination Application Process	Changed title name. Reworded first paragraph to remove ATT number reference.

System Operator Certification Program Manual Revision History

V 3.2 April 2020	V 4.0 February 2022	Description
Scheduling an Examination Appointment	Scheduling an Examination Appointment	Removed reference to ATT number. Added footnote to PSI's website.
Examination Change Request	Examination Type Change Request	Minor additional to title. Removed reference to ATT number. Other minor edits.
Withdrawal from Examination Process	Withdrawal from Examination Process	Removed reference to ATT number. Other minor edits.
Time between Examinations	Time between Examinations	Changed revoked to expired
Taking the Exam	Taking the Exam	Removed paragraph below Table 1.2.
Testing Center Regulations	Testing Center Regulations	Added last bullet.
Time between Examinations	Time between Examinations	Changed revoked to expired. Other minor edits.
Chapter 2 Credential Maintenance		
Overview	Overview	Changed Continuing Education to Credential Maintenance. Other minor edits.

System Operator Certification Program Manual Revision History

V 3.2 April 2020	V 4.0 February 2022	Description
Program Requirement Summary	Program Requirement Summary	Add note under 3.b referencing Credential Maintenance Program Manual. Minor edits to Table 2.1. Updated Figure 2. Number 7 changed revoked to expire. Added note referencing Glossary.
Deficits of CEHs for Credential Holders	Deficits of CEHs for Credential Holders	Changed revoked to expire(s). Updated Figure 3 example.
NERC CE Providers	NERC Continuing Education Providers	Minor edits in all three paragraphs.
Changing Certification Levels	Changing Certification Levels	Changed Reliability Operator to Reliability Coordinator Operator.
Chapter 3 Hardship Clause (NERC Rules of Procedure)		
Chapter 2 – Hardship Clause (NERC Rules of Procedure)	Chapter 3 – Hardship Clause (NERC Rules of Procedure)	Moved section to it’s own chapters. Added reference to Hardship Request Form.
Chapter 4 Program Rules		
Chapter 3 – Program Rules	Chapter 4 – Program Rules	

System Operator Certification Program Manual Revision History

V 3.2 April 2020	V 4.0 February 2022	Description
Overview	Overview	Removed links and replaced with footnotes.
Learning Activities, Proof of Course Completion	Learning Activities, Proof of Course Completion	Removed bullets 1, 3, and 5 in order to stream line the section. The bullet information can be found in SOCCED by NERC.
Fees	Fees	Removed System Operator Certification Program and replaced with One-Stop Shop (SO Certification & Credential Maintenance) with footnote.
Legal Name Changes	Legal Name Changes	Updated managers title. Added where to submit a request via SOCCED help center with footnote.
Chapter 5 Dispute Resolution (NERC Rules of Procedures)		
Chapter 4 – Dispute Resolution (NERC Rules of Procedures)	Chapter 5 – Dispute Resolution (NERC Rules of Procedures)	
Overview	Overview	Removed last sentence in first paragraph. Removed second paragraph.
Chapter 6 Disciplinary Actions (NERC Rules of Procedures)		

System Operator Certification Program Manual Revision History

V 3.2 April 2020	V 4.0 February 2022	Description
Chapter 5 – Disciplinary Actions (NERC Rules of Procedures)	Chapter 6 – Disciplinary Actions (NERC Rules of Procedures)	Added last bullet regarding creating a second account in SOCCED.
Chapter 7 Glossary		
Chapter 6 – Glossary	Chapter 7 – Glossary	G01 Changed Continuing Education to Credential Maintenance. G02 Removed last sentence. G06 Replaced revoked with Expired. G06 changes to G07 G07 changes to G08 G08 Changed from Revoked to Expired.
Appendix A Recognized Operator Training Topics		
Basic Concepts, Characteriscs of the BES	Basic Concepts, Characteriscs of the BES	Added viii. Emerging Technologies/Equipment.
Appendix B – Program Manual Changes		See Mapping Document on the One Stop Shop.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

System Operator Certification Program Manual

Approved by
NERC Board of Trustees — ~~May 2016~~
February 2022

RELIABILITY | RESILIENCE | SECURITY



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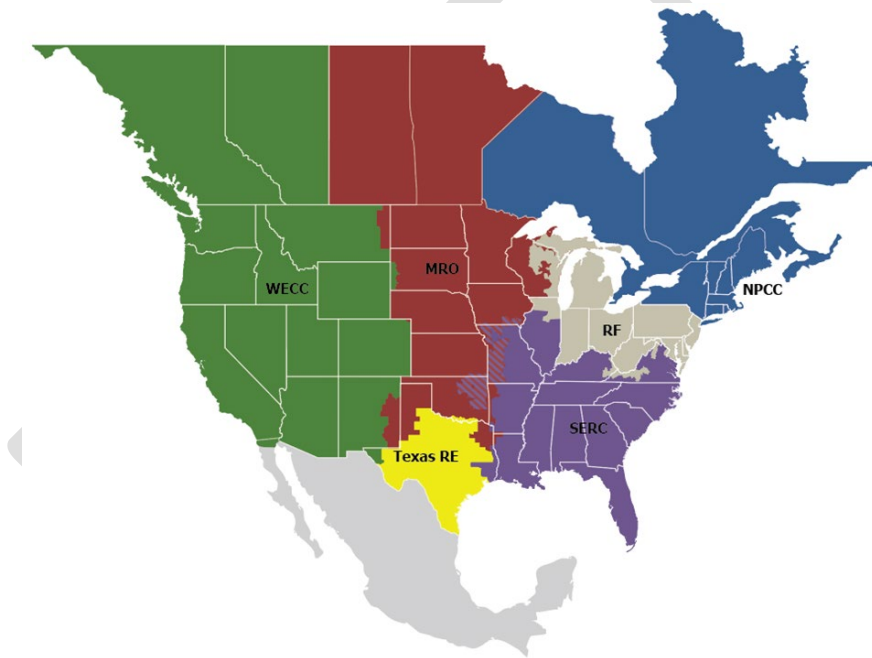
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Preface

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~~ [made up of](#) 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](#) [RE](#) while associated Transmission Owners/Operators participate in another.



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

Introduction

The System Operator Certification Program promotes skilled and qualified system operators to ensure the reliability of the Bulk Electric System (BES).

NERC does not and shall not discriminate on the basis of age, gender, race, religion, national origin, disability, sexual orientation, or marital status in its implementation of the System Operator Certification Program.

The System Operator Certification Program provides the framework for operators to obtain initial certification in one of four NERC credentials: Reliability [Coordinator](#) Operator; Balancing, Interchange, and Transmission Operator; Transmission Operator; and Balancing and Interchange Operator. A system operator credential is a personal credential that NERC issues to a person for successfully passing a NERC System Operator Certification Exam. Each credential focuses on a specific functional area of system operations. Operators maintain each credential by accumulating a specified number of continuing education hours (CEHs) within a specified period of time.

The NERC [Credential Maintenance Program, as stated in the NERC Rules of Procedure,¹ provides a framework for the development and tracking of high-quality learning activities that qualify for CEHs.](#)

[The Credential Maintenance Working Group \(CMWG\) reports to the](#) Personnel Certification Governance Committee (PCGC) [and is responsible for overseeing the development and implementation of Credential Maintenance Program requirements under the general guidelines set by the PCGC.](#)

[The CMWG shall develop and update, as necessary, the Credential Maintenance Program Administration Manual;² this manual describes the following:](#)

- [Requirements for approving credential maintenance providers and structured learning activities](#)
- [Requirements for auditing credential maintenance providers and structured learning activities](#)
- [A multilayered review process for disputed application reviews, interpretations of guidelines and standards, probation or suspension of NERC-approved provider status, and CEH disputes](#)
- [Requirements on fees for credential maintenance providers and structured learning activities](#)

[The NERC PCGC](#) is the governing body that establishes policies, sets fees, monitors the performance of the System Operator Certification Program, and ensures that the program is financially independent. NERC is the program administrator and maintains databases, records, applications, and contracts with vendors. NERC also collects fees, responds to inquiries, and provides reports on related system operator certification activities.

¹ <https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>

² <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

Chapter 1: Certification Examinations

Overview

Through the System Operator Certification Program, NERC awards certification credentials to individuals who demonstrate that they have attained sufficient knowledge relating to NERC Reliability Standards as well as the basic principles of ~~bulk power system (BPS)~~ operations by passing one of four examinations. NERC issues a certificate to ~~the~~ candidate who successfully completes an examination, and it remains valid for three years.

Members of the Exam Working Group (EWG) represent each of the areas tested in the examinations. The direct involvement of system operators, supervisors, and trainers in the examination development process is a primary requirement for NERC system operator certification examinations. The EWG develops the examinations under the guidance of a psychometric consultant. The EWG bases the examinations on content outlines developed through a job analysis. The EWG places each question in a “pilot” (not scored) position on the examination before using it in a “scored” position. Only questions that meet acceptable performance criteria can be placed in a scored position on an exam. The EWG continually tracks the performance of every question used in a scored position.

Examinations

There are four examinations:

- Reliability ~~Coordinator~~ Operator
- Balancing, Interchange, and Transmission Operator
- Transmission Operator
- Balancing and Interchange Operator

These computer-based exams consist of questions with multiple-choice answers. The content outlines can be accessed from the ~~System Operator Certification & Credential Maintenance Program~~ ~~System Operator Certification and Credential Maintenance Program~~.³ The ~~Personnel Certification Governance Committee (PCGC)~~ approves the passing score for each new published exam, and the score can be found on the ~~One-Stop Shop (System Operators Certification & Credential Maintenance Program)~~ ~~One-Stop Shop (System Operators Certification and Credential Maintenance Program)~~⁴ web page with exam resources.

The number of correct responses required to pass (cut score) is set by a panel of practitioners using a rigorous standard setting methodology. This methodology requires subject matter experts to establish a definition of minimum acceptable competence for each examination and conduct an evaluation of each examination question in order to set the minimum level of performance necessary on each examination to demonstrate competence (Table 1.1).

Table 1.1: Operator Examinations

Examination Title	Designation	Total Questions	Scored Questions	Cut Score*
Reliability Coordinator Operator Certification Examination	RC	140	120	92

³ <http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx>

⁴ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

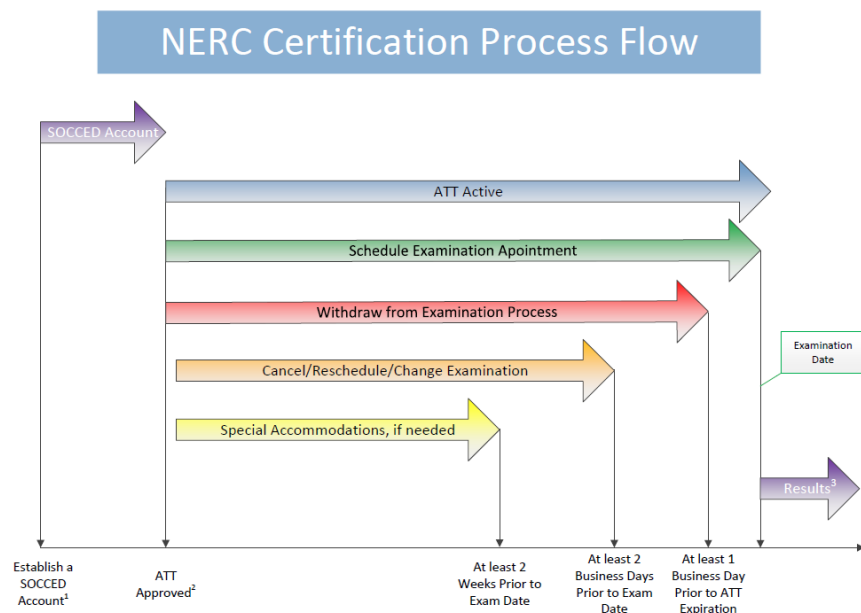
Table 1.1: Operator Examinations

Examination Title	Designation	Total Questions	Scored Questions	Cut Score*
Balancing, Interchange, and Transmission Operator Certification Examination	BT	140	120	92
Transmission Operator Certification Examination	TO	120	100	76
Balancing and Interchange Operator Certification Examination	BI	120	100	76

*Effective June 1, 2020

Each candidate's examination is developed to be equal in difficulty level to other candidates' examinations to ensure [that](#) a fair and consistent standard is applied to each candidate. To this end, each examination consists of scored examination questions that have been administered to candidates and have acceptable statistical characteristics.

Examination Process



1- SOCCED Account expires if ATT is not purchased within 60 days.
 2- ATT Expires 12 months after approval. Exam fee forfeited if candidate has not taken exam while ATT is active.
 3- If passed, proceed to NERC Credential Maintenance process. If failed, must wait 42 days to sit for any examination.

Examination Application Process

Candidates must create an account (see [Figure 1.1](#)) in the System Operator Certification and Continuing Education Database⁵ (SOCCED) in order to register and pay for an exam. After the candidate has paid for the exam, SOCCED will send the candidate exam information to the exam vendor, PSI. PSI will send the candidate an email with the information needed to schedule their exam.

Once paid for, the exam application **Figure 1.1: NERC Certification Process Flowchart**

Obtain an Authorization to Test (ATT)

To request authorization to take a test, candidates must establish an account in the System Operator Certification and Continuing Education Database (SOCCED). Applications are accepted all year (24x7x365). Once NERC approves the account, the candidate has up to 60 days to purchase an Authorization to Test (ATT). Upon purchase of the ATT, candidates will receive an email from PSI with further instructions within 24 hours. The ATT is necessary for the candidate to schedule an exam. Once the ATT number is acquired, the candidate can schedule an appointment for testing by using PSI's website.

Note: If an ATT is not purchased in 60 days, the account will expire.

An ATT is valid for one year after the issuance date and can only be used once. If a candidate fails to schedule and sit for the exam within the one-year eligibility period, the candidate shall forfeit the exam fee to NERC.

