

## Agenda

### Board of Trustees

February 16, 2023 | 9:30 a.m.-12:00 p.m. Mountain  
In-Person Meeting

**JW Marriott Tucson**  
3800 W Starr Pass Blvd.  
Tucson, AZ 85745  
Conference Room: Tucson Salons E-F

#### Call to Order

#### NERC Antitrust Compliance Guidelines\*

#### Introduction and Chair's Remarks

#### Consent Agenda – Approve

1. **Minutes\***
  - a. December 14, 2022 Meeting
  - b. November 16, 2022 Meeting
2. **Committee Membership and Charter Amendments\***
  - a. Reliability and Security Technical Committee Membership
  - b. Reliability Issues Steering Committee Membership
3. **Governance Documents Amendments\***
  - a. Procedure for the Selection of Members to the NERC Compliance and Certification Committee

#### Regular Agenda

4. **Remarks and Reports**
  - a. Welcome Remarks, Mike Hummel, Salt River Project
  - b. Remarks by Patricia Hoffman, Principal Deputy Assistant Secretary for the Office of Electricity, DOE
  - c. Remarks by David Morton, Chair, CAMPUT
  - d. President's Report
  - e. Report on the February 14 and February 16, 2023 Closed Meetings
5. **Election and Appointment of Board Chair and Vice Chair, Board of Trustees Committee Assignments and NERC Officers – Approve**

## 6. Board Committee Reports

- a. Corporate Governance and Human Resources
- b. Compliance
- c. Finance and Audit
  - i. 2022 Year-End Unaudited Summary of Results – **Accept**
- d. Enterprise-wide Risk
- e. Technology and Security
- f. Nominating
- g. Report by Sue Kelly on Standards and RSTC Quarterly Activities

## 7. Semi-Annual Reports to the Board

- a. Personnel Certification Governance Committee\*
  - i. 2023 Work Plan – **Approve**
- b. Standards Committee\*
  - i. 2023-2025 Standards Committee Strategic Work Plan – **Approve**
- c. Compliance and Certification Committee\*
  - i. 2023 Work Plan – **Approve**
- d. Reliability and Security Technical Committee\*
  - i. 2023-2025 Strategic Plan – **Approve**
- e. North American Energy Standards Board
- f. North American Transmission Forum\*
- g. North American Generator Forum\*

## 8. Standards Quarterly Report and Actions\*

- a. Project 2021-04 Modifications to PRC-002 (Glencoe SAR)\* – **Adopt**
- b. Project 2021-05 Modifications to PRC-023\* – **Adopt**
- c. Cold Weather Standards Status\* – **Update**
- d. Standards Process Improvement Opportunities Status\* – **Update**

## **BREAK – 15 MINS**

## 9. Other Matters and Reports

- a. Input Letter and Member Representatives Committee Meeting – **Discussion**
- b. Year-End Review of the Achievements of the 2022 ERO Enterprise Work Plan Priorities\* – **Update**
- c. Joint RISC/RSTC Presentation: Evaluation and Prioritization of Emerging Risks\* – **Review**
- d. Request to Use Expedited Procedures for Requesting Time-Sensitive Data or Information under Section 1606 of the Rules of Procedure – Internal Network Security Monitoring Study Directive\* – **Authorize**

## 10. Other Matters and Adjournment

\*Background materials included.

# NERC 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 14, 2022 1:00 p.m.–2:00 p.m. Eastern

### Virtual Meeting

#### **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 14, 2022, at 1:00 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  
George S. Hawkins, Vice Chair  
Jane Allen  
Robert G. Clarke  
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 and Chief Administrative Officer  
Sônia 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  
Janet Sena, Senior Vice President, External Affairs

#### **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 and invited Mr. Robb to provide opening remarks. Mr. Robb remarked on NERC's efforts to increase awareness of the reliability concerns highlighted in NERC's assessments.

## **2022 Long-Term Reliability Assessment**

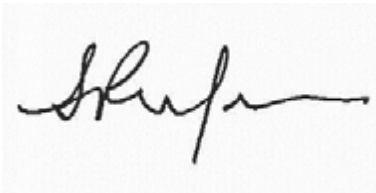
Mr. Moura introduced the 2022 Long-Term Reliability Assessment ("LTRA"). He remarked that the LTRA provides a top-level assessment of resource adequacy and identifies emerging issues, includes demand, generation, and transmission projections, and is developed in coordination and reviewed with Regional Entities and stakeholder groups. Mr. Moura highlighted key findings of the LTRA, including that there are areas with projected supply shortfalls in forecast conditions and areas with projected supply shortfalls in extreme conditions. Mr. Olson further discussed the key findings and noted that the LTRA contains recommendations for industry and policymakers.

The Board discussed the findings and recommendations in the report. The Board discussed areas for future reports, including further evaluation of reliability risks associated with extreme weather. Ms. Sena discussed how the findings and recommendations of the LTRA are communicated to policymakers. After discussion, and upon motion duly made and seconded, the Board accepted the 2022 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,



Sônia Mendonça  
Corporate Secretary

## Draft Minutes Board of Trustees

November 16, 2022 | 9:30 a.m.–1:00 p.m. Central

JW Marriott  
614 Canal Street  
New Orleans, LA 70130

### 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 16, 2022, at 9:30 a.m. Central, and a quorum was declared present.

Present at the meeting were:

### Board Members

Kenneth W. DeFontes, Jr., Chair  
George S. Hawkins, Vice Chair  
Jane Allen  
Robert G. Clarke  
Larry Irving  
Suzanne Keenan  
Susan Kelly  
Robin E. Manning  
Jim Piro  
James B. Robb, 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 and Chief Administrative Officer  
Stan Hoptroff, Vice President, Business Technology  
Mark G. Lauby, Senior Vice President and Chief Engineer  
Sônia Mendonça, Senior Vice President, General Counsel, and Corporate Secretary  
Kimberly Mielcarek, Vice President, Communications  
John Moura, Director, Reliability Assessment and Performance Analysis  
Lauren Perotti, Senior Counsel  
Donna Pratt, Manager, Performance Analysis  
Bryan Preston, Vice President, People and Culture  
Janet Sena, Senior Vice President, External Affairs  
Andy Sharp, Vice President and Chief Financial Officer

## **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.

## **Introduction and Chair's Remarks**

Mr. DeFontes welcomed all of the attendees to the meeting, including Mr. Drew Marsh, CEO, Entergy; Commissioner James Danly, Federal Energy Regulatory Commission; Mr. Puesh Kumar, Director, Office of Cybersecurity, Energy Security, and Emergency Response, U.S. Department of Energy; and Mr. David Morton, Chair, CAMPUT. Mr. DeFontes remarked on the engaged discussion at the Board Committee and Member Representatives Committee (MRC) meetings.

## **Consent Agenda**

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

### **Minutes**

The draft minutes for the October 26, 2022 and August 18, 2022 meetings were approved as presented to the Board at this meeting.

### **Committee Membership**

#### **Compliance and Certification Committee Membership**

**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, 2023 – December 31, 2025, as follows:

- James C. Crawford III, Burns & McDonnell, At-large
- Marcus Freeman, Electricities of North Carolina, Inc., Transmission-Dependent Utility
- Mark Hegerle, Federal Energy Regulatory Commission, U.S. Federal
- Justin MacDonald, Midwest Energy, Cooperative Utility
- Steven H. McElhaney, Cooperative Energy, At-large
- Silvia Parada Mitchell, NextEra Energy Resources, LLC, Merchant Electricity Generator
- Ashley Stringer, Oklahoma Gas and Electric Company, At-large
- Devon Tremont, Taunton Municipal Lighting Plant, State/Municipal Utility

**FURTHER RESOLVED**, that the Board hereby appoints to the CCC Robert Hirschak, Cleco Corporation, Electricity Marketer, for a term from February 1, 2023 – December 31, 2024.

#### **Personnel Certification Governance Committee Membership**

**RESOLVED**, that the Board hereby appoints the following individuals to the Personnel Certification Governance Committee ("PCGC"), each for a two-year term ending December 31, 2024, as follows:

- Cory Danson, Power Operations Advisor, WAPA
- Mark Thomas, Manager, NERC/CIP Compliance, Entergy



- Marty Sas, Senior Lead Engineer, RAPA & Technical Services, SERC
- Steve Rainwater, Senior Training Specialist, ERCOT

### **Governance Documents Amendments**

**RESOLVED**, that the Board hereby approves the revised CCC procedure document CCCPP-008-2, Program for Monitoring Stakeholders' Perceptions, substantially in the form presented to the Board at this meeting.