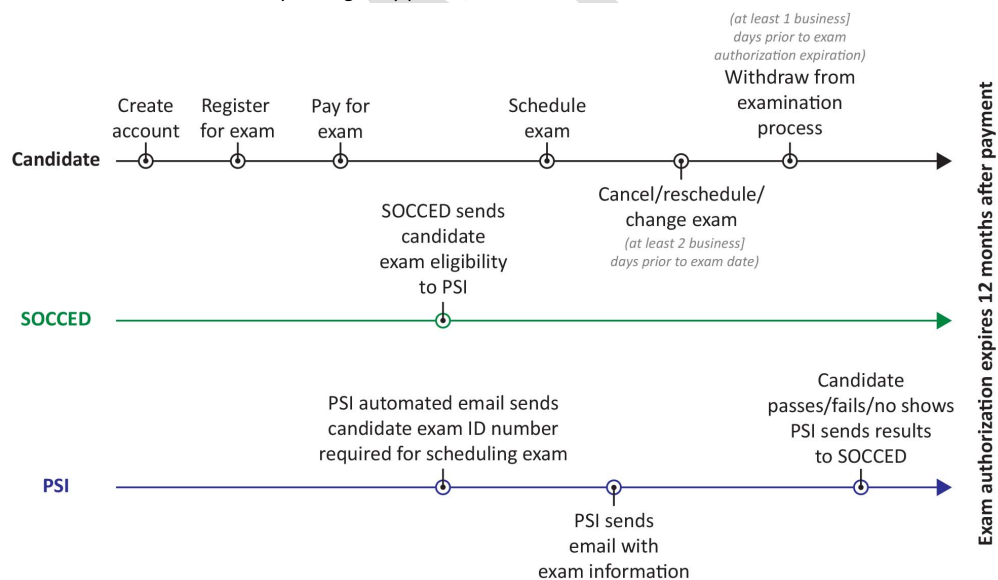


Figure 1.1: NERC Certification Process Flowchart

⁵ <https://nerc-socced.useclarus.com/>

Scheduling an Examination Appointment

Once the ATT number is acquired, candidates received the email notification from PSI, the candidate can schedule an appointment for testing, using [PSI's website](#).⁶ Candidates ~~will~~ should follow the instructions for scheduling an exam that are sent from PSI. Examination appointments are subject to the availability of each test center.

Note: When a candidate schedules a test date, PSI will issue the candidate a confirmation number. Candidates should retain this number. It is required for check-in, for PSI's automated cancellation system, or if there is a conflict with the test center appointment. FAQs and the Candidate Information Bulletin are on the PSI website.

Canceling and Rescheduling Examination Appointments

Candidates may cancel and reschedule examination appointments without forfeiting the examination fee if the cancellation notice is provided to PSI by close of business time of that test center at least two business days prior to the scheduled exam appointment time. Examination fees are nonrefundable and nontransferable.

To cancel or reschedule exam appointments, visit [PSI's website](#) or call PSI at 800-733-9267 and speak to a PSI ~~Customer Service Representative~~ customer service representative. A voice mail message is not an acceptable form of cancellation.

Examination Type Change Request

Candidates may change the examination ~~that~~ type they previously registered for by using the SOCCED within the existing ATT number's exam eligibility period. ~~Once candidates should also notify NERC by submitting a request⁷ via the SOCCED Help Center. When PSI receives the examination is changed, NERC change, they will issue~~ send the candidate a new ATT number. This new ATT number will have the original expiration date of the existing ATT number ~~an email with updated exam information~~. After candidates receive their new ATT, ~~candidates exam information from PSI, they~~ must schedule/reschedule an appointment with PSI to take the exam. Notification must be received by PSI no later than close of business time of that test center at least two business days prior to the scheduled exam appointment for making this change or for submitting any additional change.

Withdrawal from Examination Process

The eligibility period lasts until one year after the date ~~NERC issues an ATT number, the candidate pays for the exam~~. If a candidate wishes to withdraw from the process within the one-year period for any reason, the candidate must request a withdrawal by close of business the day before the last eligibility day ~~by submitting a request via the SOCCED Help Center~~. Candidates who submit the request within the time period will be reimbursed for the fees submitted to NERC except the withdrawal fee. The candidate will forfeit all submitted fees if the candidate fails to properly withdraw.

Note: If a candidate has already scheduled an appointment with PSI to take the exam, the candidate must cancel that appointment with PSI or forfeit the exam fee.

Special Accommodations for Disabilities

NERC will make allowances for all documented requests for special testing conditions. Applicants must notify the NERC personnel certification manager by email at least two weeks prior to the scheduled exam appointment. Disability requests must be supported by an original letter from a recognized health care provider and be signed by a health professional. NERC will review each request and provide appropriate accommodations. The decision will be included in the notice of eligibility/registration approval sent to the applicant.

⁶ <https://schedule.psiexams.com/>

⁷ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

Taking the Exam

Candidates should arrive and be inside the testing center at least 30 minutes prior to the examination start time [for the Administration and Review of Candidate Identification](#) and should allocate at least [a total of](#) four hours to accommodate the testing process [\(Table 2\)-\(Table 1.2\)](#).

Candidates must show two current valid forms of identification to be admitted into the examination: one primary form of identification and either another primary or a secondary form of identification:

- Primary identification is a government-issued form of identification and must have both your picture and your signature on it. Examples of primary identification are a driver's license, a government issued identification card, a passport, a temporary visa, or a military ID.
- Secondary identification must have a name and either your picture or your signature or both. Acceptable forms of secondary IDs are an employment ID, credit card, or debit card.

The PSI [Testing Center](#) testing center will not accept altered, expired, or damaged identifications. If there is any discrepancy between the name on the candidate's identification and the NERC registration, the testing center will not allow that candidate to test.

Table 1.2: Examination Time Allocation

Examination Stages	Time Allocation
Administration and Review of Candidate Identification	30 minutes
Computer-Based Tutorial	15 minutes
Examination	3 hours
Post-Examination Survey	15 minutes
Total Time to be Allocated	4 hours

~~At the completion of the examination, candidates must complete a post-examination survey. The PSI Testing Center will collect comments on the PSI test center and the examination process or exam questions. These comments will be forwarded to NERC. The post-examination survey is an opportunity to comment on the content of the examination, to challenge specific examination questions or answers, and evaluate the testing environment.~~

Testing Center Regulations

- Depending on the established criteria at the testing center, candidates who arrive late may not be allowed to sit for the examination. Late arrivals [that are](#) not permitted to take the examination will be considered no-shows and must ~~re-apply~~[reapply](#) and pay the full test fee to take the examination.
- Candidates cannot bring reference materials, calculators, cell phones, or recording equipment into the examination. Some testing centers may not have lockers to accommodate personal items. Do not bring personal items, besides your appropriate ID, into the test center.
- No test materials, documents, notes, or scratch paper of any sort may be taken from the examination (pencils, paper, and an online calculator will be provided).
- Visitors are not permitted during the examination.

- Testing center staff can only answer questions about testing procedures; they cannot respond to inquiries regarding the examination's content.
- During the examination, candidates may use the restrooms; however, the examination clock will continue running during that time.
- Candidates may not leave the testing center until they have finished the exam.
- Smoking is not permitted in ~~any~~the testing center.
- Any candidate giving assistance, receiving assistance, or making a disturbance will be required to turn in their examination materials, exit the examination room, and leave the testing center. The Disciplinary Action Procedure (~~page 15~~) will be initiated upon notification to NERC that the incident occurred.
- Any instances of cheating or attempts to impersonate another candidate will be dealt with through the Disciplinary Action Procedure.
- If the testing center regulations differ from what is noted above, the testing center regulations should be followed.

Note: All no-shows will have to reapply and pay the full test fee to take the examination ~~and pay the exam fee again.~~

Results of Exam

A pass/fail score report will be given at the end of exam. The PSI testing center will provide a summary of the examination before a candidate leaves.

Candidates who pass the examination will receive the appropriate NERC-certified system operator certificate signed by the NERC CEO. The date on the certificate will be the date the candidate passed the examination.

Time between Examinations

Candidates who fail an exam must wait 42 calendar days from the date of the failed examination to sit for any of the four NERC credential exams. Candidates who pass one of the NERC system operator certification examinations may not take that exam again unless their credential has ~~been revoked. NERC will revoke~~expired. SOCCE~~D~~ automatically sets a certification credential to expire four years from exam pass date if the credential maintenance requirements are not met.

Confirmation of Credential to Third Parties

NERC will confirm to an employer that an individual holds a valid NERC system operator certificate and will release the certificate number and issuance date in response to a written request.

NERC will release the certificate numbers and issuance dates for individuals holding a current NERC system operator certificate to the regional compliance staff or designated agents of REs in which an individual's employer operates in response to a written request.

NERC will confirm to an employment search firm or a potential employer whether an individual holds a valid NERC system operator certificate, including releasing the certificate number and the issuance date, if the search firm or potential employer has a release from the individual.

Chapter 2: Credential Maintenance

Overview

The System Operator Certification Program includes a requirement to maintain certification by obtaining CEHs. Successfully passing an examination earns candidates a credential and a certificate that is valid for three years. NERC requires certified system operators to accumulate CEHs through the NERC [Continuing Education Credential Maintenance](#) Program in recognized operator training topics, as listed in [Appendix A](#) for credential maintenance. To maintain a valid credential, candidates must accumulate the proper number and type of CEHs from NERC-approved learning activities within a three-year period. The system operator must meet the requirements and [submit a pay for their renewal request in SOCCED](#). Upon transcript review and approval, NERC will issue a new certificate with the new expiration date.

Program Requirement Summary

1. System operators seeking to obtain a credential must pass an examination.
2. NERC will issue a certificate that is valid for three years to successful candidates.
3. To maintain a valid certification, a system operator must earn CEHs within the three-year period preceding the expiration date of their certificate as specified by their credential in [Table 2.1](#) and adhering to the timeline in [Figure 2.1](#). The CEHs must include [the following](#):
 - a. A minimum of 30 CEHs that focus on content and/or implementation of NERC standards.
 - b. A minimum of 30 CEHs that utilize simulations (i.e., tabletop exercises, operator training simulators, emergency drills or practice of emergency procedures, restoration, blackstart, or other reliability-based scenarios).

Note: Reference the [Credential Maintenance Program Administrative Manual](#)⁸ for additional information.

Certification	Designation	Total CEH Requirement	NERC Standard CEH Requirement	Simulation CEH Requirement
Reliability Coordinator Operator Certification	RA, RC	200	30	30
Balancing, Interchange, and Transmission Certification	BT	160	30	30
Transmission Operator Certification	TO	140	30	30
Balancing and Interchange Certification	BI	140	30	30

⁸ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

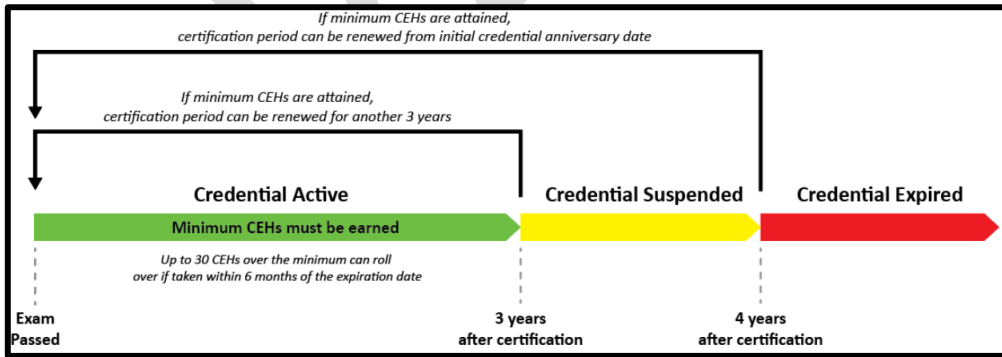
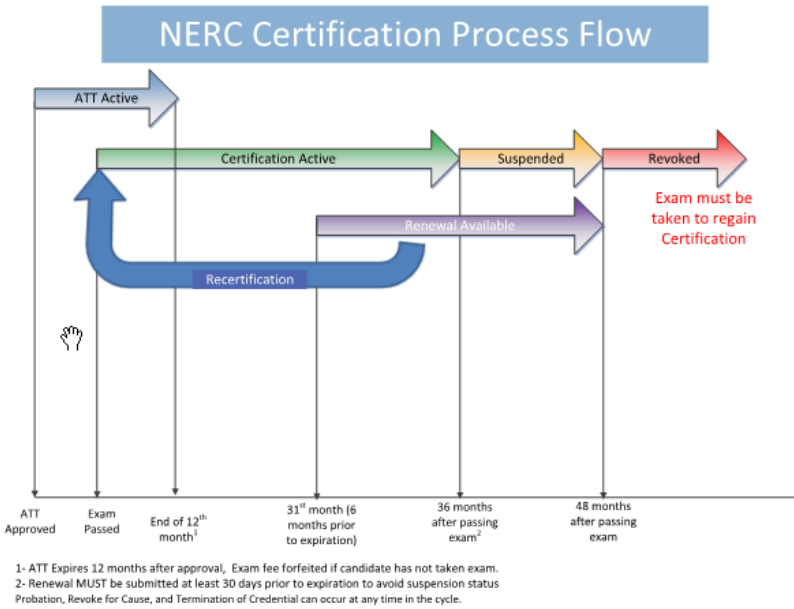


Figure 22.1: NERC Certification Credential Maintenance Process Flow

4. System operators satisfying the credential maintenance requirements must submit a renewal request for their credential and pay the renewal fees through the SOCCED.
5. The NERC system operator credential can be maintained **ONLY** by earning the appropriate number and type of CEHs.

6. Certified system operators that do not accumulate enough CEHs to maintain their current credential prior to the certificate expiration date will have their credential suspended for a maximum of one year.
7. If the appropriate number of CEHs have not been obtained at the end of the suspension period, the credential will ~~be revoked~~ expire.
8. Certified system operators can accumulate the proper number and type of CEHs during the suspension period and have their credential reinstated with the original expiration date (three years after the previous expiration date).

Note: See [Chapter 7: Glossary](#).

CEHs can concurrently count for the total number required, the NERC standards required, and the simulations, but will only be counted once for the total CEHs requirement.

For example: A three-hour learning activity that includes one hour of instruction and a two-hour simulation on the implementation of NERC standards will be counted as three hours toward the total requirement, two hours toward the standards requirement, and two hours toward the simulation requirement.

9. System operators with ~~revoked~~ expired credentials will have to pass an examination to become recertified.

Deficits of CEHs for Credential Holders

A system operator who does not accumulate the required CEHs within the three-year period will have their credential suspended. The system operator with a suspended certificate may not perform any task that requires an operator to be NERC certified. The system operator with a suspended credential will have up to 12 months to acquire the necessary CEHs. The original anniversary date (three years after the previous expiration date) does not change. The system operator will still need to accumulate the required number of CEHs prior to the next expiration date. NERC will maintain a record of the suspension.

~~For example, a system operator whose credential expires July 31, 2014, and who does not accumulate the required number of hours prior to that date, will have their credential suspended on July 31, 2014 00:00.~~

- ~~1. If the system operator accumulates and submits the required number of hours on March 1, 2015, the credential will be reinstated and will be valid until July 31, 2017.~~
- ~~2. The system operator will then have to accumulate the required number of hours prior to July 31, 2017 00:00 or the credential will be suspended again.~~
 - ~~a. CEHs previously used for credential maintenance cannot be reused.~~

For example:

A system operator whose credential expires July 31, 2014, and who does not accumulate the required number of hours prior to that date, will have their credential suspended on July 31, 2014, 00:00.

If the system operator accumulates and submits the required number of hours on March 1, 2015, the credential will be reinstated and will be valid until July 31, 2017.

The system operator will then have to accumulate the required number of hours prior to July 31, 2017, 00:00 or the credential will be suspended again.

CEHs previously used for credential maintenance cannot be reused.

If the system operator does not accumulate the required number of CEHs at the end of a 12-month suspension period, the credential will ~~be revoked~~ expire and ~~they~~ the system operator will forfeit all CEHs earned. After a credential ~~is revoked~~ expires, the system operator must pass an examination to become recertified.

Rollover Hours

For all credentials, some CEHs may be carried over to the next certification period. Up to 30 CEHs accumulated in the six months prior to the certificate expiration date that are not used for credential maintenance or change of credential type may be carried over. Categorization of CEHs in the “standards” category or the “simulation” category will not be carried over into the next period. To satisfy the CEH requirement, CEHs will be used starting with the first learning activity that occurred, according to the calendar, then sequentially by the date of the learning activities. ~~See Figure 3~~ See Figure 2.2 for an example of rollover hours.

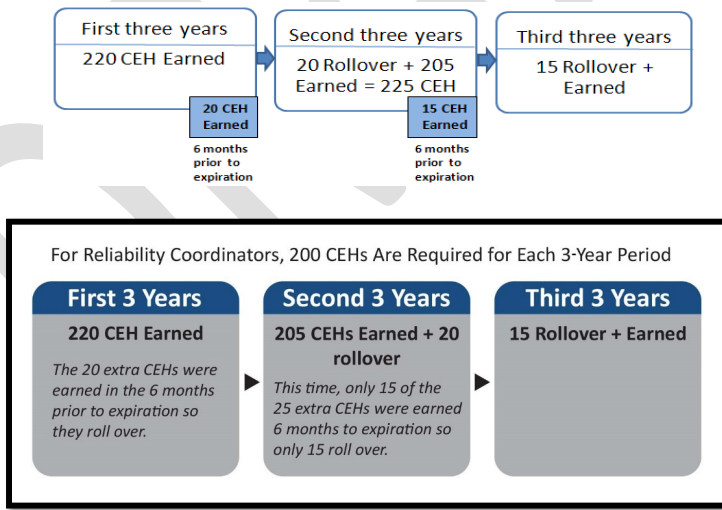


Figure 32.2: Certification Periods for RGReliability Coordinator Credential (200 CEHs Required)

NERC ~~CE~~ Continuing Education Providers

NERC ~~CE~~ continuing education (CE) providers report the CEHs earned by each certified system operator to NERC electronically through the SOCCED. Providers are also required to ~~give~~ provide the certified system operator proof of having earned the CEHs ~~by issuing a certificate of completion for the learning activity.~~

System Operator

System operators are able to track their status toward maintaining their credential through the NERC SOCCED. Certified system operators should review their transcripts at least 90 days up to 6 months before their certificate expiration date to allow sufficient time to acquire CEHs should there be a conflict. If a conflict occurs, the certified system operator shall submit proof of having acquired the necessary CEHs from the ~~Continuing Education~~ Credential Maintenance Program's approved learning activities to the NERC manager of personnel certification ~~and credential maintenance~~. The system operator must submit at least 30 days before the certificate expiration date to allow NERC staff ~~time~~ to process and resolve discrepancies and prevent the credential from being suspended. NERC will reinstate suspended credentials once proof of completion is verified.

System operators who meet the CEH requirements must ~~request a pay for their~~ renewal through SOCCED. ~~Upon receipt of a renewal request, payment of the renewal fee, and NERC approval, the~~ The system operator may print a new certificate from SOCCED. The new certificate will have an expiration date ~~that is~~ three years from the previous expiration date. Renewal requests should be submitted no more than six months prior to expiration date.

Changing Certification Levels

A certified system operator who wants to change to a different credential that requires fewer CEHs may do so when they meet the proper number and type of hours for the new credential. A certified system operator can change their credential type by indicating the desire to do so in SOCCED when requested to renew.

~~To~~ See the following to change a credential ~~from~~:

- **Reliability ~~Coordinator~~ Operator (RC) to any other NERC credential:** a system operator who has obtained the proper number and type of hours for the new credential may renew to any NERC system operator credential.
- **Balancing, Interchange, and Transmission Operator (BT) to Transmission Operator (TO) or Balancing and Interchange Operator (BI):** a system operator will have the option to renew to a TO or BI credential when the proper number and type of hours for the new credential have been obtained.
- **Balancing, Interchange, and Transmission Operator (BT) to Reliability ~~Coordinator~~ Operator (RC):** a system operator must pass the examination for the Reliability Operator credential.
- **Balancing and Interchange Operator (BI) to any other NERC credential:** a system operator must pass the examination for that credential.
- **Transmission Operator (TO) to any other NERC credential:** a system operator must pass the examination for that credential.

Chapter 3: Hardship Clause (NERC Rules of Procedure)

Hardship is when unforeseen events and extenuating circumstances occur that place excessive burden on a system operator to earn or maintain a credential. To initiate the hardship clause process, the system operator must submit ~~a written request containing a thorough explanation of the circumstance and supporting information to the following:~~ complete the Hardship Request Form⁹ located on the One-Stop Shop (System Operators Certification and Credential Maintenance Program)¹⁰ page.

The completed Hardship Request Form should be provided to the following:

NERC Personnel Certification and Credential Maintenance Manager
3353 Peachtree Road NE, Suite 600, North Tower
Atlanta, GA 30326

Or email: soccedsupport@nerc.net

Or Submit a Request¹¹ via the SOCCED Help Center to obtain the email address of the manager of Personnel Certification and Credential Maintenance.

Following the PCGC's process, the Personnel Certification and Credential Maintenance manager will provide the hardship request to the PCGC's Hardship and Dispute Resolution Task Force (HDRTF) for review. The HDRTF makes the determination on approval or rejection of the request.

The PCGC retains the right to invoke the hardship clause and deviate from the program rules as it deems appropriate to address such events or circumstances. Examples of extenuating circumstances include (but are not limited to) military service or an illness/disability of the system operator or within the system operator's immediate family that results in an extended period of time away from work.

⁹ https://www.nerc.com/pa/Train/SysOpCert/System%20Operator%20Certification%20DL/SOC_Hardship_Request_Form.pdf

¹⁰ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

¹¹ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

Chapter 4: Program Rules

Overview

NERC will recognize CEHs for credential maintenance only from ~~Operator Training~~[operator training](#) topics and learning activities listed in [Appendix A](#) and if providers have complied with the ~~Credential Maintenance Program~~[Credential Maintenance Program](#)¹² rules. See the ~~One-Stop Shop (System Operators Certification & Credential Maintenance Program)~~[One-Stop Shop \(System Operators Certification and Credential Maintenance Program\)](#)¹³ for the ~~manual~~[Credential Maintenance Program Administrative Manual](#) and other references.

Learning Activities

- **Emergency Operations Training Topics**

CEHs for emergency operations will be recognized for credential maintenance twice a year based on the credential anniversary (i.e., during the 12-month period preceding the system operator's credential anniversary). CE courses can count as emergency operations courses if the training is related to emergency preparedness, operational communications and situational awareness, analysis and troubleshooting, or the response to any emergency as defined by NERC: Any abnormal system condition that requires automatic or immediate manual action to prevent or limit the failure of transmission facilities or generation supply that could adversely affect the reliability of the BES.

- **Other Training Topics**

NERC will recognize CEHs for a particular course or learning activity—other than emergency operations training—for credential maintenance once a year based on the credential anniversary (i.e., during the 12-month period preceding the system operator's credential anniversary).

- **Instructor Training**

For instructors who are also certified system operators, NERC will recognize 1.0 CEH for each CEH of a learning activity delivered toward the instructor's system operator credential maintenance. Emergency operations topics can be counted twice per year based on the credential anniversary (i.e., during the 12-month period preceding the system operator's credential anniversary).

- **Proof of Course Completion**

A certified system operator is responsible for retaining appropriate documentation for proof of credential maintenance. Documentation includes the following:

- ~~The provider's name and contact information~~

- The learning activity's title and identification number

- ~~A brief description of learning activity content~~

- The date(s) of the learning activity

- ~~The location of the activity (if applicable)~~

- The number and type of CEHs
- The system operator's NERC certificate number

Training providers shall retain comparable documentation. Electronic forms of documentation are acceptable.

¹² <https://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx>

¹³ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

Learning Activity Status Changes

NERC will grant CEHs for a course or learning activity approved for credential maintenance. If a system operator attends an approved learning activity that is later revoked or expired, NERC will still recognize CEHs from that activity while it was approved.

Disputes between Certified System Operators and Providers

If there is a dispute between a provider and a certified system operator, the parties must resolve the dispute without involvement from NERC. Additionally, it is the obligation of certified system operators to periodically review their CEH records in the NERC SOCCED and maintain their own training records to provide proof of achieving CEH requirements.

Fees

NERC uses fees for the ongoing expense to develop and maintain the certification program. The fees also cover the expense of the management and administrative costs associated with the examination process and credential maintenance. The PGC periodically reviews and adjusts these fees. NERC posts these fees on the [System Operator Certification Program site One-Stop Shop \(System Operators Certification and Credential Maintenance Program\)](#)¹⁴ page.

Legal Name Changes

If a system operator changes their legal name, the system operator must submit a written request containing an explanation of the circumstance and copies of the legal documentation of the name change to the following:

NERC Personnel Certification [and Credential Maintenance](#) Manager
3353 Peachtree Road NE, Suite 600, North Tower
Atlanta, GA 30326

Or email: soccedsupport@nerc.net

Or submit a request¹⁵ via the SOCCED Help Center

¹⁴ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

¹⁵ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

Chapter 5: Dispute Resolution (NERC Rules of Procedure)

Overview

Any dispute arising under the NERC agreement that established the NERC System Operator Certification Program or from the establishment of any NERC rules, policies, or procedures ~~dealing that deal~~ with any segment of the certification process, or as a result of disciplinary action, shall be subject to the NERC System Operator Certification Dispute Resolution Process. The Dispute Resolution Process is for the use of individuals who hold a NERC system operator certification or individuals wishing to be certified to dispute the validity of the examination, the content of the test, the content outlines, or the registration process. ~~The Dispute Resolution Process is not for disputing CEHs. See the Continuing Education Administrative Manual for information on disputing CEHs.~~

~~Disputes regarding the scoring of an exam should be delayed until the official score results are known. NERC issues an official score only after the exam results have been reviewed by the psychometric consultant. The chairperson of the PCGC will wait until an official score is available before taking action on a dispute.~~

Dispute Resolution Process

1. NERC System Operator Certification Program Staff

The first step in the process is for the person with a dispute to contact the NERC System Operator Certification Program staff. This can be done by ~~calling or emailing~~ [Submit a Request¹⁶](#) via the ~~program staff~~ [SOCCED Help Center](#). This first step can usually resolve the issue, and if it does, no further action is needed. If the issue is not resolved, the issue can be brought to the PCGC Dispute Resolution Task Force.

1. Personnel Certification Governance Committee Dispute Resolution Task Force

If NERC staff did not resolve the issue to the satisfaction of the parties involved, a written request must be submitted to the chairperson of the PCGC through NERC staff within 45 days of the conversation with NERC staff explaining the issue(s) and requesting further action. Upon receipt of the letter, the PCGC chairperson will present the request to the PCGC Dispute Resolution Task Force for action. This task force consists of three current members of the PCGC. The PCGC Dispute Resolution Task Force will investigate and consider the issue presented and make a decision. This decision will then be communicated to the submitting party, the PCGC chairperson, and NERC staff within 45 calendar days of receipt of the request.

If a French-Canadian or Mexican party raises a dispute, the PCGC shall appoint a French-Canadian-speaking ~~interpreter~~ or a Spanish-speaking interpreter as requested.

2. Personnel Certification Governance Committee

If the PCGC Dispute Resolution Task Force's decision did not resolve the issue(s) to the satisfaction of the parties involved, the final step in the process is for the issue(s) to be brought before the PCGC. Within 45 days of the date of the ~~Task Force's~~ [task force's](#) decision, the disputing party shall submit a written request to the PCGC chairperson through NERC staff requesting that the issue(s) be brought before the PCGC for resolution. The chairperson shall see that the necessary documents and related data are provided to the PCGC members as soon as practical. The PCGC will then discuss the issue(s) and make their decision within 60 calendar days of the chairperson's receipt of the request. The decision will be provided to the person bringing the issue(s) and the NERC staff. The PCGC is the governing body of the certification program, and its decision on all disputes is final.

¹⁶ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

Process Expenses

All individual expenses associated with the process, including salaries, meetings, and consultant fees, shall be the responsibility of the individual parties incurring the expense.

Decision Process

Robert's Rules of Order shall be used as a standard of conduct for the process. A majority vote of the members present will decide all issues. The vote will be taken in a closed session. No member of the PCGC may participate in the dispute resolution process, other than ~~as the~~ party or ~~a~~ witness, ~~if they have that has~~ an interest in the particular matter.

A stipulation of invoking the appeals process is that the ~~entity~~ party requesting the appeal agrees that neither NERC (its members, Board of Trustees, committees, subcommittees, and staff), any person assisting in the appeals process, nor any company employing a person assisting in the appeals process, shall be liable, and they shall be held harmless against the consequences of ~~or~~ any action or inaction, ~~or of as well as harmless against~~ any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause¹⁷ does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

¹⁷ NERC Rules of Procedure: Section 5.1

Chapter 6: Disciplinary Actions (NERC Rules of Procedure)

Overview

This Disciplinary Action Procedure is necessary to protect the integrity of the system operator credentials. Should an individual act in a manner that is inconsistent with expectations, this procedure describes the process to investigate and take action necessary to protect the credential.

Grounds for Action

The following shall serve as grounds for disciplinary action:

- Willful violation, and/or a gross violation, ~~or both~~, of the NERC standards as determined by a NERC investigation
 - Both the organization and the certified system operator are bound by the NERC Reliability Standards. If a certified system operator, either in concert with the organization or on their own initiative, performs a willful violation, and/or a gross violation, ~~or both~~, of the NERC standards, ~~they the organization and the certified system operator~~ are both liable for those actions, and disciplinary actions may be taken against them.
- Willful negligence, and/or a gross negligence, ~~or both~~ in performing the duties of a certified system operator as determined by a NERC investigation
- Intentional misrepresentation of information provided to NERC for a system operator certification exam or to maintain a system operator credential using CEHs
- Intentional misrepresentation of identification in the exam process, including an individual identifying as another person to obtain certification for the other person
- Any form of cheating during a certification exam that includes, but is not limited to, bringing unauthorized reference material in the form of notes or other materials into the testing center
- A certified system operator's admission to or conviction of any felony or misdemeanor directly related to their duties as a system operator
- [Creating a second account in SOCCED in order to register and pay for an exam under a different login and/or account name in order to bypass the 42 day wait period between examinations](#)

Hearing Process

Upon the report to NERC of a candidate's or certified system operator's alleged misconduct, the PCGC Credential Review Task Force will convene for the determination of facts. An individual, government agency, or other investigating authority may file a report. Unless the task force initially determines that the report of alleged misconduct is without merit, the candidate or certified system operator will be given the right to receive notice of the allegation. A hearing will be held and the charged candidate or certified system operator will be given an opportunity to be heard and present further relevant information. The task force may seek out information from other involved parties. The hearing will not be open to the public, but it will be open to the charged candidate or the certified system operator and their representative. The task force will deliberate in a closed session, but the task force cannot receive any evidence during the closed session that was not developed during the course of the hearing.