**RESOLVED**, that the Board hereby approves the revised CCC procedure document CCCPP-010-7, Criteria for Annual Regional Entity Program Evaluation, substantially in the form presented to the Board at this meeting.

### **Regular Agenda**

#### **Remarks by Drew Marsh, CEO, Entergy**

Mr. DeFontes introduced Mr. Marsh of Entergy. Mr. Marsh welcomed the participants to New Orleans. He remarked on the industrial load growth in the Entergy service territory and the challenge of serving that growth with cleaner energy sources. Mr. Marsh remarked on Entergy's ongoing efforts to enhance its system's resiliency to storms, noting that the economic analysis for determining infrastructure investments must take into consideration the increasingly important role electricity plays in modern society.

#### **Remarks by James Danly, Commissioner, FERC**

Mr. Robb introduced Commissioner Danly of FERC. Commissioner Danly remarked on the continuing grid transformation and the need to address the associated reliability issues promptly. He highlighted the need to ensure that the markets are providing the proper incentives to ensure the adequacy of ancillary services for reliability. Commissioner Danly called for continued coordination between FERC and NERC on these issues to ensure the continued reliability of the grid.

#### **Remarks by Puesh Kumar, Director, Office of CESER, DOE**

Mr. Robb introduced Mr. Kumar of DOE. Mr. Kumar remarked on the ongoing transformation of the energy resource mix and the need for state and federal regulators, NERC, and industry to work together to address issues of resiliency and reliability. He discussed key drivers in future change, including growing investments in clean energy, changed customer demands, and creation of new technologies. Mr. Kumar discussed the role of Reliability Standards in addressing the changing grid, the need for NERC, DOE, and FERC to coordinate on enhanced modeling and assessments to inform decisionmaking at the state and federal levels, and the need for enhanced coordination between federal and state policymakers to effectively leverage new funding sources. Mr. Kumar also remarked on the evolving cybersecurity threat, highlighting the DOE's focus on collaboration with the E-ISAC and industry through programs like CRISP, supply chain risk management, and harmonizing and optimizing requirements for incident response. Mr. Kumar concluded his remarks by noting the role of NERC Reliability Standards and other tools to address cyber threats.

#### **Remarks by David Morton, CAMPUT Representative to NERC**

Mr. DeFontes introduced Mr. Morton of CAMPUT. Mr. Morton remarked on the ongoing collaboration between NERC and the Canadian regulators, highlighting recent collaboration on compliance audits and addressing pressing reliability challenges. He noted that CAMPUT invited to the Board to its May 2023 meeting in Toronto, ON to foster increased collaboration between NERC and the Canadian regulators.

#### **President's Report**

Mr. Robb provided the president's report. He remarked on important developments since the August meeting, including the completion of the first round of cold weather Reliability Standards to address the causes of the

February 2021 winter event affecting Texas and the south central United States, recent coordination with FERC and the National Association of Regulatory Utility Commissioners, and NERC and Regional Entity work on sustaining accurate facility ratings. Mr. Robb highlighted the results of NERC's reliability assessments and underscored the need for NERC and industry to manage the integration of new inverter based resources to ensure continued grid reliability. He also noted the recent approval of the NERC and Regional Entity 2023 business plans and budgets, and how the 2023 budget reflects investments in resources and technology in four focus areas: energy, security, agility, and sustainability. He discussed how each of these focus areas will require tremendous work.

Mr. Robb concluded his remarks by stating that the grid continues to remain reliable and resilient, despite the challenges posed by the changing resource mix, the increasingly relevant role of weather, and an ever-increasing cyber threat. Mr. Robb noted that managing and addressing these challenges will be the central priority for reliability, and he thanked NERC's stakeholders for their work in this important effort.

Mr. Robb then introduced Mr. Jason Blake, CEO of SERC, and Co-chair of the ERO Executive Group. Mr. Blake remarked on how the CIP Reliability Standards have advanced the cybersecurity posture of the industry. He discussed the need for strong programs, strategic focus, and thoughtful use of resources to address today's challenges. Mr. Blake remarked on the recent audits of the Regional Entity Compliance Monitoring and Enforcement Programs, noting successes and areas for further improvement. He also remarked on the coordination among the ERO Enterprise on strategic focus areas and efforts to provide useful information to industry on reliability challenges, including a publication on facility ratings.

### **Report on the November 15, 2022 Closed Meeting**

Mr. DeFontes reported that on November 15, 2022 (as is its custom), the Board met in closed session with NERC management to review NERC management activities. The Board discussed Reliability Standards items presented at this meeting, the Board's resolutions for this meeting, and feedback on policy input and the MRC meeting. The Board also discussed the recent FERC order approving the ERO Enterprise budget and adjourned into executive session with the General Counsel to discuss confidential matters.

## **Board Committee Reports**

### **Corporate Governance and Human Resources**

Ms. Keenan, Committee Chair, reported on recent Committee meetings. At the November 7, 2022 open meeting, the Committee reviewed its strategy for building a more effective and efficient governing process. The Committee also received updates on trustee compensation and the status of the Washington, D.C. office. She reported that the Board will move to a new schedule in 2023, with two meetings held in person in February and August, with the May meeting being a Board/MRC meeting. Ms. Keenan also reported that the Board will hold a meeting to address governance matters in early December. At the November 15, 2022 closed meeting, the Committee reviewed NERC recruiting and leadership development efforts and the standing committee charters. The Committee also met in executive session with the CEO and the Vice President, People and Culture to discuss HR matters, and without staff to discuss other confidential matters.

### **Compliance**

Mr. Manning, Committee Chair, reported on recent Committee meetings. At the November 1, 2022 closed meeting, the Committee reviewed Regional Entity audits under Appendix 4A to the Rules of Procedure and received updates on Compliance Monitoring and Enforcement Program (CMEP) trends, significant CMEP matters, and work on Facility Ratings. The Committee also adjourned into executive session to discuss a confidential matter. At the November 7, 2022 open meeting, the Committee received updates on the 2023 CMEP Implementation Plan and ERO Enterprise themes and best practices for sustaining accurate facility ratings.

## **Finance and Audit**

Mr. Piro, Committee Chair, reported on recent meetings of the Committee. At the November 1, 2022 closed meeting, the Committee reviewed the savings and investment plan audit and reported that it was a clean audit with no findings. The Committee reviewed the form 550, compliance testing for 2021, and the financial statement audit plan for 2022. The Committee also received updates on the 2022 audit plan and activities and approved the 2023 internal audit plan. The Committee adjourned into executive sessions with NERC's outside auditor and with the Director of Internal Audit.

Mr. Piro reported that, at its November 7, 2022 open meeting, the Committee reviewed and recommended for Board acceptance 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 FAC, hereby accepts the Third Quarter 2022 NERC, Combined ERO Enterprise, and Regional Entity Unaudited Statement of Activities, as presented to the Board at this meeting.

Mr. Piro also reported that the Committee received updates on the 2023 business plan and budget and reviewed the proposed 2024 business plan and budget schedule.

## **Enterprise-wide Risk**

Ms. Sidford, Committee Chair, reported on the Committee's closed meeting on November 1, 2022. At its meeting, the Committee received updates from Mr. Scott Tomashefsky, Chair of the Compliance and Certification Committee (CCC) on the revised CCC procedures, and from Mr. Jason Blake, President and CEO of SERC, regarding the Regional Entity perspective on the recent CMEP audits. The Committee also received updates on Internal Audit activity and the enterprise risk management plan, received an overview of NERC's process for handling confidential/sensitive data, and concluded in executive session.

## **Technology and Security**

Ms. Allen, Committee Chair, reported on recent meetings of the Committee. At the November 1, 2022 closed meeting, the Committee received an update on the ERO Enterprise security posture and received cyber security training. At the Committee's November 7, 2022 open meeting, the Committee received updates on E-ISAC operations and NERC's 2023 plans for certain ERO applications.

## **Nominating**

Mr. Clarke, Committee Chair, reported that the Committee met on August 16 to review a candidate slate and met subsequently to select a slate of candidates for interviews. He reported that the Committee will meet on November 17-18 to conduct candidate interviews, and it will meet again in December to recommend a final candidate for election by the MRC at the February 2023 meeting.

## **Report by Roy Thilly on RSTC Quarterly Activities**

Mr. Thilly, Liaison to the RSTC, reported on the recent activities of the RSTC. Mr. Thilly reported that the Committee continues to discuss key reliability issues, including integration of inverter-based resources and distributed energy resources. He remarked that the RSTC continues to endorse Standard Authorization Requests to initiate standards projects to address these issues and plans to triage these projects to ensure the most pressing needs are being addressed first.

## **Report by Susan Kelly on Standards Quarterly Activities**

Ms. Kelly, Liaison to the Standards Committee, reported on actions taken at recent meetings, including action to endorse the 2023-2025 Reliability Standards Development Plan. She also reported on the recent recommendations

of the Standards Process Stakeholder Engagement Group to enhance NERC's standard processes and thanked Standards Committee Chair Amy Casuscelli for her contributions to this group.

## **Standards Quarterly Report and Actions**

### **Project 2020-03 Supply Chain Low Impact Revisions**

Mr. Gugel presented proposed Reliability Standard CIP-003-9, highlighting that the proposed standard was developed to address the risk of low impact Bulk Electric System Cyber Systems with remote electronic access connectivity identified in NERC Staff's Supply Chain Risk Assessment Report, consistent with the resolution adopted by the NERC Board at its February 2020 meeting.

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

**RESOLVED**, that the Board hereby adopts the proposed Reliability Standard CIP-003-9, as presented to the Board at this meeting.

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

**FURTHER RESOLVED**, that the Board hereby approves the associated implementation plan for the above-listed standard, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the proposed retirement of Reliability Standard CIP-003-8, as presented to the Board at this meeting.

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

### **Reliability Standards Development Plan**

Mr. Gugel presented the 2023-2025 Reliability Standards Development plan, noting that is a snapshot of current Reliability Standards projects and must be filed with the applicable governmental authorities. Upon motion duly made and seconded, the Board approved the following resolutions:

**RESOLVED**, that the Board hereby approves the 2023-2025 Reliability Standards Development Plan, substantially in the form presented to the Board at this meeting, subject to the addition of any new Standard 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.

### **Low Impact Criteria Review Team**

Mr. Gugel presented the findings and recommendations of the Low Impact Criteria Review Team, noting that this team was convened in response to the resolution approved by the Board at its February 2021 meeting to direct NERC staff, working with stakeholders, to expeditiously complete a broader review and analysis on facilities that house low impact BES Cyber Assets and report on whether and how the low impact criteria in the CIP Reliability Standards should be modified. Mr. Gugel highlighted recommendations to revise the CIP Reliability Standards, develop security guidelines, and perform risk monitoring. He noted that, upon the Board's acceptance of the report, NERC staff would

work with the team to implement the recommendations, including creating a Standard Authorization Request to address the recommended Reliability Standard changes and working with the RSTC to include the development of recommended guidance into its work plan.

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

**WHEREAS**, communications, information technology, and industrial control systems provide various opportunities for adversaries to initiate a coordinated cyber attack, thereby presenting Bulk Electric System (BES) security risk;

**WHEREAS**, the NERC CIP Supply Chain Reliability Standards are applicable to high and medium impact BES Cyber Systems, consistent with the risk-based framework of the CIP Reliability Standards;

**WHEREAS**, NERC staff's analysis of registered entity data showed that, while an individual compromise to any one low impact BES Cyber System would generally be a localized event, a coordinated cyber attack with control of multiple BES Cyber Asset facility Systems may result in an interconnection-wide BES event;

**WHEREAS**, the Board, in light of cybersecurity events and the evolving threat landscape, directed NERC Staff at its February 2021 meeting to expeditiously complete Staff's broader review and analysis on facilities that house low impact BES Cyber Assets and report on whether the low impact criteria should be modified;

**WHEREAS**, NERC Staff convened a representative group of industry stakeholders, the Low Impact Criteria Review Team, to discuss the potential threat and risk posed by a coordinated cyber attack on low impact BES Cyber Systems;

**WHEREAS**, this team has provided the Board with its report and recommendations to address this risk, including recommendations for further revisions to the CIP Reliability Standards, the development of security guidelines, and risk monitoring;

**NOW, THEREFORE, BE IT RESOLVED**, that the Board hereby accepts the recommendations of the Low Impact Criteria Review team, as presented to the Board at this meeting.

### **Standard Process Improvement Opportunities**

Mr. DeFontes introduced the topic, noting that the standard process improvement project was initiated at the direction of the Board at its February 2022 meeting, and that he directed a representative group of industry stakeholders and trustees be convened to recommend standards process improvements. Mr. DeFontes thanked the stakeholder group for their work developing a set of well-reasoned and comprehensive set of consensus recommendations for standards process improvements. He also thanked the MRC for its policy input on the recommendations and reported that the Board discussed this policy input in great detail in determining how to move forward.

Mr. Thilly echoed his appreciation for the MRC policy input. He noted that the majority of the policy input was supportive of the recommended improvements, but concerns have been raised about several of the recommendations; in particular, the proposal to provide the Board with the authority to direct the development of a Reliability Standard to address an urgent reliability issue. Mr. Thilly emphasized the Board's responsibility to ensure that NERC develops Reliability Standards for the bulk power system, and that the Board must have the ability to direct standards development, in the unlikely event the usual stakeholder process fails, to ensure the sustainability of the ERO model.

Mr. Thilly reported that, in consideration of the policy input, certain changes will be made before the proposed changes to the Rules of Procedure will be posted for comment. First, the proposed rule will make clear that the Board's proposed directive authority would be limited to extraordinary circumstances, and the Board would be

required to provide notice of the Board’s reasons for preliminarily concluding that a directive is necessary under the circumstances. Stakeholders would have the opportunity to comment on this notice before the Board may take action. Second, the proposal to have ERO Enterprise staff to draft interpretations will not be pursued. Mr. Thilly reported that the Board believes there is sufficient support for other recommended rules changes, including the proposals to implement tiered requirements for the minimum length of comment periods for draft Reliability Standards and eliminate the requirement for a final ballot, to initiate the formal rule revision process by which those proposals may be further considered. He encouraged stakeholders to provide their feedback when the changes are formally posted for comment. Mr. Thilly also recalled the other recommendations, particularly those for the committees and to initiate a review of the Registered Ballot Body, and reported that the Board intends to move forward with those recommendations.

Mr. DeFontes reported that the Board is strongly committed to moving this initiative forward, with consideration of the policy input provided by the MRC.

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

**WHEREAS**, the Board, at its February 10, 2022 meeting directed NERC Staff to examine the body of rules regarding Reliability Standards development and, considering the feedback of stakeholders, recommend such changes that would improve NERC’s ability to address urgent reliability needs with appropriate agility, while also maintaining reasonable notice and opportunity for public comment, due process, openness, and balance of interests;

**WHEREAS**, Chair DeFontes appointed the Standards Process Stakeholder Engagement Group (“SPSEG”) to consider the preliminary recommendations of NERC Staff and recommend changes to NERC’s standard development processes that would improve NERC’s ability to address urgent reliability needs with appropriate agility, while also maintaining reasonable notice and opportunity for public comment, due process, openness, and balance of interests in standards development;

**WHEREAS**, the Board extends its most sincere appreciation to the members of the SPSEG for their work on this important NERC initiative:

Amy Casuscelli, Chair, Standards Committee  
Paul Choudhury, Immediate Past Chair, Member Representatives Committee  
Jennifer Flandermeyer, Vice Chair, Member Representatives Committee  
Greg Ford, Chair, Reliability and Security Technical Committee  
Rich Hydzik, Vice Chair, Reliability and Security Technical Committee  
Roy Jones, Chair, Member Representatives Committee  
Commissioner Matt Schuerger, Member Representatives Committee  
Brian Allen Slocum, Chair, Reliability Issues Steering Committee  
Scott Tomashefsky, Chair, NERC Compliance and Certification Committee  
Sue Kelly, NERC Board of Trustees  
Rob Manning, NERC Board of Trustees  
Roy Thilly, SPSEG Chair, NERC Board of Trustees

**WHEREAS**, the SPSEG submitted its unanimous recommendations for standards process changes to the Board on October 10, 2022, consisting of recommended changes to Section 300 of the NERC Rules of Procedure and Appendix 3A to the NERC Rules of Procedure *Standard Processes Manual*, as well as recommendations for the standing committees to facilitate effective administration and coordination in the development of standards;

**WHEREAS**, the Board has considered the policy input of the Member Representatives Committee (“MRC”) on the recommendations and identified a number of revisions to be made prior to the formal posting process to address several concerns, including, in particular, the extraordinary nature of the authority recommended in proposed Rules of Procedure Section 322 and the importance of stakeholder engagement in the standards development process;

**WHEREAS**, the Board has determined that, following consideration of the MRC policy input, and incorporation of appropriate revisions recommended in such input by NERC Staff, the recommendations should be considered for implementation through the usual processes;

**NOW, THEREFORE, BE IT RESOLVED**, that the Board hereby directs that the recommended changes to Section 300 of the Rules of Procedure be posted for public comment, as revised, as appropriate by NERC Staff to address the policy input provided by the MRC, in accordance with Section 1400 of the NERC Rules of Procedure, Amendments to the NERC Rules of Procedure.