Task Force's Decision

The task force's decision will be unanimous and will be in writing with inclusion of the facts and reasons for the decision. The task force's written decision will be delivered to the PCGC (~~by certified post~~[via email](#)) and to the charged candidate or [the](#) certified system operator. In the event that the task force is unable to reach a unanimous decision, the matter shall be brought to the full committee for one of the following decisions:

- **No Action:** ~~Allegation~~[The allegation](#) of misconduct was determined to be unsubstantiated or inconsequential to the credential.
- **Probation:** NERC will send a letter to the offender specifying the length of probationary period (to be determined by the PCGC).
 - The Credential will remain valid during the probationary period.
 - The probationary period does not affect the expiration date of the current certificate.
 - During the probationary period, a subsequent offense of misconduct, as determined through the same process described above, may be cause for more serious consequences.
- **Revoke for Cause:** NERC will send a letter to the offender specifying the length of the revocation period (to be determined by the PCGC).
 - Credential is no longer valid.
 - Offender must successfully pass an exam to become recertified.
 - An exam will not be authorized until the revocation period expires.
- **Termination of Credential:** NERC will send a letter to the offender specifying permanent revocation of credential, and the offender will not be approved to sit for a future examination.

Credential Review Task Force

A Credential Review Task Force shall be comprised of three active members of the PCGC assigned by the chairperson of the PCGC on an ad hoc basis. No one on the credential review task force may have an interest in the particular matter. The task force will meet in a venue determined by the task force chairperson.

If a French-Canadian or Mexican party raises a dispute, the PCGC shall appoint a French-Canadian ~~speaking~~[interpreter](#) or a Spanish ~~speaking~~[interpreter](#) as requested.

Appeal Process

The decision of the task force may be appealed using the NERC System Operator Certification Dispute Resolution process (see [Chapter 4](#)).

Field Code Changed

Chapter 7: Glossary

- G01. **Continuing Education Hour (CEH):** Based on 60 clock minutes and includes at least 50 minutes of participation in a group or self-study learning activity that meets the criteria of the NERC [Continuing Education Program](#). ~~A Continuing Education Hour Activity (CEH Activity) is an approved learning activity administrated under the CE Program.*~~[Credentia Maintenance Program](#).
- G02. **Continuing Education (CE) Provider:** The individual or organization responsible for setting learning objectives, developing the curriculum to achieve such objectives, offering a learning activity to participants, and maintaining documentation required by these criteria. The term CE Provider may include NERC, [RegionsRES](#), operating and marketing entities, technical and industry societies and associations (whether formal or informal), consultants, vendors, colleges, universities, and training companies, as well as employers who offer in-house learning activities. ~~A Continuing Education Provider may be either a single learning activity Continuing Education Provider or a NERC approved Continuing Education Provider.*~~
- G03. **Certification:** An official recognition that indicates the recipient has passed a NERC exam or completed a specified number of CEHs.
- G04. **Credential:** NERC designation that indicates the level of qualification achieved (i.e., Reliability Operator; Balancing, Interchange, and Transmission Operator; Balancing and Interchange Operator; and Transmission Operator).
- G05. **Credential Maintenance:** Meet NERC CEH requirements to maintain a valid NERC-issued system operator credential.
- ~~G06.~~ **Expired:** A NERC certificate that has been suspended for more than 12 months. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC certified. The certificate holder will be required to pass an exam to be certified again. Any CEHs accumulated prior to or during the expiration period will not be counted toward certificate maintenance.
- ~~G06-G07.~~ **NERC-Approved Learning Activity:** Training that maintains or improves professional competence and has been approved by NERC for use in its [Continuing Education](#)/[Credentia Maintenance](#) Program.
- ~~G07-G08.~~ **Probation:** A step in the disciplinary process during which the certificate is still valid. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.
- ~~G08.~~ **Revoked:** A NERC certificate that has been suspended for more than 12 months. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC certified. The certificate holder will be required to pass an exam to be certified again. Any CEHs accumulated prior to or during the revocation period will not be counted toward certificate maintenance.
- G09. **Revoke for Cause:** A step in the disciplinary process during which the certificate is no longer valid; [and](#) requires successfully passing an exam to become certified. However, an exam will not be authorized until the revocation period expires. CEHs earned before or during this revocation period will not be counted for maintaining a credential.
- G10. **Suspended:** Certificate status due to an insufficient number of CEHs being submitted prior to the expiration of a certificate. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC certified.

- G11. **Termination of Credential:** A step in the disciplinary process whereby a credential is permanently revoked.
- G12. **Type of CEHs:** NERC-approved learning activity covering topics from [Appendix A₂](#) NERC standards, and/or simulations for which there is a minimum requirement for credential maintenance.

[* Continuing Education Program Manual definition](#)

DRAFT

Appendix A: Recognized Operator Training Topics

Courses that provide ~~CE Hours~~CEHs for the purpose of NERC Certification credential maintenance shall be based on topics listed below. Learning objectives must specifically support ~~Bulk Electric System~~BES reliability responsibilities of the ~~System Operator~~system operator and/or specific ~~Recognized Operator Training Topics~~recognized operator training topics. Refer to the NERC ~~Continuing Education Administrative Manual~~Credential Maintenance Program Administrative Manual located on the One-Stop Shop¹⁸ for more information about proper learning activity development.

1. Basic Concepts

- a. Basic ac/dc Electricity
 - i. Capacitance
 - ii. Inductance
 - iii. Impedance
 - iv. Real and reactive power
 - v. Electrical circuits
 - vi. Magnetism
- b. Basic Power System Mathematic Concepts
 - i. Basic trigonometry
 - ii. Ratios
 - iii. Per unit values
 - iv. Pythagorean Theorem
 - v. Ohm's Law
 - vi. Kirchhoff's Laws
- c. Characteristics of the ~~Bulk Electric System~~BES
 - i. Transmission lines
 - ii. Transformers
 - iii. Substations
 - iv. Power plants
 - v. Protection
 - vi. Introduction to power system operations and interconnected operations
 - vii. Frequency

¹⁸ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

viii. Emerging technologies/equipment

2. System Protection Principles

- a. Transmission lines
- b. Transformers
- c. Busses
- d. Generators
- e. Relays and protection schemes
- f. Power system faults
- g. Synchronizing equipment
- h. Under-frequency load shedding
- i. Under-voltage load shedding
- j. Communication systems utilized

3. Interconnected Power System Operations

- a. Voltage control
- b. Frequency control
- c. Power system stability
- d. Facility outage both planned and unplanned
- e. Energy accounting
- f. Inadvertent energy
- g. Time error control
- h. Balancing of load and resources

4. Emergency Operations

- a. Loss of generation resource(s)
- b. Loss of transmission element(s)
- c. Operating reserves
- d. Contingency reserves
- e. Line loading relief
- f. Load shedding
- g. Voltage and reactive flows during emergencies
- h. Loss of EMS

- i. Loss of primary control center

5. Power System Restoration

- a. Restoration philosophies
- b. Facility restoration priorities
- c. Blackstart restoration
- d. Stability (angle and voltage)
- e. Islanding and synchronizing

6. Market Operations

- a. NAESB standards
- b. Standards of conduct
- c. Tariffs
- d. OASIS applications (transmission reservations)
- e. E-Tag application
- f. Transaction scheduling
- g. Market applications
- h. Interchange

7. Tools

- a. Supervisory Control and Data Acquisition (SCADA)
- b. Automatic Generation Control (AGC) application
- c. Power flow application
- d. State estimator application
- e. Contingency analysis application
- f. P-V Curves
- g. Load forecasting application
- h. Energy accounting application
- i. Voice and data communication systems
- j. Demand-side management programs

8. System Operator Situational Awareness

- a. Identifying loss of facilities
- b. Recognizing loss of communication facilities

- c. Recognizing telemetry problems
- d. Recognizing and identifying contingency problems
- e. Proper communications (three-part)
- f. Communication with appropriate entities, including the Reliability Coordinator
- g. Cyber and physical security and threats
- h. Reducing ~~System Operator~~system operator errors through the use of ~~Human Performance Tools~~human performance tools, such as ~~Self-Checking, Peer-Checking, Place-Keeping~~self-checking, peer checking, place keeping, and ~~Procedure Use~~procedure use

9. Policies and Procedures

- a. ISO/RTO operational and emergency policies and procedures
- b. Regional operational and emergency policies and procedures
- c. Company-specific operational and emergency policies and procedures

10. NERC Reliability Standards

Application and/or implementation of NERC Reliability Standards

Appendix B: Program Manual Changes

Table B.1: Program Manual Changes

No.	Date	Section	Page	Description	Version
					4.0
19	See the Mapping Document for a detailed list of changes between the previous and current manual version.				
18	4/2020	Certification Exams	2	Exam cut scores updated effective June 1, 2020	3.2
17	10/2019	Preface	1	Updated NERC map and Regional EntitiesREs	3.1
16	09/2017	All Certification Examinations Credential Maintenance	All 1 All 2 All 8	Annual Review Added additional information to clarify how the EWG is involved in the exam development process. Added language to explain in more detail the exam development process. Matched language with Test test center vendor. Rearranged paragraphs for clarification. Added exam development process diagram. Updated language for clarification. Reorganized paragraphs for consistency. Added Certification Process Diagram.	3.0
15	02/2017	Introduction Examinations Appendix A:	v 1 16, 18	Added non-discriminatory statement Updated Total Questions, Scored Questions, and Added Exam Cut Scores Added overview statement for Appendix A: Topics and Adjusted Number adjusted number 8 of Topics the topics .	2.1
14	03/2016	All	All 3 7	Document reviewed to confirm accurate information. Clarification of how 42-day wait period is calculated and 42-day wait period required regardless of exam failed. Reduction of renewal request timeframe to 6 months prior to expiration.	2.1

Appendix B: Program Manual Changes

13	05/2014	All	All	Updated to reflect new exam vendor information. Also, corrected certificate expiration date example to reflect actual process.	2.1
12	02/2012	All		NERC A address change Style and F format changes throughout Eliminated detail instructions	2.0
11	08/2010	Executive Summary, II and III	4, 16-23, 24, and 25	Review of content for consistency with current requirements	1.4
10	11/2009	All	All	Fee i increase for exams & C redential M aintenance and credential maintenance	1.3
9	10/2007	II	15	Category defined for C arry-over CE H ours.	1.3
8	08/2007	All	All	Updated instructions to include instructions for the new database	1.3
7	03/2007	IV	18	General housekeeping and added a 45 day limit to Step 3 of DRP. Added comment about waiting for official score when available before taking action on a dispute filed with the PCGC chairman.	1.2
6	03/2007	I	9	Remove certificate numbering convention	1.2
5	08/2006	III	16	Training P roviders retaining documentation	1
4	06/2006	All	All	CEH to CE Hours	1.1
3	06/2006	I and II	4, 17	Fees	1.1
2	02/2006	All	All	Program M anual	1
1	05/2005	All	All	Initial white paper expanded SOC P rogram to include CE H ours	0

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NORTH AMERICAN ELECTRIC
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Personnel Certification Governance Committee 2022 Work Plan

November 2021

RELIABILITY | RESILIENCE | SECURITY



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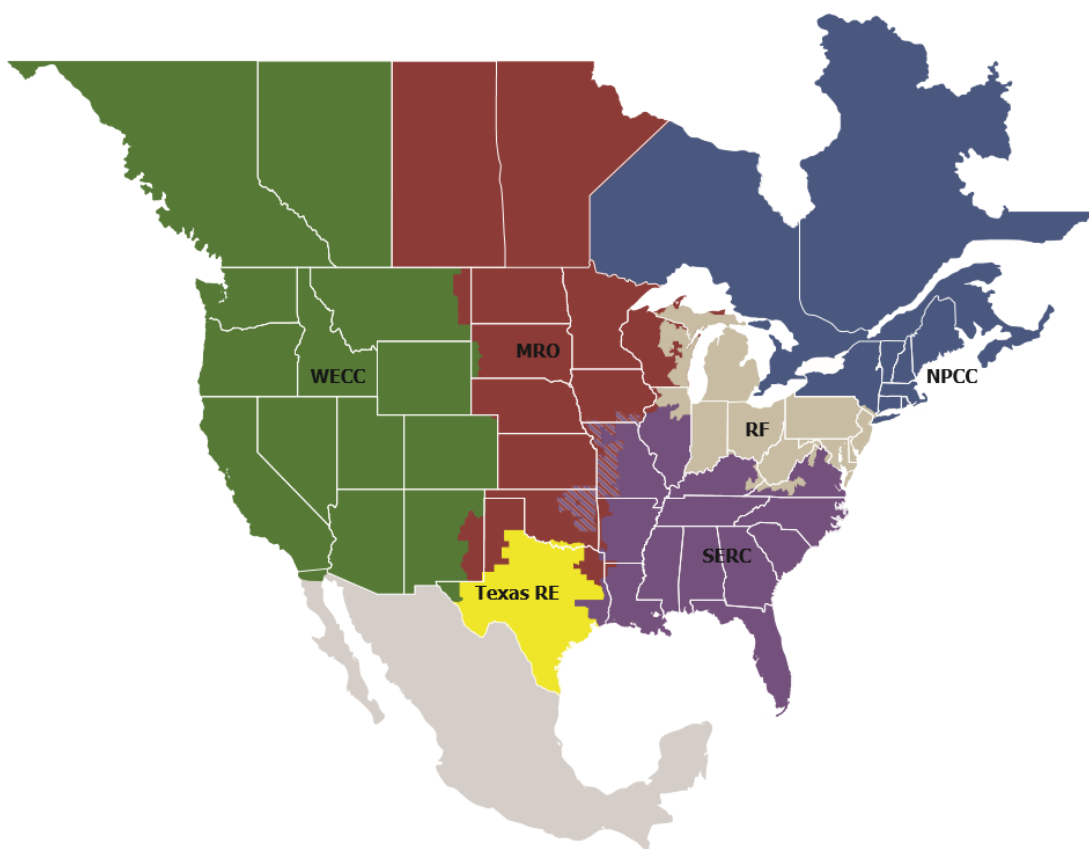
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Preface

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

Executive Summary

The purpose of this Work Plan is to identify the anticipated activities and deliverables of the NERC Personnel Certification Governance Committee (PCGC). The plan is based on the responsibilities assigned to the PCGC by the NERC Board of Trustees (Board) for oversight of the policies and processes used to implement and maintain the integrity and independence of NERC's System Operator Certification (SOC) program. Tasks have been identified by the PCGC that are required to fulfill these responsibilities. Additionally, the PCGC identified projects and deliverables that will further support the goals of the ERO Enterprise Operating Plan and the ERO Enterprise Long-term Strategy.