**BE IT FURTHER RESOLVED**, that the Board hereby requests the Standards Committee promptly submit the recommended changes to Appendix 3A to the NERC Rules of Procedure, *Standard Processes Manual*, as revised, as appropriate by NERC Staff to address the policy input provided by the MRC, for comment and then ballot under Section 15.0 of the *Standard Processes Manual*, Process for Updating Standard Processes.

**BE IT FURTHER RESOLVED**, that the Board hereby directs NERC Staff to coordinate with the Standards Committee, the Reliability and Security Technical Committee, and the Standing Committee Coordinating Group regarding implementation of the recommendations addressed to each body.

**BE IT FURTHER RESOLVED**, that the Board hereby directs NERC Staff to initiate a review of the Registered Ballot Body for continued fairness, openness, inclusivity, and balance in standards voting.

**BE IT FURTHER RESOLVED**, that the Board hereby directs NERC Staff to report to the Board on the status of these efforts at its February 2023 meeting.

Mr. DeFontes concluded the discussion by expressing his appreciation to the stakeholder group and to the MRC for its input and for the opportunity to modify the recommended proposals based on that input.

## **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 15, 2022 Member Representatives Committee meeting.

### **2023 Work Plan Priorities**

Ms. Hanson presented the 2023 Work Plan Priorities, with priorities in the key focus areas of energy, security, agility, and sustainability. Upon motion duly made and seconded, the Board approved the following resolution:

**RESOLVED**, that the Board hereby approves the 2023 ERO Enterprise Work Plan Priorities, substantially in the form presented to the Board at this meeting.

### **Generating Availability Data System (GADS) Data Request for Utility-Scale Solar Plants and Updates for GADS Wind and Conventional GADS**

Mr. Moura and Ms. Pratt presented the proposed Section 1600 Data Request, noting that NERC is requesting an update to the current GADS Section 1600 data request to include new data collection for solar resources and extend

of current data requirements for GADS Wind and Conventional GADS to improve NERC's ability to track the changing resource mix and evaluate the performance of the generating fleet. Ms. Pratt recalled the process to develop the proposed request, reporting that the RSTC endorsed the request on October 6, 2022.

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

**RESOLVED**, that the Board hereby approves the GADS Section 1600 data request, substantially in the form presented to the Board at this meeting, to become effective January 1, 2024.

### **2022 Long-Term Reliability Assessment Preview**

Mr. Moura provided a preview of the 2022 Long-Term Reliability Assessment (LTRA). He highlighted the key findings, including increased risks of electricity shortfalls in some areas during forecasted or extreme conditions over the next five years. Mr. Moura also highlighted projected changes in the resource mix, including the expected growth of solar and expected retirements in fossil and nuclear fuel generation, projected increases in 10-year peak demand, and steady trends in transmission projects. He noted that the LTRA will be submitted to the Board for its acceptance on December 14, 2022.

### **2022-2023 Winter Reliability Assessment Preview**

Mr. Olson provided a preview of the 2022-2023 Winter Reliability Assessment (WRA). He highlighted the key findings, including that a large portion of the North American bulk power system is at risk of insufficient electricity supplies during peak winter conditions. Factors contributing to this risk include higher peak-demand projections, generator retirements, generator vulnerability to cold weather, and fuel supply and natural gas infrastructure limitations. Mr. Olson highlighted key actions that can be taken to prepare for reliable operations for this winter, including actions for generators and state regulators/policy makers.

### **Credential Maintenance Research Project**

Mr. Cory Danson, Personnel Certification Governance Committee Chair, provided an update on the Credential Maintenance Research Project, a project to examine current credential maintenance continuing education hours for NERC certified system operators and whether the four existing NERC credentials should be consolidated into one credential. He discussed the work that has been undertaken in 2022 to examine and evaluate NERC's credential maintenance practices, and explained that this work will inform recommendations for program enhancements later in 2023.

### **ERO Enterprise Reliability Indicators**

Mr. DeFontes referred to the materials included in the advance agenda package.

## **Committee Reports**

### **Member Representatives Committee**

Ms. Jennifer Flandermeyer, Committee Chair-elect, provided a summary of the Committee meeting held on November 15, 2022, highlighting discussion of policy input.

### **Personnel Certification Governance Committee**

Mr. DeFontes referenced the Committee report included in the advance agenda package.

### **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 results of the recent term elections, progress on the cold weather standards project, and the recommendations for standards process improvements.



### **Compliance and Certification Committee**

Mr. Scott Tomashefsky, Committee Chair, provided an update on the activities of the Committee, referencing the materials provided in the advance agenda package. He highlighted the role of compliance in the recommended standard process improvements.

### **Reliability and Security Technical Committee**

Mr. Rich Hydzik, Committee Vice Chair, provided an update on the activities of the Committee, referencing the materials provided in the advance agenda package. He highlighted the Committee's work on distributed energy resources, including evaluating recommended changes to the Reliability Standards and prioritization.

### **Reliability Issues Steering Committee**

Mr. Brian Slocum, Committee Chair, provided an update on the activities of the Committee, highlighting work to prepare for the 2023 Reliability Leadership Summit.

### **Electricity Subsector Coordinating Council**

Mr. Robb reported on recent Electricity Subsector Coordinating Council activities, including discussion of tropical storms and focus sessions with the ESCC's government counterparts on reliability assessment work and improving interagency coordination.

### **Forum and Group Reports**

#### **North American Energy Standards Board**

Mr. Michael Desselle, Chair of the NAESB Board of Directors, provided an update on NAESB activities in areas of mutual interest, including natural gas-electric coordination.

#### **North American Transmission Forum**

Mr. Tom Galloway, Forum Chair, provided an update on NATF activities, referring to the report contained in the advance agenda package. He highlighted NATF work on supply chain risk mitigation and facility ratings, including FERC Order No. 881 regarding ambient-adjusted ratings.

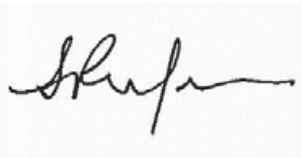
#### **North American Generator Forum**

Mr. DeFontes referred to the Forum report included in the advance agenda materials.

### **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

## Reliability and Security Technical Committee 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	Greg Stone (Duke Energy) – 2023-2025
2. State/municipal utility	Saul Rojas (NYPA) – 2023-2025
3. Cooperative utility	Marc Child (Great River Energy) – 2023-2025
4. Federal or provincial utility/Federal Power Marketing Administration	Edison Elizeh (Bonneville Power) – 2023-2025
5. Transmission dependent utility	John Stephens (City Utilities of Springfield) – 2023-2025
6. Merchant electricity generator	Mark Spencer (LS Power) 2023-2025
7. Electricity Marketer	Seat converted to At-large – 2023-2025
8. Large end-use electricity customer	Seat converted to At-large – 2023-2025
9. Small end-use electricity customer	Darryl Lawrence (PA Office of Consumer Advocate) – 2023-2025
10. Independent system operator/ regional transmission organization	Eric Miller (MISO) – 2023-2025
12. State Government	Christine Ericson (Illinois Commerce Commission) – 2023-2025
At-large Members	
Ian Grant	Tennessee Valley Authority – 2023-2025 (converted sector 7 seat)
Marc-Antoine Roy	Hydro Quebec – 2023-2025 (converted Sector 8 seat)
William Allen	Exelon – 2023-2025
Thomas Burns	PacificCorp - 2023-2025
David Jacobson	Manitoba Hydro – 2023-2025
Srinivas Kappagantula	Arevon Energy – 2023-2025
Todd Lucas	Southern Company -2023-2025
Brett Kruse	Calpine - 2023-2024

## 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. 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 met on January 10, 2023 to review the slate of nominees and 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, 2025	Adrienne Collins, Vice Chair Southern Company
At-Large Member Term expiring January 31, 2025	Nelson Peeler Duke Energy
At-Large Member Term expiring January 31, 2025	Teresa Mogensen Xcel Energy
At-Large Member Term expiring January 31, 2025	Tom Galloway NATF
At-Large Member Term expiring January 31, 2025	Al Tamimi Sunflower Electric Power Corporation
At-Large Member Term expiring January 31, 2025	Lee Ragsdale NC Electric Membership Corporation
At-Large Member Term expiring January 31, 2025	Joe Sowell Georgia Transmission
At-Large Member Term expiring January 31, 2025	Daniel Mishra JEA
At-Large Member Term expiring January 31, 2025	Tim Kelley SMUD