Introduction

Background

The PCGC is a Board-appointed stakeholder committee serving and reporting directly to the Board. In accordance with the NERC by-laws, the purpose of the PCGC, or the “Committee,” shall be to provide oversight to the policies and processes used to implement and maintain the integrity and independence of NERC’s SOC program. The governance authority and structure of the PCGC shall be implemented and maintained so that policies and procedures are established to protect against undue influence that could compromise the integrity of the process for the SOC.

The PCGC shall report directly to the Board and the NERC President and CEO regarding governance and administration of the SOC program.

The PCGC has autonomy in all operational processes for the SOC program, including:

- Policies and procedures of the SOC program, including eligibility requirements and application processing
- Requirements for personnel certification, maintaining certification, and recertification
- Examination content, development, and administration
- Examination cut score
- Grievance and disciplinary processes
- Governing body and subgroup meeting rules, including agenda, the frequency of meetings, and related procedures
- Subgroup appointments and work assignments
- Publications about personnel certification and recertification
- Setting fees for applications to become certified, applications for maintaining certification, and all other services provided as a part of the personnel certification and recertification activities
- Program funding, spending, and budget authority
- Financial matters related to the operation of the program shall be segregated from other NERC activities

Chapter 1: Strategic Planning and On-Going Efforts

Project 1: Develop One System Operator Credential – Ongoing

Work with the Credential Maintenance Working Group (CMWG) and the selected vendor to finalize the Continuing Education Hours (CEHs) justification rationale.

Work with CMWG and the successful vendor from the 2021 Request for Proposal (RFP) to:

- Examine evidence to warrant consolidating the existing four NERC Certified System Operator (NCSO) credentials into one credential
- Determine the appropriate maintenance requirements for the one credential based on evidence
- Examine credential maintenance practices to determine what changes and/or enhancements to existing NCSO credential maintenance CEH requirements

The current status of this project is in the research and data gathering phase. Final report/presentation due to the PCGC and CMWG by August 2022.

Project 2: Certification Program Health Check – Ongoing

To identify “health check” metrics for the SOC program; by utilizing the individual learning activity research data.

As part of the 2021 RFP, a comparison review of NERC’s credential maintenance model to other models, inclusive of hybrid credential maintenance models that utilize a combination of education, professional development, and work activities, will generate information to benchmark the credential maintenance program.

The current status of this project is in the research and data gathering phase. Final report/presentation due to the PCGC and CMWG by August 2022.

Project 3: SOCCED Enhancements – Ongoing

To continue to work on enhancements to System Operator Certification and Continuing Education Database (SOCCED) for the provider, candidate, and NERC staff administration.

To gain efficiencies in the administration of NERC credential maintenance and NERC SOC programs. By further enhancing and developing the SOCCED database while maintaining an accurate system of records with an additional focus to increase the ability to document hardship and dispute resolutions.

SOCCED Enhancement project is an ongoing project by the PCGC to target specific areas within SOCCED for improvement.

Project 4: Exam Item Bank Maintenance – Ongoing

To continue collaboration with the Exam Working Group (EWG) and psychometric consultant to keep the SOC Exam Item Bank current. Continue review process on the SOC Exam Item Bank and its relevance for the validity of exams implemented using Linear-On-The-Fly Testing (LOFT). Having a current and relevant item bank keeps a high trust in the certification process, and individual examinee challenges low.

The Exam Item Bank Maintenance is an ongoing project by the PCGC to keep the SOC Exam Item Bank current and relevant for the validity of exams implemented using LOFT.

A complete Job Task Analysis (JTA) which is to be performed every three years by the EWG and psychometric consultant vendor.

Project 5: Canadian Exam Centers – New

Identify the requirements for SOC test centers in each of the required provinces within Canada. Work with the vendor to establish enough test centers in each province to ensure candidates do not need to travel an appreciable distance and/or cross a provincial border.

Canadian candidates need to have the same ability to test as candidates within the continental United States. Reduced risks on having to implement stand-up centers and/or cause undue burden on Canadian candidates.

The Canadian Exam Center project was identified during the May 2021 PCGC meeting and is currently under development.

Standards Committee Report

Action

Approve the Standards Committee 2022 Work Plan, and receive information regarding recent activities.

Summary

Attached is the Standards Committee (SC) 2022 Work Plan for Board of Trustees consideration and approval. Also included is the Standards Committee Quarterly Report highlighting activities over the last quarter.

2022-2024 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 (BPS).

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 2022-2024 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 2022-2024 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 2022.

Task No. 2 – Standards Grading

- NERC staff and the SC chair or delegate (acting as facilitator) will start the 2022 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 2022 if possible, but no later than the end of August 2022 to coordinate with the development of the 2023-2025 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 2022. 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 2022-2024 SC Strategic Work Plan

- The SC will review Plan and provide changes for 2023-2025 to the SC for endorsement.

Task No. 6 – Standards Efficiency Review

- The SC will support the implementation of objectives of the project.

Task No. 7 – Standing Committee Coordination Group (SCCG)

- NERC staff and the SC chair and vice chair will participate in the SCCG to promote collaboration and coordination on cross-cutting matters of importance to the BPS reliability, security and resilience.

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NORTH AMERICAN ELECTRIC
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Agenda Item 10c
Board of Trustees Meeting
February 10, 2022

Reliability Standards

Quarterly Report

February 10, 2022

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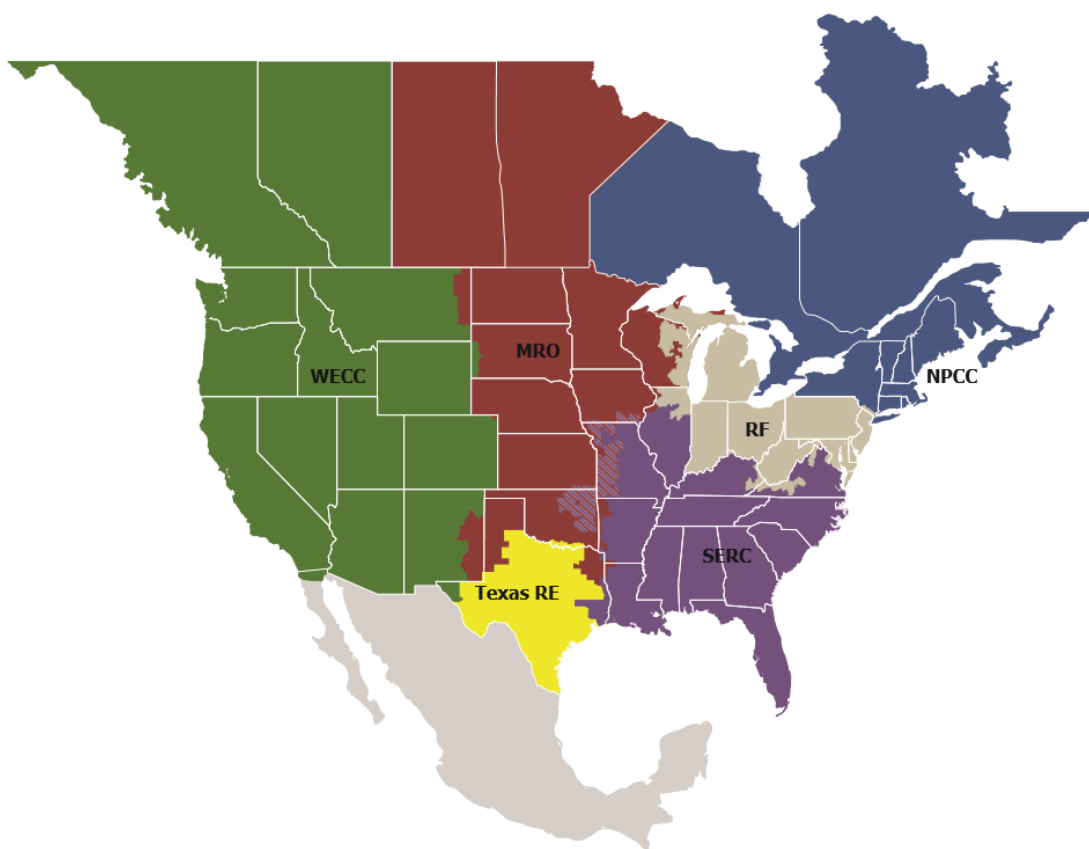
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Chapter 1: Standards Development Forecast

Board Forecast for Standard Projects in Active Development

The following projections reflect anticipated Board of Trustees (Board) adoption dates for continent-wide Reliability Standards.

February 2022 or after

- Project 2016- 02: Modifications to CIP Standards (virtualization)
- Project 2017-01: Modifications to BAL-003-1.1 (phase 2)
- Project 2019-04: Modifications to PRC-005-6
- Project 2020-02: Transmission-connected Resources
- Project 2020-03: Supply Chain Low Impact Revisions
- Project 2020-04: Modifications to CIP-012-1
- Project 2020-06 Verifications of Models and Data for Generators
- Project 2021-01 Modifications to MOD-025 and PRC-019
- Project 2021-02 Modifications to VAR-002
- Project 2021-03 CIP-002 Transmission Owner Control Centers
- Project 2021-04 Modifications to PRC-002-2
- Project 2021-05 Modifications to PRC-023
- Project 2021-06 Modifications to IRO-010 and TOP-003
- Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination
- Project 2021-08 Modifications to FAC-008

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. NERC's request remains pending at this time.

Projects with Regulatory Directives

Table 1 below lists the current projects with regulatory directives. As of December 31, 2021, there is one standards-related directive to be resolved through standards development activities (not including non-standards related directives).¹

Project	Regulatory Directives	Regulatory Deadline
Project 2020-04: Modifications to CIP-012-1	1	N/A

¹ A second directive requires NERC to file quarterly updates in the project schedules for Project 2016-02 Modifications to CIP Standards and Project 2019-02 BES Cyber System Information Access Management.

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*² 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.³ 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.⁴

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 2021 for Continent-wide standards, and a significant decline in total number of requirements from 2019 to 2021 for Regional Reliability Standards. Figure 1 indicates 445 continent-wide requirements; Figure 2 indicates 69 Regional Reliability standards forecast for 2027.

² Available from the Standards section of the NERC website: <http://www.nerc.com/pa/Stand/Pages/default.aspx>

³ Charts were developed using end of Q4 2020 data.

⁴ These projects include the following: Project 2015-09 (FAC-010-4, FAC-011-4, FAC-014-3), Project 2016-02 (CIP-003-7(i)), Project 2018-03 SER Retirements.

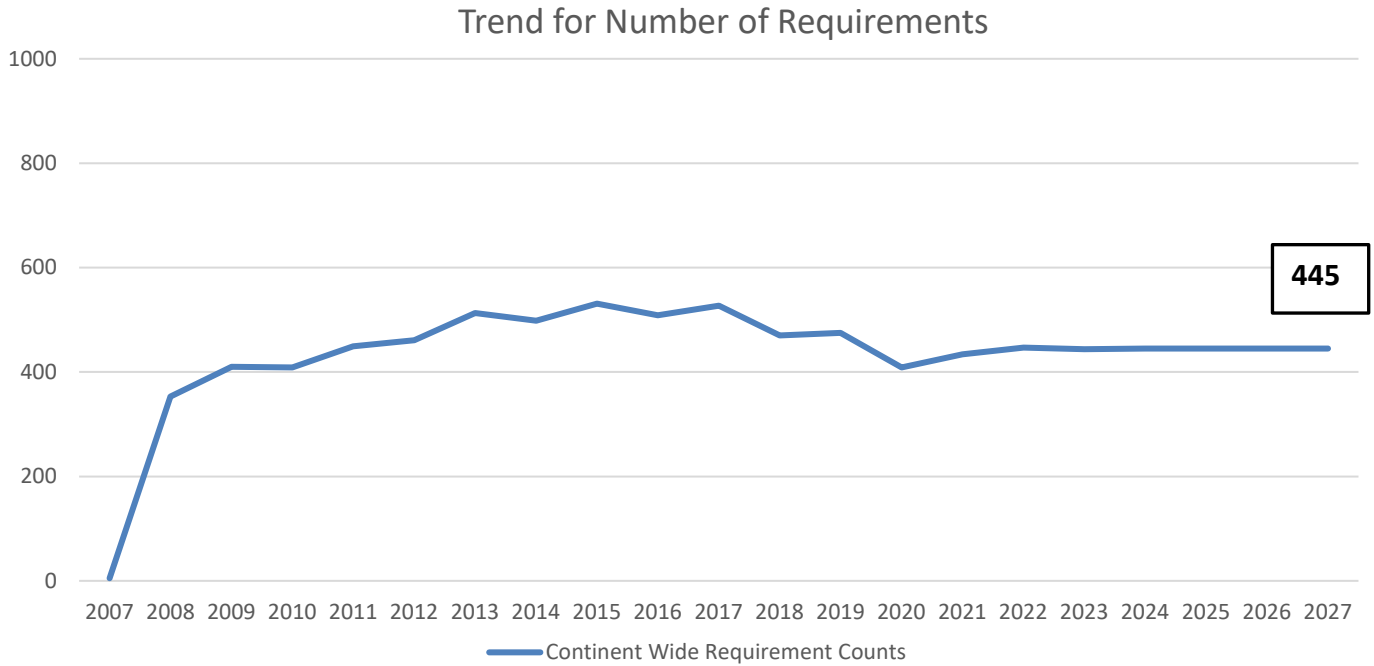
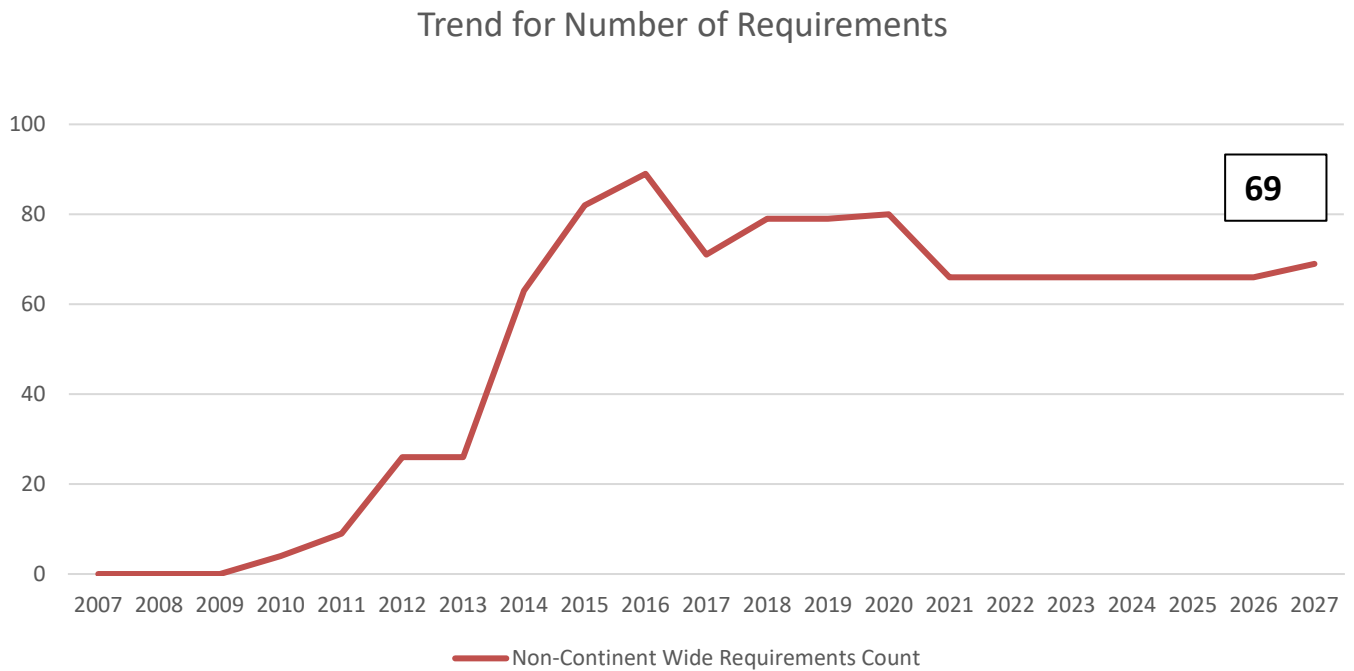


Figure 2: Trend for Number of Requirements for Regional Reliability Standards



Chapter 2: Regulatory Update

NERC FILINGS October 1, 2021 – December 31, 2021

FERC Docket No.	Filing Description	FERC Submittal Date
RM21-17-000	Comments on Transmission Planning ANOPR NERC and the Regional Entities submitted comments on the Commission's Advance Notice of Proposed Rulemaking (ANOPR) regarding Regional Transmission Planning and Cost Allocation and Generator Interconnection.	10/12/2021
EL21-105-000	Motion to Intervene and Comment on Complaint NERC submitted a Motion to Intervene and Comment on a complaint regarding cybersecurity incentives.	10/14/2021
RM05-17-000, RM05-25-000, RM06-16-000	2022-2024 Reliability Standards Development Plan NERC submitted its Reliability Standards Development Plan (RSDP) for 2022-2024. 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	11/30/2021
RD22-1-000	Petition of NERC and SERC for Approval of PRC-006-SERC-03 NERC and SERC Reliability Corporation submitted a petition for approval of Proposed Regional Reliability Standard PRC-006-SERC-03 and request for expedited action.	12/14/2021
RD20-2-000	CIP SDT Schedule December Update Informational Filing NERC submitted an informational filing as directed by FERC in its February 20, 2020 Order. This filing contains a status update on one standard development project relating to the CIP Reliability Standards.	12/15/2021
RM13-11-000	2021 Frequency Response Annual Analysis Report NERC submitted its 2021 Frequency Response Annual Analysis report for the administration and support of Reliability Standard BAL-003-2 – Frequency Response and Frequency Bias Setting.	12/15/2021
RM20-8-000	Bulk Electric System Operations in the Cloud Informational Filing NERC submitted an informational filing regarding Bulk Electric System operations in the cloud as directed by FERC in its December 17, 2020 Order.	12/17/2021

FERC ISSUANCES

October 1, 2021 – December 31, 2021

FERC Docket No.	Issuance Description	FERC Issuance Date
RR21-7-000	<p>Letter Order Approving Amendments to the Midwest Reliability Organization (MRO) Regional Reliability Standards Process Manual (RSPM)</p> <p>FERC issued a letter order approving amendments to the Midwest Reliability Organization (MRO) Regional Reliability Standards Process Manual (RSPM).</p>	11/5/2021
RD21-6-000	<p>Order Approving CIP-004-7 and CIP-011-3</p> <p>FERC issued a delegated letter order approving Reliability Standards CIP-004-7 and CIP-011-3.</p>	12/7/2021
RM20-16-000	<p>Order Regarding Managing Transmission Line Ratings</p> <p>FERC issued an order regarding new rules for managing transmission line ratings. NERC submitted comments regarding the reliability-related aspects of FERC's proposed rules on March 15, 2021.</p>	12/16/2021

Chapter 3: Standards Committee Report

Summary

This report highlights some of the key activities of the Standards Committee (SC) during the fourth quarter of 2021.

At its October meeting, the SC:

- Postponed taking action on the Extreme Cold Weather Grid Operations, Preparedness, and Coordination Standards Authorization Request (SAR) until the final cold weather report is published.
- Accepted the SAR for Modifications to FAC-008-5 Facility Ratings, authorized posting of the SAR for 30-day formal comment period and authorized for solicitation of the SAR Drafting Team members.
- Accepted the revised Project 2019-04 Modifications to PRC-005-6 SAR; authorized drafting revisions to the Reliability Standard identified in the SAR; appointed the Project 2019-04 Modifications to PRC-005-6 SAR Drafting Team as the Project 2019-04 Standard Drafting Team; and authorized a 30-day solicitation for nominations period for the Project 2019-04 Modifications to PRC-005-6 SDT to add additional members to the Standard Drafting Team with specific industry expertise in transmission and distribution protection as well as Protection System station direct current (DC) supply technologies.

At its November meeting the SC:

- Received notification of a Board resolution for the SC to review its Charter to determine: (1) which further revisions to the Charter would be needed to clarify the role of the Committee as a procedural oversight body; and (2) which further revisions would enhance the ability of the Committee to address urgent reliability needs with appropriate agility. The proposed Charter revisions will be presented to the Board at the February 2022 meeting.
- Accepted the Extreme Cold Weather Grid Operations, Preparedness, and Coordination SAR; authorized posting of the SAR for a 30-day formal comment period, and authorized for solicitation of SAR Drafting Team members.
- Accepted the SAR Modifications to CIP-002; authorized posting of the SAR for a 30-day formal comment period; and authorized for solicitation of SAR Drafting Team members.
- Approved the Project 2021-03 CIP-002 Transmission Owner Control Center Field Test request consistent with the recommendation from the Reliability and Security Technical Committee (RSTC).
- Authorized initial posting of proposed Reliability Standards FAC-001-4 and FAC-002-4 and the associated Implementation Plan for a 45-day formal comment period, with ballot pool forming in the first 30 days, and parallel initial ballots and nonbinding polls on the Violation Risk Factors and Violation Severity Levels, conducted during the last 10 days of the comment period.
- Accepted the revised Drafting Team Reference Manual document; accepted the revised Drafting Team Nominee Selection Criteria document; retired the Roles and Responsibilities: Standards Drafting Team Activities document; and retired the Standard Drafting Team Scope document.

At its December, meeting, the SC:

- Approved the 2022-2024 Strategic Work Plan.
- Approved revisions to the Standards Committee Charter for submission to the NERC Board of Trustees.

- Accepted the Project 2021-01 Modifications to MOD-025 and PRC-019 SARs; authorized drafting revisions to the Reliability Standards identified in the SARs; appointed the Project 2021-01 SAR Drafting Team as the Project 2021-01 Standard Drafting Team.
- Accepted the Project 2021-05 Modifications to PRC-023 SAR; authorized drafting revisions to the Reliability Standards identified in the SAR; and appointed the Project 2021-05 SAR Drafting Team as the Project 2021-05 Standard Drafting Team.

One special election was conducted to fill an opening in Segment 2. The election was conducted from January 4 – January 13, 2021 for the remainder of the 2022-2023 term. Jamie Johnson, Compliance Analyst Lead – RC Operations from California ISO, was elected to the Standards Committee

Compliance and Certification Committee (CCC) Report

Action

Approve the CCC 2022 Work Plan, and receive information regarding recent activities.

Highlights

The CCC convened its fourth quarter meeting via WebEx on November 17-18, 2021. The following are the key highlights of the discussion:

- The Committee approved the 2022 Work Plan, which has been submitted here for Board of Trustees (Board) consideration. The Plan addresses recurring items from the Committee mandate and has key areas and opportunities for 2022 focused on industry collaboration, CCC program efficiencies, and industry outreach.
- As included in the CCC Charter, the Committee is responsible for providing comments and recommendations to the Board and NERC management regarding stakeholder perceptions of the policies, programs, practices, and effectiveness of the Compliance Monitoring and Enforcement Program and the Organization Registration and Certification Programs, as well as elements of the Reliability Standards Development Process. This quarter's discussion was focused on industry experiences associated with Align and Enforcement Processes and the Self-Logging Program. The CCC members appreciate the participation and engagement from the ERO Enterprise, as well as feedback received from numerous sectors in advance of the meeting.

Looking ahead, the CCC Executive Committee is presently engaging with the ERO Enterprise to review the results and intends to provide a report for broader distribution in conjunction with the second quarter meeting in 2022. The report will review the results of the perceptions gathered during 2021, which will shape the development of future reports prepared by the Committee.

- The Committee received regular quarterly updates from each of the subcommittees, working groups, and task forces operating on behalf of the full Committee, in execution of the Committee mandate and ongoing activities. Of particular note are the following activities:
 - EROMS and ORCS updated their respective Scope Documents, both of which are posted on the CCC page of the NERC website.
 - The Alignment Scope was also updated, largely reflecting the transfer of those responsibilities from the former Alignment Working Group to the CCC Executive Committee.
 - The Committee voted to disband the Supply Chain Task Force (SCTF) after completing its work to help provide clarity surrounding enforcement of the supply chain standard. During its tenure, the SCTF worked with ERO staff to:

- 1) Update the Supply Chain Frequently Asked Questions for industry awareness and clarification of expectations,
 - 2) Create a place on the NERC website where industry could submit questions or request clarification on supply chain issues, and
 - 3) Develop and participate in a joint ERO/CCC outreach webinar. The Committee would like to thank Ellen Watkins for her leadership in this effort on behalf of the CCC.
- The Committee received updates on several initiatives from NERC management and conducted associated discussions. The status update included the following topics:
 - Winter preparedness
 - Compliance Monitoring and Enforcement Implementation Plan
 - CIP-014 (Physical Security)
 - Facility Ratings

The CCC has been involved in several activities since the completion of the fourth quarter meeting, including:

- Consistent with action taken by the Board in November, CCC leadership has incorporated several changes that took effect at the beginning of 2022. Key changes are as follows:

CCC Officers	Scott Tomashefsky (Chair) Silvia Parada Mitchell (Vice-Chair)
EROMS (Subcommittee)	Leigh Mulholland (Chair) Mahmood Safi (Vice-Chair)
ORCS (Subcommittee)	Greg Campoli (Chair) Tim Self (Vice-Chair)
Nominating (Subcommittee)	Jennifer Flandermeyer (Chair)

The Committee would like to specifically thank Jennifer Flandermeyer for her leadership during the past four years as CCC Chair, adding to her ongoing contributions that has spanned for more than a decade.

- The Nominating Subcommittee completed its review of nominations associated with an out-of-cycle appointment to fill the CCC's open Sector 2 (State/Muni) position. Upon completion of the open nominations process held from December 6 – January 5 and review of the applications, the subcommittee is recommending that the Board of Trustees appoint of Devon Tremont (Taunton Municipal Lighting Plant) to fill the position. The Nominations process is guided by CCCPP-013, a procedure that is available on the CCC page on the NERC website.

The next CCC meeting will be held on January 25-27, 2022. Please note that the timing for this CCC meeting has been moved up by two months to better align the activities of the Committee with the broader ERO schedule and deliverables.

With this being my first official report as CCC Chair, let me offer my sincere appreciation to the Board and my fellow Committee members for the opportunity to serve in this role for the next two years. It is a privilege to be able to lead such a phenomenal group of industry

representatives, supported by the talented ERO staff we rely upon to keep things moving along in the most efficient and effective manner. We look forward to the continued collaboration with the ERO Enterprise in support of the Committee's efforts.

NERC

NORTH AMERICAN ELECTRIC
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NERC Compliance and Certification Committee 2022 Work Plan

NERC Board Approval: February XX, 2022

Version Approved by CCC: November 18, 2021

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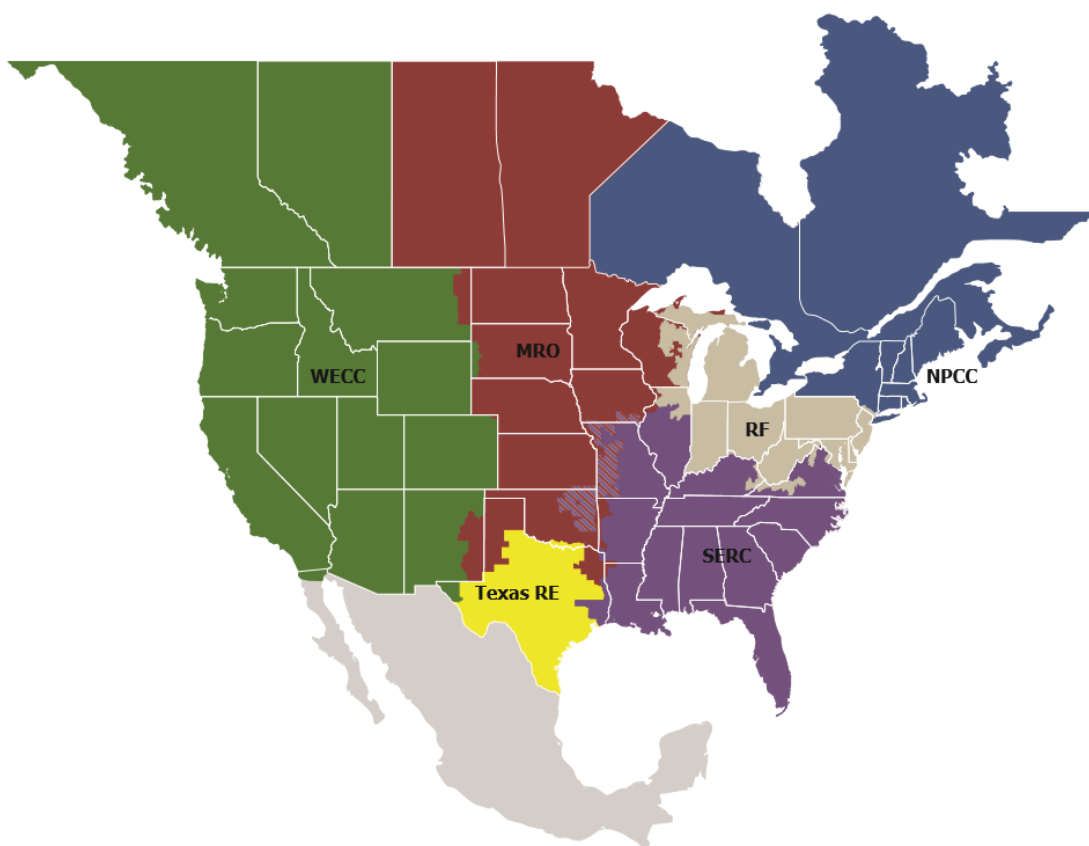
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Preface

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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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.