At-Large Member Term expiring January 31, 2025	Roderick Robinson PG&E
At-Large Member Term expiring January 31, 2025	Chris Lincoln NB Power
At-Large Member Term expiring January 31, 2025	Ranjika Manamperi Ontario Power Generation
At-Large Member Term expiring January 31, 2025	Tim Swanson FortisBC
MRC Member Term expiring January 31, 2025	Sean Cavote PSEG
MRC Member Term expiring January 31, 2024 (filling the term of a retiring member)	Jennifer Flandermeyer Eversource
Compliance & Certification Committee Term expiring January 31, 2024	Silvia Parada-Mitchell NextEra Energy
Reliability and Security Technical Committee Term expiring January 31, 2024	Rich Hydzik Avista
Standards Committee Term expiring January 31, 2024	Amy Casuscelli Xcel Energy

## **Procedure for the Selection of Members to the NERC Compliance and Certification Committee`**

### **Action**

- Approve CCCPP-013-3 – CCC Procedure for Selection of Members to the NERC Compliance and Certification Committee

### **Summary**

Consistent with the CCC charter, per the direction of the CCC Chair, the CCC initiated an e-mail vote on January 4 to consider approval of **CCCPP-013-3: CCC Procedure for the Selection of Members to the NERC Compliance and Certification Committee**. The CCC approved the procedure when the voting period closed on January 13. Of particular importance was a change to provide the CCC Chair with authority to call for an out-of-cycle appointment to the extent a vacancy occurs outside the usual three-year cycle for serving on the CCC. Assuming the Board approves the updated procedure (included in the Board packet), the CCC will initiate a call to fill an open CCC member position that is expected to occur at the end of April.

In addition to the off-cycle nomination process, the revisions in CCCPP-013-3 include the following:

- Clarified types of organizations that employ individuals who may be nominated for CCC membership, including those organizations that provide professional services to registered entities;
- Clarified Nominating Subcommittee actions in open nomination process; and
- Other minor clarifications.

The CCC notes that CCCPP-013-3 includes an open nomination process schedule that plans for final approval by the Board during its regularly scheduled November Board meeting. To the extent that changes to the CCC open nomination process schedule are warranted in response to recent schedule changes announced by the Board at its November 2022 meeting, the CCC will consider any necessary updates during its annual review of CCCPP-013.

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Procedure for the Selection of Members to the NERC Compliance and Certification Committee

CCCPP-013-~~2~~

~~June 9, 2021~~

RELIABILITY | RESILIENCE | SECURITY



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## Introduction

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### Background

This document establishes procedures for the NERC Compliance and Certification Committee (CCC) Nominating Subcommittee for the purpose of executing its responsibilities in accordance with the CCC Charter. The procedures are intended to provide a consistent and fair approach enabling the Nominating Subcommittee to effectively execute its responsibilities.

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# Scope

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The scope of these procedures is to assist the Nominating Subcommittee with maintaining a full and active hybrid representation model consisting of the following:

- Industry sector members;
- At-large members; and
- Non-voting members.

It is expected that CCC voting members will be from one or more of the following:

- A NERC member<sup>1</sup>;
- A registered entity<sup>2</sup>;
- ~~an entity/organization in the NERC Membership<sup>3</sup> but it is not required.~~ a registered entity-sponsored industry/trade organization; or
- aAn organization that provides professional services to registered entities.

All members must meet the minimum qualifications of the CCC to be recommended for NERC Board of Trustees consideration to participate as a NERC CCC member. ~~It is acceptable for a member or an industry/trade organization to nominate an individual to represent their sector if the nominee meets the minimum qualifications of the CCC.~~

The industry sector membership consists of two (2) representatives from the following:

- Sector 1 - Investor-Owned Utility;
- Sector 2 - State/Municipal Utility;
- Sector 3 - Cooperative Utility;
- Sector 4 - Federal or Provincial Utility/Power Marketing Administration;
- Sector 5 - Transmission-Dependent Utility;
- Sector 6 - Merchant Electricity Generator;
- Sector 7 - Electricity Marketer;
- Sector 8 - Large End-Use Electricity Customer;
- Sector 9 - Small End-Use Electricity Customer;
- Sector 10 - ISO/RTO; and
- Sector 12 - Government Representatives (U.S. State Sub-sector only<sup>2</sup>).

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<sup>1</sup> Not the same as NERC Compliance Registration or the Registered Ballot Body for Standards development. See active NERC Membership list on the ERO Portal.

<sup>2</sup> See NERC Compliance Registry (NCR) for the NCR Active Entities List.

<sup>3</sup> Not the same as NERC Compliance Registration or the Registered Ballot Body for Standards development. See active NERC Membership list on the ERO Portal. <sup>3</sup> Nominations from the U.S. State sub-sector are expected to be provided by NARUC. <sup>3</sup> Including Sector 13—Associate.

The at-large membership shall consist of at least six (6) representatives ~~from various sectors of the NERC Membership~~<sup>3</sup> and balance representation on the CCC in the following areas:

- ~~Geographic diversity from all interconnections and ERO Enterprise Regional Entities;~~<sup>7</sup>
- Organizational diversity from the various sectors in the NERC Membership;
- High-level understanding of, and perspective on, reliability and compliance risks based on experience at an organization in a sector;<sup>7</sup> and
- Experience and expertise ~~from an organization in subjects in the sector~~ relevant to the Committee purview.

#### Scope

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The non-voting membership consists of four (4) representatives from the following sub-sectors of Sector 12 of the NERC Membership<sup>4</sup>:

- U.S. Federal – 2
- Canadian Federal – 1
- Canadian Provincial – 1

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<sup>4,3</sup> The Committee Chair, Nominating Subcommittee Chair, or CCC secretary will coordinate with entities entitled to non-voting membership to identify representatives for the non-voting seats. Canadian organizations such as the Canadian Electricity Association and Canada's Energy and Utility Regulators will be consulted and solicited for assistance in recruiting Canadians to serve on the Committee.

# Processes and Procedures

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## Open Nomination Process

CCC members serve a three-~~(3)~~ year term beginning on January 1 and concluding on December 31. The terms of members shall be staggered according to the CCC-approved schedule posted on the NERC website. This rotation ensures that approximately one-third of the Ccommittee is subject to reappointment or replacement each year. Therefore, the Nominating Subcommittee shall adhere to the following timetable to facilitate annual appointments:

- June – The Nominating Subcommittee Chair updates the CCC on future openings and solicits input from the CCC Executive Committee on specific membership needs. To ensure consistent input, the Nominating Subcommittee will review ~~Executive Committee will complete a questionnaire based on the CCC~~ qualifications criteria listed in the CCC Charter and upcoming items in the CCC Work Plan for necessary experience with input from the CCC Executive Committee. The Nominating Subcommittee ~~also~~ evaluates current member's<sup>5</sup> adherence to CCC expectations as described in the Member Expectation Monitoring Process below. The Nominating Subcommittee Chair or the CCC Vice Chair also requests current members to attest that they are not performing work for another member's organization or an affiliate of another member's organization.<sup>5</sup>
- Early-July – NERC staff prepares a request for nominations that includes open seats and terms concluding on December 31. The CCC Chair and the Nominating Subcommittee Chair ~~reviews~~ the draft request and confirms content.
- Mid-July – NERC staff releases the formal request for nominations to industry with a 30-day response deadline.
- Mid-July - NERC staff acknowledges receipt of nominations to the candidates and the nomination submitter.
- Mid-August – Nominating Subcommittee begins reviewing information on nominees and selects recommendations in accordance with the Selection Process by the due date for meeting materials for the next CCC meeting.
- September – Nominating Subcommittee informs CCC Membership of their recommendations.
- October – The Nominating Subcommittee Chair or designee prepares the slate of recommendations and submits to the NERC Board of Trustees (Board) for approval at their November meeting.
- October - The Nominating Subcommittee Chair or designee informs the candidates of selection results pending Board consideration.
- November – The Board considers the CCC recommendations and completes their actions.
- If approved, the term for these members begins on January 1.
- If not approved, it will remand back to the Nominating Subcommittee for a different recommendation.

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<sup>5</sup> This review would not include members from a registered entity-sponsored industry/trade organization. Attestation will be provided as part of the Nominations Process. CCC members will be required to notice the CCC Chair if the basis of the attestation changes during the term of membership.

## Selection Process

The Nominating Subcommittee shall process nominations as follows:

- NERC staff receives nomination forms from industry participants and reviews to verify the following, as applicable:
  - Response to all requested information;
  - The nominator's and nominee's organizations' status as:
    - a NERC member,
    - -a NERC registered entity,
    - a registered entity-sponsored industry/trade organization, or
    - a provider of professional services to NERC registered entities;
  - ~~The nominator's NERC Membership status<sup>6</sup> in the ERO Portal, Registered Entity status, or membership in an applicable trade organization;~~
  - Nominee's qualifications to current posting;
  - Only one nomination per entity/organization (including affiliates);
  - The nominee's entity/organization does not already have a member on the CCC; and
  - If nomination is received from another entity/organization, then confirm nominee's willingness to serve.