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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 2022. 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.

The Committee, as prescribed by FERC order and enumerated in the NERC Rules of Procedure, regularly assesses NERC's adherence to the Rules of Procedure (ROP) for several of its programs as part of the Committee's ongoing work. As an industry committee independent of these programs, members are able to provide support and guidance relative to NERC's Compliance Monitoring and Enforcement Program (CMEP), Organization Registration and Certification Programs (ORCP), and Reliability Standards development. In 2022, the CCC will continue to work with all policymakers and stakeholders to further refine the maturing and ongoing role for the CCC with respect to the ERO's adherence to its processes, procedures, and statutory obligations.

Many of the CCC projects and deliverables included in this Work Plan are intended to support the goals of the ERO Enterprise Operating Plan and the ERO Enterprise Long-term Strategy. There are numerous focus areas in the 2022 ERO Enterprise Work Plan Priorities and key objectives where CCC activities provide substantive support:

- 1. Expand Risk-Based Focus in Standards, Compliance Monitoring, and Enforcement (ERO Enterprise Long-term Strategy Focus Area 1):** The CCC will participate in discussions and outreach to continue to facilitate opportunities to promote internal control activities and mature registered entities' compliance efforts through industry relationships and participation in support of key objective #2. Working with ERO Enterprise colleagues and the other NERC Committee colleagues, the expertise of the CCC will support this effort balancing strengthening of controls with prioritization of control implementation based on risk rationalization. Partnership with industry organizations to facilitate additional industry maturity in these areas will support the overall ERO Enterprise priority.
- 2. Assess and Catalyze Steps to Mitigate Known and Emerging Risks to Reliability and Security (ERO Enterprise Long-term Strategy Focus Area 2):** The CCC will participate in discussions with the Reliability Issues Steering Committee and other groups within the ERO Enterprise on the continued development of risk metrics to further evaluate potential emerging issues or threats and trends to promote reliability of the bulk power system. The CCC will also identify necessary actions based on stakeholder feedback as inputs to the NERC Board and management. In 2022, the CCC will continue its work with stakeholders and NERC staff 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.
- 3. Build a Strong E-ISAC-Based Security Capability (ERO Enterprise Long-term Strategy Focus Area 3):** While the CCC support in this focus area and set of key objectives may be limited, the CCC can encourage, through stakeholder outreach and feedback programs, industry participation and information sharing which ultimately support the objectives to contribute to the overall success of the E-ISAC.
- 4. Strengthen Engagement across the Reliability and Security Ecosystem in North America (ERO Enterprise Long-term Strategy Focus Area 4):** The CCC will serve as a partner to the ERO Enterprise community to facilitate gathering and providing stakeholder feedback. In addition, the CCC will collaborate with ERO Management to deliver outreach to all industry communities to ensure successful implementation of the ERO Enterprise programs (CMEP, ORCP and the SPM).
- 5. Capturing Effectiveness, Efficiency, and Continuous Improvement Opportunities (ERO Enterprise Long-term Strategy Focus Area 5):** The CCC will provide 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. In 2022, the CCC will

continue to evaluate compliance monitoring and enforcement processes through the strategic use of CCC task forces and working groups, as appropriate. The CCC serves as a critical partner to evaluate industry feedback on alignment efforts across the ERO Enterprise, and support of the Align project through active participation in the Align User Committee. Furthermore, as the Framework to Address Known and Emerging Reliability and Security Risks continues to mature, the CCC is uniquely situated to provide feedback about the back-office processes related to the risk response identified by the RSTC or technical experts, the response designed by standards development and the risk assessment or implementation evaluated by the CMEP execution.

In addition to these focus areas, the CCC will support the ERO vision to address and prioritize emerging risks to reliability and security through active participation in the NERC Standing Committee Coordination Group and as a feedback loop in the ERO Enterprise Framework to Address Known and Emerging Reliability and Security Risks.

The CCC subcommittees and any subgroups established perform certain assigned tasks on behalf of and under the supervision of the CCC. In collaboration with ERO Enterprise Management, the CCC delegates responsibilities to the following subcommittees for projects and activities:

- Organization Registration and Certification Subcommittee (ORCS)
- ERO Monitoring Subcommittee (EROMS)
- CCC Nominating Subcommittee (NS)

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

Introduction

The CCC is a Board-appointed stakeholder committee serving and reporting directly to the Board. In that capacity under a FERC-approved charter, and as approved by the NERC Board, 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 and ORCP.

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 2022 to fulfill its responsibilities and any additional 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 serving 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 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.

Chapter 1: 2022 CCC Work Plan – Strategic Planning Efforts

The 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 to reliability and security. Further details on these projects are shown in the following table.

Project #	Project Name	Activities	Resource(s)
1	Industry Collaboration and Communication	<ul style="list-style-type: none"> • Maintain direct involvement in the Standing Committees Coordination Group (SCCG) • Enhance communications and participation with industry groups with a focused plan for coordination • Participate as members of the Align Users Group • Ensure that materials developed for onboarding as members join the CCC and to provide to industry stakeholders looking for background information about the CCC are updated • Create feedback loops with the Member Representatives Committee (MRC) • Build upon the successful deployment of the reformed ERO Stakeholder Perceptions Program • Seek opportunities to create additional feedback loops with industry organizations as it relates to CMEP activities 	CCC, CCC Subcommittees

<p>2</p>	<p>Enhancing CCC Program Efficiencies</p>	<ul style="list-style-type: none"> • Continue evaluation of various activities and functions of subcommittees/working groups to determine ways to improve the effectiveness and efficiency of the CCC • Periodically review EROMS, ORCS, and Nominating Subcommittee Scopes • Explore opportunities to “cross train” across various CCC subcommittees • Work with NERC’s Internal Audit team to review and revise the Oversight programs for more effective approach to address risk and control maturity opportunities • Hold half-day of CCC hearing training for CCC members • Identify collaboration opportunities for CCC members with NERC Standing Committees 	<p>CCC, CCC Subcommittees, NERC Standing Committees, NERC Management</p>
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Chapter 2: 2022 CCC Work Plan – Ongoing Responsibilities

The tables below summarize the list of ongoing responsibilities assigned to the CCC. In general, responsibilities are 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	<ul style="list-style-type: none"> 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 CCC Charter, including functions and responsibilities Evaluate and review 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)	<ul style="list-style-type: none"> Identify and participate in risk-based compliance assurance outreach and feedback discussions Support outreach on internal controls Support rollout of key activities or program revisions as requested Partner with ERO Enterprise to provide feedback on RSAW development Provide feedback to NERC on CMEP Practice Guides Review stakeholder requests to become a qualified entity to submit compliance implementation guidance Design and provide input on success criteria for Regional Entity adherence to ROP, Program adherence and Regional Delegated Agreement responsibilities (within Committee purview) Evaluate programs and associated ROP sections for necessary revisions as programs mature Evaluate alignment submissions and work with NERC management on proposed resolutions 	CCC, CCCEC, EROMS, NERC Management

Project #	Project Name	Activities	Resource(s)
3	Assistance with Review of ERO documentation for ORCP	<ul style="list-style-type: none"> Support review of ERO documentation for ORCP to identify revisions and make recommendations as programs mature 	CCC, ORCS
4	NERC Self-Certifications	<ul style="list-style-type: none"> 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 risk-based reviews 	CCC, EROMS, NERC Internal Audit
5	NERC Audits	<ul style="list-style-type: none"> In coordination with NERC Internal Audit under Sections 405/406/506/Various NERC Appendices of the NERC ROP, observe and participate in audits of NERC in the areas of CMEP, ORCP, and reliability standards development 	CCC, EROMS, NERC Internal Audit
6	ERO Regional Entity CMEP Audits	<ul style="list-style-type: none"> As defined in 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 	CCC, NERC Internal Audit
7	Enterprise-wide Risk Committee (EWRC) Collaboration	<ul style="list-style-type: none"> Provide input to EWRC as requested Fulfill role with NERC Internal Audit Participate and support 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, Internal Audits, Board Finance and Audit Committee

Project #	Project Name	Activities	Resource(s)
8	NERC Reliability Issues Steering Committee Collaboration	<ul style="list-style-type: none"> • Provide input to existing risks, mitigation strategies, and emerging risk identification • Participate and support RISC activities and discussions 	CCC Leadership, NERC Management
9	ERO Enterprise Program Alignment	<ul style="list-style-type: none"> • 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, CCCEC, NERC Management
10	Support of ERO Effectiveness	<ul style="list-style-type: none"> • Manage ERO Enterprise stakeholder perception program • Support development efforts for assessments of ERO effectiveness • Periodically solicit input from the industry, including the Member Representatives Committee • Ensure that information gathered from industry provides insights useful to improve the efficiency and effectiveness of the ERO Enterprise programs • Evaluate results of assessments and provide recommendations for the ERO Enterprise and the BOT 	CCC, EROMS, NERC Management
11	Stakeholder Collaboration	<ul style="list-style-type: none"> • 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 • Lead CCC task forces that are intended to provide guidance to ensure that CMEP impacts are fully considered in technical analyses being undertaken by other technical committees and the ERO Enterprise more generally 	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.
- 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 regarding: (a) monitoring practices (as embodied in CCCPP-010 and also including assisting EROs 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 Board Compliance Guidance Policy with the MRC, provide stakeholder feedback on the programs and take associated actions to support improvements working in collaboration with NERC Management.
- Continue to improve the CCC Webpage and communication with industry with additional outreach.

Project 2 – Program Support Efforts

- Support 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.
- Partner with ERO Enterprise in review of CMEP Practice Guides.
 - CCC Executive Committee comments on CMEP Practice Guides, 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 continued rollout of Align tool related to program monitoring responsibilities.
- Participate on Align Users Group (CCC Chair, CCC Vice Chair, CCC Executive Committee Representative)

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 ERO System (CORES).
- Review and provide suggestions for improvement to the 2022 Organization Certification Program activities.

Project 4 — NERC Self-Certifications

- Periodically, 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 and Sections 405/406/506/Various Appendices 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 reports.
- Report to the EWRC on industry observations and submit reporting where necessary.

Project 6 — Regional Entity CMEP Audits

- Work with NERC management (Internal Audit) to develop criteria for future audits of Regional Entity CMEPs.
- At the discretion of the CCC, participate as an observer in Regional Entity CMEP audits executed by NERC’s Internal Audit, 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 Audit Plan where oversight is shared by the Board’s EWRC and FAC.
- Provide an update of CCC activities at each quarterly EWRC meeting.
- Provide summary findings related to ERO Stakeholder Perceptions conducted by CCC.

Project 8 — NERC Reliability Issues Steering Committee Collaboration

- Perform outreach 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 Risk Leadership Summit as opportunity occurs.

Project 9 – ERO Program Alignment

- Under the guidance of the CCC Executive Committee, execute the CCC role within the process to address 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 and maturation of Align, Secure Evidence Locker and CORES.

Project 10 – Support of ERO Enterprise Effectiveness

- Work with NERC Management and the SCCG to continue to develop the processes between the NERC standing committees to ensure that all NERC committees represent a continuous improvement loop in support of reliability and security – further supporting the Framework to Address Known and Emerging Reliability and Security Risks.
- Consistent with responsibilities outlined in CCCPP-008 (Program for Monitoring Stakeholders Perceptions), lead efforts to soliciting input from industry and the ERO Enterprise on objectives, content, and delivery of assessments of ERO effectiveness related to CMEP and ORCP.
- Ensure that information gathered from industry provides insights that can be used to improve the efficiency and effectiveness of the CMEP, ORCP and Reliability Standards development.
- Evaluate results of assessments and provide recommendations for the ERO Enterprise to the Board.

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.
- Strengthen partnerships with industry forums to work collaboratively toward consistent understanding of ERO Enterprise Programs and improvements to processes to strengthen reliability and security (NATF, NAGF, Regional Compliance Forums, Councils, Committees, etc.).
- Lead CCC task forces that are intended to provide guidance to ensure that CMEP impacts are fully considered in technical analyses being undertaken by other technical committees and the ERO Enterprise more generally.

Chapter 4: 2022 CCC Work Plan - Deliverables

The tables below summarize the list of CCC work plan deliverables for projects in 2022.

	Project Name	Deliverable	Schedule
1	Enhancing Program Efficiencies	<ul style="list-style-type: none"> Hold hearing training for CCC members. This training should be offered at least once every three years to ensure the turnover in membership is considered for member to be trained in this responsibility. Consider potential efficiencies regarding registration and certification. 	<p>Q1 2022</p> <p>Q4 2022</p>
2	Review and Update of CMEP and CCC Programs and Procedures	<ul style="list-style-type: none"> Update the following seven procedures identified for review: <ul style="list-style-type: none"> CCCPP-003-2: Monitoring Program for NERC’s Standards Development Procedure (Q2-2022) CCCPP-004-2: NERC CCC Hearing Procedures (Q2-2022) CCCPP-006-2: NERC CCC Mediation Procedures (Q1-2022) CCCPP-008-1: Program for Monitoring Stakeholder Perceptions (Q4-2022) CCCPP-010-5: NERC CCC Criteria for Annual Regional Entity Program Evaluation (Q4-2022) CCCPP-011-1: Procedure to Become a Prequalified Organization Eligible to Submit Implementation Guidance to the ERO (Q3-2022) CCCPP-013-2: Procedure for the Selection of Members to NERC Compliance and Certification Committee (Q2-2022) 	<p>Complete by end of 2022. Schedules included in the deliverable list.</p>

	Project Name	Deliverable	Schedule
3	ERO Regional Entity CMEP Audits	<ul style="list-style-type: none"> Support NERC Internal Audit’s review of the six regional entities, in accordance with CCCPP-012. This will include finalizing the scope and audit procedures, and the use of seven CCC members as audit observers. <p>Final outcome of this audit will be shared with the EWRC during 2022.</p>	<p>Q2 2022</p> <p>Final outcome of the audit will be shared with EWRC during the second half of 2022.</p>
4	Enterprise-wide Risk Collaboration	<ul style="list-style-type: none"> Provide quarterly updates regarding CCC activities, consistent with the EWRC mandate that calls for the EWRC to coordinate with the CCC with respect to the CCC’s execution of its responsibilities under applicable FERC orders and the Rules of Procedure. Provide summary findings related to ERO Stakeholder Perceptions conducted by CCC. 	<p>Q1-Q4 2022</p>
5	ERO Program Alignment	<ul style="list-style-type: none"> Periodic reports regarding the effectiveness of the ERO Program Alignment Initiative and Reporting Tool (with NERC management). 	<p>Q2 and Q4 2022 (CCC Executive Committee)</p>
6	Support of ERO Program Effectiveness	<ul style="list-style-type: none"> Consistent with responsibilities outlined in CCCPP-008 (Program for Monitoring Stakeholders Perceptions), solicit input from industry and the ERO Enterprise on objectives, content, and delivery of assessments of ERO effectiveness related to CMEP and ORCP. Provide summary findings related to ERO Stakeholder Perceptions conducted by CCC. 	<p>Q1 – Q4 2022</p>

	Project Name	Deliverable	Schedule
7	Stakeholder Collaboration	<ul style="list-style-type: none"> With assistance from the CCC Task Forces, develop recommendations to address potential known or emerging risks considering industry concerns to promote solutions that strengthen reliability and security in a practical manner. Collaborate with NERC Standing Committees and ERO Enterprise leadership to facilitate solutions. Support activities of Joint Task Force of the Standards Committee focusing on Standards Grading Activities 	Q1-Q4 2022

Chapter 5: Logistics and NERC Budget Requirements for CCC Activities

The ongoing COVID-19 pandemic dramatically changed how the entire industry performed work in 2020m and 2021. Uncertainty will continue in 2022 with respect to the types of meetings and the potential venues for CCC-related meetings. While we expect pandemic conditions to improve in 2022, travel restrictions will likely continue for at least a portion of 2022. It is the intent of the CCC to ensure that all CCC members are able to fully participate remotely until health and safety conditions allow for a return to in-person meetings. To that end, CCC meetings and related activities will rely heavily on Webex and conference calls for some portion of 2022.

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

Assumptions: Four CCC meetings per year, via Webex or in-person.

- 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: Conference calls, including CCC/Subcommittees NERC Webex or conference calls quarterly.

Training (Cost to be determined by NERC)

Assumptions: Half-day of hearing training appended to regular CCC meeting at least every three years.

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. Learning programs are provided, to those new member participants, ahead of the audit activities and will be conducted as needed.

Chapter 6: Revision History

Revision History

Date	Version Number	Comments
October 29, 2021	1	CCC Executive Committee Review
November 17, 2021	2	CCC Review and Approval

Reliability and Security Technical Committee Report

Action

Information

Reliability and Security Technical Committee's (RSTC) Highlights

The RSTC held a meeting December 14 and 15 via WebEx. The following are highlights from the meeting.

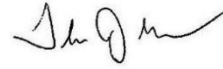
- The RSTC elected John Stephens, Sector 5 representative, and Patrick Doyle, At-large representative, to the Nominating Subcommittee to fill two seats created by RSTC Charter Revisions.
- Endorsed the Frequency Response Annual Analysis
- Approved the scope document and formation of the 6 GHz Task Force
- Approved the recommendations of the review team's annual review of all working groups (WG) and task forces (TF) per the RSTC Charter
 - Three WGs will be further evaluated regarding a promotion to a subcommittee
- Approved the Reliability Guidelines and Security Guidelines Triennial Review Recommendation
 - Approve for implementation the spreadsheet identifying each action for each guideline and the tranche it will be brought forth for approval.
 - Authorize: 1) posting the Reliability Guidelines slated for retirement or conversion to Technical Reference Documents; and 2) posting, as part of the Triennial Review process, each guideline for a 45-day comment period to avoid implementation delays
- Elected Bill Temple (Avangrid) to the Event Analysis Subcommittee as the NPCC Regional Industry Representative
- Approved the Technical Reference Document – Oscillation Analysis for Monitoring and Mitigation
- Approved the Odessa Disturbance Follow-Up Document
- Had an update on the FERC - NERC - Regional Entity Staff Report: The February 2021 Cold Weather Outages in Texas and the South Central United States from NERC and FERC staff
- Accepted two documents to be posted for a 45-day comment period
 - Reliability Guideline: Cyber Intrusion Guide for the System Operator
 - GMD Monitoring Reference Document
- Endorsed four Standards Authorization Requests
 - Resources Subcommittee (RS) Reporting ACE Definition SAR

- IRPWG TPL-001-5 SAR for BPS-Connected IBRs
- SPIDERWG TPL-001-5 SAR for DERs
- SPIDERWG MOD-032 SAR
- Approved two IRPWG White Papers:
 - Grid Forming Technology, Bulk Power System Reliability Considerations
 - BPS-Connected IBR and Hybrid Plant Capabilities for Frequency Response
- Approved two SPIDERWG documents
 - White Paper: Survey of DER Modeling Practices
 - Reliability Guideline: Recommended Approaches for UFLS Program Design with Increasing Penetrations of DERs
- Approved the revised Facility Ratings Task Force Scope document which will have the TF report solely to the RSTC

Future Actions

- 2022 Meeting Dates
 - March 8-9, 2022 (Virtual)
 - June 7-8, 2022 (TBD)
 - September 13-14, 2022 (In-person)
 - December 6-7, 2022 (Virtual)

To: NERC Board of Trustees (BOT)
From: Thomas J. Galloway, NATF President and CEO
Date: January 19, 2022
Subject: NATF Periodic Report to the NERC BOT (February 2022)
Attachments: NATF External Newsletter (January 2022)



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

NATF Supply Chain Risk Management Activities and ERO Support

Much progress has been made toward supply chain security since 2017 when, in response to the directives in Federal Energy Regulatory Commission (FERC) Order 829, the NERC board asked the North American Transmission Forum (NATF) and others in industry to develop and share “white papers” addressing best and leading practices in supply chain management.

The NATF’s ongoing supply chain work has continued to address the NERC board’s resolution with a focus on security solutions. During the “Supply Chain Risk Management” agenda item, the NATF will summarize progress made toward supply chain security since the resolution was issued.

The ERO and the NATF have common objectives but different roles and capabilities. Over the past several years, our organizations have coordinated to align respective efforts in an ever-more complementary fashion. The NATF provides confidential venues for members to share information and work toward excellence in reliability, resilience, and security. It follows that NATF’s supply chain work has been pursued from the perspective of security excellence.

The NATF’s work has complemented the efforts of the ERO Enterprise (ERO) as the ERO has worked with entities on meeting compliance. Together, the ERO and the NATF have been working to memorialize the concept that a focus on security can meet the requirements of compliance through the ERO’s endorsement of implementation guidance and recognition by the NERC board.

Facility Ratings

With strong support and encouragement from the NATF board and member company leadership, NATF members, representing approximately 84% of the total transmission mileage at 100 kV and above in the United States and Canada, are actively working to enhance their facility ratings practices, processes, and controls. The NATF is currently compiling results from its third information collection from members to track ongoing status of practices implementation and will provide a summary report to the ERO in March 2022.

As noted in the attached newsletter, the NATF has updated its practices document to incorporate a risk methodology to prioritize implementation of the practices based on relative facility risk and likelihood of ratings errors.

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NATF-ERO Leadership Meetings

NATF and ERO leadership meet periodically to discuss collaborative work and industry topics. The most-recent call, on January 14, included discussions on supply chain, grid security emergencies, ambient adjusted ratings, facility ratings, cold-weather event report, climate change, reliability assessments, inverter performance, and 6 GHz spectrum.

These meetings continue to evolve in both attendance and benefit. While early sessions began with NATF and NERC staff only, these meetings now include NATF board members and Regional Entity CEOs.

North American Transmission Forum External Newsletter

January 2022

Annual Supply Chain Criteria and Questionnaire Revision Process Underway

The NATF is commencing the annual revision process for the “NATF Supply Chain Security Criteria” and the “Energy Sector Supply Chain Risk Questionnaire.” The revision process, the criteria, and the questionnaire are posted on the NATF’s public [Supply Chain Cyber Security Industry Coordination site](#). The process is open to industry, suppliers, regulators, and other stakeholders.

Input on the criteria and questionnaire can be submitted to supplychain@natf.net until close of business February 18 for consideration in the 2022 review cycle.

As the criteria and questionnaire are expected to be the bases for information included in a potential central library, it is important that the information you need to conduct risk analyses is included.

***As a reminder:** The criteria and questionnaire capture supplier information important to the electric sector for conducting risk assessments while keeping the amount of data received to a manageable level. The criteria are also verifiable. They are mapped to the National Institute of Standards and Technology (NIST) framework; and while NIST does not have a third-party certification or assessment available, the criteria are also mapped to other security frameworks that are certified or assessed by a qualified third-party. Note that while there is not a single security framework that addresses all criteria, including NIST, most can be verified by obtaining a combination of certifications and/or assessments.*

Central Library for Supply Chain Risk Information

The concept of a central library, or repository, provides for supply chain risk information and resources to be available in one secure location, to streamline suppliers’ ability to provide information and enable industry entities to identify and mitigate supply chain risks effectively and efficiently.

Discussions on whether a central library could be a viable solution for accessing supply chain risk information began in 2021. Efforts were launched to explore if there is sufficient interest and support and, if so, obtain insight into whether the central library should be a repository or offer more services. These efforts will culminate this spring.

Industry. One activity is being conducted by four trade organizations: APPA, EEI, NATF, and NRECA, to gauge industry interest and support. Great caution is being taken to ensure that an open process is conducted with a focus on enhancing competition, small business participation, diversity, and innovation. The survey was issued to members of the participating trades’ organizations on November 29 and closed on January 18.

Suppliers. A parallel survey activity is being conducted to gauge interest from suppliers and obtain supplier feedback regarding their needs for a central library. This survey was distributed through the International Society of Automation, US Chamber of Commerce, National Electrical Manufacturers Association, NATF, and

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NATF members. It is being promoted to electric sector suppliers/vendors and is available to other suppliers that would be interested in responding. This survey was distributed on January 11 and will close on January 24.

These activities will provide insight on whether the development of a central library is a viable solution, based on the level of interest and support from these two groups. The NATF would like to extend our appreciation to the organizations that contributed to the surveys. Future steps in the development a central library will be determined based on the information obtained through these activities.

Facility Ratings

With strong support and encouragement from the NATF board and member company leadership, NATF members representing approximately 84% of the total transmission mileage at 100 kV and above in the United States and Canada are actively working to enhance their facility ratings practices, processes, and controls. To date, overall member progress has been positive, in aggregate, with increases in both participation and implementation status since the inception of the NATF's facility ratings initiative.

The NATF recently updated its "Facility Ratings Practices Document" to incorporate a risk-based approach for members to use in prioritizing their implementation of certain practices, especially ones that require extensive resources and time to implement. The NATF's risk construct considers (1) categories of facilities based on relative inherent risk to system reliability and (2) scenarios that could increase the likelihood of errors. The update to the practice document also includes some example internal controls for facility ratings processes.

In addition, to provide members with a "one-stop shop" for information related to NATF facility ratings activities, a new page for facility ratings has been created on the NATF's member portal. The new page includes links to existing facility ratings resources, member examples, and a new FAQ section.

Lastly, the NATF is actively engaged in supporting member implementation by highlighting areas of lagging performance, recommending no-regrets actions, and supporting members as needed through targeted assistance.

Ambient-Adjusted Ratings

On a related topic, the NATF is closely monitoring FERC Order 881 ("Managing Transmission Line Ratings") activities and will determine the best ways to support members before, during, and after the three-year implementation period. It is anticipated that best practices related to the order implementation will be developed and socialized throughout the membership to help facilitate effective response.

Value of NATF Peer Reviews

NATF review teams, comprising the members' own subject-matter experts, conduct periodic, confidential evaluations of NATF member organizations (which we refer to as "hosts"). Each review consists of three to four days of interviews and observations, followed by a report that includes recommendations to the host member's executives and staff. Best practices from both the host and review team organizations are brought back to NATF practice groups for further sharing.

Peer review team members usually bring an equal amount of information back to their own organizations after the review because of the open sharing and discussions between the host and review teams during the interviews. Review team members exchange their own practices and programs with one another and build new peer relationships in the process.

Realized Value

To help understand the overall benefit of the program, NATF staff follows up with hosts at both the six-month and one-year marks to inquire about the status of recommendations offered (i.e., completed, partially completed, planned for future implementation, still under review, or plan to take no action). Recommendations members have completed, partially completed, or plan to complete in the future are considered “realized value,” meaning that implementation of the recommendations improves aspects such as member processes, procedures, readiness, safety, and, ultimately, transmission-system reliability and resilience.

Since inception, the NATF membership has provided hosts of peer reviews with approximately 7,900 recommendations and, of those, approximately 5,700 have been acted upon, for a 72% realized value at the one-year mark.

Redacted Operating Experience Reports

We recently posted three new operating experience reports to the “[Documents](#)” section of our public site for members and other utilities to use internally and share with their contractors to help improve safety, reliability, and resilience.

For more information about the NATF, please visit <https://www.natf.net/>.



North American Generator Forum

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

**FROM: Wayne D. Sipperly Jr, Executive Director, North American
Generator Forum (NAGF)**

DATE: January 20, 2022

SUBJECT: NAGF 2021-2022 Winter Report

The NAGF transitioned to its new website in late December 2021. The new website provides a single site with both public and member-only information access that will support and sustain the future growth of the organization.

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
- NERC Project 2020-03: Supply Chain Supply Chain Low Impact Revisions
- NERC Project 2020-04: Modifications to CIP-012
- NERC Project 2020-05: Modifications to FAC-001 and FAC-002
- NERC Project 2021-02: Modifications to VAR-002
- NERC Project 2021-04: Modifications to PRC-002
- NERC Project 2021-06: Modifications to IRO-010 and TOP-003
- NERC Project 2021-07: Extreme Cold Weather Grid Operations, Preparedness, and Coordination
- NERC Project 2021-08: Modifications to FAC-008

The NAGF has been in discussions with the NATF, Pacific Northwest National Laboratory (PNL), and others regarding the development of a Generator Resilience Maturity Model (GRMM). These initial discussions focused on the need for such a model given the current focus on Cold Weather Operations resilience and use of the existing Transmission Resiliency Maturity Model as a starting point for GRMM development. It was agreed that the NAGF should lead the development effort of such a model. The NAGF membership will support development of a GRMM going forward in 2022 and we are currently identifying the NAGF team members for this activity.