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<sup>6</sup>~~The entity's/organization's NERC Membership must be active on the deadline date for receiving nominations. Nominations submitted by a non-member or member in a different sector are only considered for the at-large membership.~~

- If discrepancies are found, ~~then~~ NERC staff notifies the CCC Chair and Nominating Subcommittee Chair to determine a resolution.
- If no discrepancies are found, ~~then~~ NERC staff posts the nomination form on the public and extranet sites and notifies the Nominating Subcommittee.
- The Nominating Subcommittee Chair and NERC staff coordinate a call with the members of the Nominating Subcommittee to select recommendations. If a member of the Nominating Subcommittee is up for reappointment, then the member will be recused from the discussion and evaluation of their nomination.
- The Nominating Subcommittee shall independently select nominations using the evaluation form<sup>7</sup> based on the qualification criteria below and may give preference to existing members, nominations from registered entity-sponsored industry/trade organizations, and/or current needs of the CCC. Sector nominees can also be considered for openings in the at-large membership.
- —Senior-level industry expertise
  - Knowledge of topics within the scope of the CCC
  - Experience within their respective organizations in at least one of the following areas:
    - Compliance Administration
    - Compliance Enforcement
    - Risk Management
    - NERC Registration
    - NERC Certification
    - NERC Standards
  - Geographical representation (~~Regional Entity, Interconnection, company footprint, etc.~~)
  - Adherence to CCC expectations (If applicable)
  - Participation in other ERO committees, trade organizations, membership organizations (NATF, NAGF, etc.), or regional forums
  - Input from the CCC Executive Committee
- Nominating Subcommittee Chair or designee prepares meeting materials prior to their posting deadline to inform the CCC of the selected nominees ~~prior to their posting deadline~~.
- Nominating Subcommittee Chair or designee prepares meeting materials prior to their posting deadline for Board approval of the CCC recommendations ~~prior to their posting deadline~~.

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<sup>7</sup> See Nominating Subcommittee [extranet site](#) for current form.

## Member Expectation Monitoring Process

To maintain an active and productive CCC membership, the Nomination Subcommittee shall review records of recent meetings and solicit feedback from the CCC Executive Committee to identify members who are deficient with one or more of the following expectations in the CCC Charter:

- Act consistently with the procedures in this Charter and Robert's Rules of Order during meetings;
- Adhere to NERC Antitrust Guidelines and Participant Conduct Policy;
- Demonstrate and provide expertise in support of Committee activities;
- Adjudicate in a fair and unbiased manner that meets applicable legal and due process requirements when participating in hearings ~~procedures~~ conducted under the NERC ROP ~~Section 408~~;
- Solicit comments and opinions from constituents and groups of constituents or trade organizations represented by the member and convey them to the Committee;
- Respond promptly to all Committee requests, including requests for reviews, comments, and votes on issues before the Committee;
- Arrange for a proxy to attend and vote at Committee meetings in the member's absence; or
- Respond promptly to all requests to register for Committee meetings.

Some additional considerations are:

- Consistent attendance in CCC meetings during their term except for extenuating circumstances;
- Non-participation/contribution on a CCC subcommittee;
- Unwillingness to mentor new CCC members when requested by CCC leadership;
- Unwillingness to participate as an observer in periodic NERC Internal Audit efforts when requested, to the extent practicable;
- Mergers or acquisitions that result in more than one member from an entity/organization;
- Working for, or providing services to, another member's entity/organization; or
- A conflict of interest that would impair ~~his or her~~ the member's ability to fulfill obligations under the Charter.

Member deficiencies shall be reported to the CCC Chair for resolution.

The CCC Chair may request any CCC member who ceases to participate in the CCC consistent with member expectations (~~above~~) and to the satisfaction of the CCC Executive Committee, to submit a resignation or to request continuation of membership with an explanation of extenuating circumstances. If a written response is not received within 30 days of the Chair's request, the lack of response will be considered a resignation. If the written response is considered incomplete or requires additional action, the matter will be resolved by the CCC Chair with support and endorsement by the CCC Executive Committee.

## Resignation Process

Appointment to the CCC is based on qualifications and is attributed specifically to an individual – not an entity/organization. Therefore, members who cannot complete their term, ~~for any reason~~, will not be replaced outright with an individual from the same entity/organization. The Nominating Subcommittee will recommend a replacement for the open position during the open nomination cycle via the normal Selection Process as defined in the CCC Charter. If possible, the member can provide a proxy to CCC meetings during the interim period until a replacement is approved by the Board to complete the term. Membership vacancies may be filled between annual elections, using the aforementioned open nomination and selection processes, at the request of the CCC Chair.

–CCC members serve at the pleasure of the Board. The Board may initiate a request for resignation, removal, or replacement of a member from the CCC, as it deems appropriate or at the request of the CCC Chair.

## Re-appointment Process

There is no limitation on the number of times a member may be re-appointed. However, to ensure transparency and fairness to other industry participants, the member will not be re-appointed outright and therefore must apply for membership consistent with the annual Open Nomination Process. The member's past participation in CCC activities and current information will be evaluated during the Selection Process. Preference is given to existing members who are in good standing with CCC expectations, maintain the minimum qualifications, and meet the current needs of the CCC.

## CCC Chair and Vice-Chair Election Process

Prior to the annual appointment of representatives to the CCC, the CCC shall select a Chair and Vice Chair of the CCC, from among its NERC member, NERC registered entity, and registered entity-sponsored industry/trade organization voting members, by majority vote of the members of the CCC to serve a two-year term. The incumbent Chair and Vice Chair shall not vote in the selection of the incoming Chair or Vice Chair. Therefore, the Nominating Subcommittee Chair shall prepare the slate on nominations and facilitate voting during the CCC meeting. The newly selected Chair and Vice Chair shall not ~~have been~~ representatives of the same sector. The selection of the Chair and Vice Chair of the CCC shall be subject to approval of the Board.

## Subordinate Group Appointment Process

A significant ~~amount~~number of CCC responsibilities are executed through an active membership in subordinate groups. Therefore, the Nominating Subcommittee can assist the chair of each subordinate group with staffing needs and balancing representation. As part of the annual Open Nomination Process, the Nominating Subcommittee solicits input from chairs of each subordinate group via the CCC Executive Committee to identify: 1) specific areas of expertise or experience to request from industry; and 2) the recommended placement of new members to a subordinate group. The recommendations are submitted to the chair of the subordinate group for appointment. For subcommittees, the member's term shall conclude in conjunction with their CCC membership term.

Subordinate group appointments from outside the CCC membership are allowed and can provide additional perspective and expertise as needed. However, the appointees must meet the same qualifications and expectations of the CCC membership. If a need is identified by the chair of the subordinate group and approved by the CCC Chair, then a request for nominations could be made, consistent with the process for soliciting CCC



members to ensure transparency and fairness to all industry participants. The chair of the subordinate group reviews all valid nominations and selects an appointment. The appointee is eligible to serve a three- (3) year term. If the need still exists after the term concludes, then another request for nominations is made and the member is eligible for reappointment.

## **Nominating Subcommittee Appointment Process**

The Nominating Subcommittee will consist of five members nominated by the Committee Chair and approved by the Committee. The Chair of the Nominating Subcommittee will be selected by the Committee Chair from among the five Nominating Subcommittee members annually. Members of the Nominating Subcommittee will serve concurrently with the term of the Committee Chair that selects the Nominating Subcommittee members.

Appointments to the Nominating Subcommittee typically occur after the annual CCC member selection process. Member deficiencies shall be reported to the CCC Chair for resolution.

~~For potential candidates, those who are not up for reappointment during their term on the Nominating Subcommittee will be considered, to the degree the population of candidates allows.~~

## **Sector Vacancy Process**

It is essential that all voting seats are filled with active participants ~~in order~~ to effectively administer the business of the CCC. Therefore, during the annual Open Nomination Process, the Nominating Subcommittee will strive to obtain nominations to fill all open seats. However, if the Nominating Subcommittee receives no valid nominations from a voting sector, then the open seat will convert to an at-large membership for the term and a nomination is selected by the Nominating Subcommittee in accordance with the Selection Process. This process continues until the sector provides a valid nomination.

## **Changes in Member Status**

If at any time during a member's term the individual changes organizations or positions, the Nominating Subcommittee will confirm the member continues to meet all membership requirements to complete the member's term. Members are responsible for informing the CCC Chair of any changes to their qualifications to be members of the CCC.

## Revision History

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Date Version	Number	Comments
June 17, 2020	1.0	Approved by the Compliance and Certification Committee
August 20, 2020		Approved by the Board of Trustees
June 9, 2021	2.0	Updated. Approved by the Compliance and Certification Committee
August 5, 2021		Approved by the Trustees
<u>December XX, 2022</u>	<u>3.0</u>	<u>Approved by the Compliance and Certification Committee</u>



**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Procedure for the Selection of Members to the NERC Compliance and Certification Committee

CCCPP-013-3

February XX, 2023

**RELIABILITY | RESILIENCE | SECURITY**



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# Introduction

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This document establishes procedures for the NERC Compliance and Certification Committee (CCC) Nominating Subcommittee for the purpose of executing its responsibilities in accordance with the CCC Charter. The procedures are intended to provide a consistent and fair approach enabling the Nominating Subcommittee to effectively execute its responsibilities.

# Chapter 1: Scope

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The scope of these procedures is to assist the Nominating Subcommittee with maintaining a full and active hybrid representation model consisting of the following:

- Industry sector members;
- At-large members; and
- Non-voting members.

It is expected that CCC voting members will be from one or more of the following:

- A NERC member<sup>1</sup>;
- A registered entity<sup>2</sup>;
- A registered entity-sponsored industry/trade organization; or
- An organization that provides professional services to registered entities.

All members must meet the minimum qualifications of the CCC to be recommended for NERC Board of Trustees consideration to participate as a NERC CCC member.

The industry sector membership consists of two (2) representatives from the following:

- Sector 1 - Investor-Owned Utility;
- Sector 2 - State/Municipal Utility;
- Sector 3 - Cooperative Utility;
- Sector 4 - Federal or Provincial Utility/Power Marketing Administration;
- Sector 5 - Transmission-Dependent Utility;
- Sector 6 - Merchant Electricity Generator;
- Sector 7 - Electricity Marketer;
- Sector 8 - Large End-Use Electricity Customer;
- Sector 9 - Small End-Use Electricity Customer;
- Sector 10 - ISO/RTO; and
- Sector 12 - Government Representatives (U.S. State Sub-sector only).

The at-large membership shall consist of at least six (6) representatives and balance representation on the CCC in the following areas:

- Geographic diversity from all interconnections and ERO Enterprise Regional Entities;
- Organizational diversity from the various sectors in the NERC Membership;
- High-level understanding of, and perspective on, reliability and compliance risks based on experience at an organization in a sector; and

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<sup>1</sup> Not the same as NERC Compliance Registry or the Registered Ballot Body for Standards development. See active NERC membership list on the ERO Portal.

<sup>2</sup> See NERC Compliance Registry (NCR) for the NCR Active Entities List.

- Experience and expertise in subjects relevant to the Committee purview.

The non-voting membership consists of four (4) representatives from the following sub-sectors of Sector 12 of the NERC Membership<sup>3</sup>:

- U.S. Federal – 2
- Canadian Federal – 2
- Canadian Provincial – 1

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<sup>3</sup> The Committee Chair, Nominating Subcommittee Chair, or CCC Secretary will coordinated with entities entitled to non-voting membership to identify representatives for the non-voting seats. Canadian organizations such as the Canadian Electricity Association and Canada’s Energy and Utility Regulators will be consulted and solicited for assistance in recruiting Canadians to serve on the Committee.



## Chapter 2: Processes and Procedures

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### Open Nomination Process

CCC members serve a three (3) year term beginning on January 1 and concluding on December 31. The terms of members shall be staggered according to the CCC-approved schedule posted on the NERC website. This rotation ensures that approximately one-third of the Committee is subject to reappointment or replacement each year. Therefore, the Nominating Subcommittee shall adhere to the following timetable to facilitate annual appointments:

- June – The Nominating Subcommittee Chair updates the CCC on future openings and solicits input from the CCC Executive Committee on specific membership needs. To ensure consistent input, the Nominating Subcommittee will review the CCC qualifications criteria listed in the CCC Charter and upcoming items in the CCC Work Plan for necessary experience with input from the CCC Executive Committee. The Nominating Subcommittee evaluates current member's adherence to CCC expectations as described in the Member Expectation Monitoring Process below. The Nominating Subcommittee Chair or the CCC Vice Chair also requests current members to attest that they are not performing work for another member's organization or an affiliate of another member's organization<sup>4</sup>.
- Early-July – NERC staff prepares a request for nominations that includes open seats and terms concluding on December 31. The CCC Chair and the Nominating Subcommittee Chair reviews the draft request and confirms content.
- Mid-July – NERC staff releases the formal request for nominations to industry with a thirty (30) day response deadline.
- Mid-July – NERC staff acknowledges receipt of nominations to the candidates and the nomination submitter.
- Mid-August – Nominating Subcommittee begins reviewing information on nominees and selects recommendations in accordance with the Selection Process by the due date for meeting materials for the next CCC meeting.
- September – Nominating Subcommittee informs CCC Membership of their recommendations.
- October – The Nominating Subcommittee Chair or designee prepares the slate of recommendations and submits to the NERC Board of Trustees (Board) for approval at their November meeting.
- October - The Nominating Subcommittee Chair or designee informs the candidates of selection results pending Board consideration.
- November – The Board considers the CCC recommendations and completes their actions.
- If approved, the term for these members begins on January 1.
- If not approved, it will remand back to the Nominating Subcommittee for a different recommendation.

### Selection Process

The Nominating Subcommittee shall process nominations as follows:

- NERC staff receives nomination forms from industry participants and reviews to verify the following, as applicable:
  - Response to all requested information;
  - The nominator's and nominee's organizations' status as:

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<sup>4</sup> This review would not include members from a registered entity-sponsored industry/trade organization. Attestation will be provided as part of the Nominations Process. CCC members will be required to notice the CCC Chair if the basis of the attestation changes during the term of membership

- A NERC member,
  - A NERC registered entity,
  - A registered entity-sponsored industry/trade organization, or
  - A provider of professional services to NERC registered entities;
  - Nominee’s qualifications to current posting;
  - Only one nomination per entity/organization (including affiliates);
  - The nominee’s entity/organization does not already have a member on the CCC; and
  - If nomination is received from another entity/organization, then confirm nominee’s willingness to serve.
- If discrepancies are found, NERC staff notifies the CCC Chair and Nominating Subcommittee Chair to determine a resolution.
  - If no discrepancies are found, NERC staff posts the nomination form on the public and extranet sites and notifies the Nominating Subcommittee.
  - The Nominating Subcommittee Chair and NERC staff coordinate a call with the members of the Nominating Subcommittee to select recommendations. If a member of the Nominating Subcommittee is up for reappointment, then the member will be recused from the discussion and evaluation of their nomination.
  - The Nominating Subcommittee shall independently select nominations using the evaluation form<sup>5</sup> based on the qualification criteria below and may give preference to existing members, nominations from registered entity-sponsored industry/trade organizations, and/or current needs of the CCC. Sector nominees can also be considered for openings in the at-large membership.
    - Senior-level industry expertise;
    - Knowledge of topics within the scope of the CCC;
    - Experience within their respective organizations in at least one of the following areas:
      - Compliance Administration
      - Compliance Enforcement
      - Risk Management
      - NERC Registration
      - NERC Certification
      - NERC Standards;
    - Geographical representation;
    - Adherence to CCC expectations (if applicable);
    - Participation in other ERO committees, trade organizations, membership organizations (NATF, NAGF, etc.), or regional forums;
    - Input from the CCC Executive Committee.
  - The Nominating Subcommittee Chair or designee prepares meeting materials prior to their posting deadline to inform the CCC of the selected nominees.

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<sup>5</sup> See Nominating Subcommittee extranet site for current form.

- Nominating Subcommittee Chair or designee prepares meeting materials prior to their posting deadline for Board approval of the CCC recommendations.

## Member Expectation Monitoring Process

To maintain an active and productive CCC membership, the Nomination Subcommittee shall review records of recent meetings and solicit feedback from the CCC Executive Committee to identify members who are deficient with one or more of the following expectations in the CCC Charter:

- Act consistently with the procedures in this Charter and Robert’s Rules of Order during meetings;
- Adhere to NERC Antitrust Guidelines and Participant Conduct Policy;
- Demonstrate and provide expertise in support of Committee activities;
- Adjudicate in a fair and unbiased manner that meets applicable legal and due process requirements when participating in hearings conducted under the NERC ROP;
- Solicit comments and opinions from constituents and groups of constituents or trade organizations represented by the member and convey them to the Committee;
- Respond promptly to all Committee requests, including requests for reviews, comments, and votes on issues before the Committee;
- Arrange for a proxy to attend and vote at Committee meetings in the member’s absence; or
- Respond promptly to all requests to register for Committee meetings.

Some additional considerations are:

- Consistent attendance in CCC meetings during their term except for extenuating circumstances;
- Non-participation/contribution on a CCC subcommittee;
- Unwillingness to mentor new CCC members when requested by CCC leadership;
- Unwillingness to participate as an observer in periodic NERC Internal Audit efforts when requested, to the extent practicable;
- Mergers or acquisitions that result in more than one member from an entity/organization;
- Working for, or providing services to, another member’s entity/organization; or
- A conflict of interest that would impair the member’s ability to fulfill obligations under the Charter.

Member deficiencies shall be reported to the CCC Chair for resolution.

The CCC Chair may request any CCC member who ceases to participate in the CCC consistent with member expectations and to the satisfaction of the CCC Executive Committee, to submit a resignation or to request continuation of membership with an explanation of extenuating circumstances. If a written response is not received within thirty (30) days of the Chair’s request, the lack of response will be considered a resignation. If the written response is considered incomplete or requires additional action, the matter will be resolved by the CCC Chair with support and endorsement by the CCC Executive Committee.

Member deficiencies shall be reported to the CCC Chair for resolution.

The CCC Chair may request any CCC member who ceases to participate in the CCC consistent with member expectations and to the satisfaction of the CCC Executive Committee, to submit a resignation or to request

continuation of membership with an explanation of extenuating circumstances. If a written response is not received within thirty (30) days of the Chair's request, the lack of response will be considered a resignation. If the written response is considered incomplete or requires additional action, the matter will be resolved by the CCC Chair with support and endorsement by the CCC Executive Committee.

## **Resignation Process**

Appointment to the CCC is based on qualifications and is attributed specifically to an individual – not an entity/organization. Therefore, members who cannot complete their term, will not be replaced outright with an individual from the same entity/organization. The Nominating Subcommittee will recommend a replacement for the open position during the open nomination cycle via the normal Selection Process as defined in the CCC Charter. If possible, the member can provide a proxy to CCC meetings during the interim period until a replacement is approved by the Board to complete the term. Membership vacancies may be filled between annual elections, using the aforementioned open nomination and selection processes, at the request of the CCC Chair.

CCC members serve at the pleasure of the Board. The Board may initiate a request for resignation, removal, or replacement of a member from the CCC, as it deems appropriate or at the request of the CCC Chair.

## **Re-appointment Process**

There is no limitation on the number of times a member may be re-appointed. However, to ensure transparency and fairness to other industry participants, the member will not be re-appointed outright and therefore must apply for membership consistent with the annual Open Nomination Process. The member's past participation in CCC activities and current information will be evaluated during the Selection Process. Preference is given to existing members who are in good standing with CCC expectations, maintain the minimum qualifications, and meet the current needs of the CCC.

## **CCC Chair and Vice-Chair Election Process**

Prior to the annual appointment of representatives to the CCC, the CCC shall select a Chair and Vice Chair of the CCC, from among its NERC member, NERC registered entity, and registered entity-sponsored industry/trade organization voting members, by majority vote of the members of the CCC to serve a two (2) year term. The incumbent Chair and Vice Chair shall not vote in the selection of the incoming Chair or Vice Chair. Therefore, the Nominating Subcommittee Chair shall prepare the slate on nominations and facilitate voting during the CCC meeting. The newly selected Chair and Vice Chair shall not be representatives of the same sector. The selection of the Chair and Vice Chair of the CCC shall be subject to approval of the Board.

## **Subordinate Group Appointment Process**

A significant number of CCC responsibilities are executed through an active membership in subordinate groups. Therefore, the Nominating Subcommittee can assist the chair of each subordinate group with staffing needs and balancing representation. As part of the annual Open Nomination Process, the Nominating Subcommittee solicits input from chairs of each subordinate group via the CCC Executive Committee to identify: 1) specific areas of expertise or experience to request from industry; and 2) the recommended placement of new members to a subordinate group. The recommendations are submitted to the chair of the subordinate group for appointment. For subcommittees, the member's term shall conclude in conjunction with their CCC membership term.

Subordinate group appointments from outside the CCC membership are allowed and can provide additional perspective and expertise as needed. However, the appointees must meet the same qualifications and expectations of the CCC membership. If a need is identified by the chair of the subordinate group and approved by the CCC Chair, then a request for nominations could be made, consistent with the process for soliciting CCC members to ensure transparency and fairness to all industry participants. The chair of the subordinate group reviews all valid nominations

and selects an appointment. The appointee is eligible to serve a three (3) year term. If the need still exists after the term concludes, then another request for nominations is made and the member is eligible for reappointment.

### **Subordinate Group Appointment Process**

The Nominating Subcommittee will consist of five (5) members nominated by the Committee Chair and approved by the Committee. The Chair of the Nominating Subcommittee will be selected by the Committee Chair from among the five (5) Nominating Subcommittee members annually. Members of the Nominating Subcommittee will serve concurrently with the term of the Committee Chair that selects the Nominating Subcommittee members. Appointments to the Nominating Subcommittee typically occur after the annual CCC member selection process. Member deficiencies shall be reported to the CCC Chair for resolution.

### **Sector Vacancy Process**

It is essential that all voting seats are filled with active participants to effectively administer the business of the CCC. Therefore, during the annual Open Nomination Process, the Nominating Subcommittee will strive to obtain nominations to fill all open seats. However, if the Nominating Subcommittee receives no valid nominations from a voting sector, then the open seat will convert to an at-large membership for the term and a nomination is selected by the Nominating Subcommittee in accordance with the Selection Process. This process continues until the sector provides a valid nomination

### **Changes in Member Status**

If at any time during a member's term the individual changes organizations or positions, the Nominating Subcommittee will confirm the member continues to meet all membership requirements to complete the member's term. Members are responsible for informing the CCC Chair of any changes to their qualifications to be members of the CCC.

## Chapter 3: Revision History

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Date	Version Number	Comments
June 17, 2020	1.0	Approved by the Compliance and Certification Committee
August 20, 2020		Approved by the Board of Trustees
June 9, 2021	2.0	Updated. Approved by the Compliance and Certification Committee
August 5, 2021		Approved by the Board of Trustees
January 13, 2023	3.0	Approved by the Compliance and Certification Committee
February xx, 2023		Approved by the Board of Trustees

## **Personnel Certification Governance Committee Report**

### **Action**

Approve

### **Background**

The Personnel Certification Governance Committee's (PCGC's) fourth quarter meeting was held in-person November 8-9, 2022 in Atlanta. During the fourth quarter meeting, the committee approved the updated Exam Working Group (EWG) Scope, approved integration of a new exam process, and reviewed the findings report from EPRI on the Credential Maintenance research Project (CMRP), and finalized the PCGC 2023 Work Plan.

The PCGC 2023 Work Plan is presented for the Board's consideration and approval.

### **Summary**

The PCGC voted to amend the scope of the Exam Working Group to include requirement for working group members to have experience performing or supporting real-time operations of the Bulk Electric System.

The PCGC voted to integrate randomization of answer order into the Linear on the Fly (LOFT) exam process. This function will allow answers to be randomly ordered ensuring no two exams are identical.

The PCGC also met with the SOCCED application vendor to discuss platform and program changes. Move to vendors updated platform to begin second quarter 2023.

The CMRP Task Force will review and discuss the final report findings and recommendations provided by EPRI and EPS and make program recommendations to the PCGC during the second quarter of 2023.

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NORTH AMERICAN ELECTRIC  
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# Personnel Certification Governance Committee 2023 Work Plan

February 2023

**RELIABILITY | RESILIENCE | SECURITY**



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## Introduction

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The purpose of this *2022 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 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.

## Background

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The PCGC is a Board-appointed stakeholder committee that serves and reports directly to the NERC Board of Trustees. In accordance with the NERC by-laws, the purpose of the PCGC is 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 is to 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 reports directly to the NERC Board of Trustees 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 the following:

- 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 the 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, receiving applications for maintaining certification, and administering all other services provided as a part of the personnel certification and recertification activities
- Program funding, spending, and budgeting authority
- Financial matters related to the operation of the program that are segregated from other NERC activities

# Strategic Planning and Ongoing Efforts

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The PCGC, in coordination with the Credential Maintenance Working Group (CMWG) and Exam Working Group (EWG), develops annual projects to address the SOC Program needs. Below are the five projects planned for 2023.

## **Project 1: Implement recommendations for NERC Certified System Operator Credentials - Ongoing**

The Credential Maintenance Research Project, led by EPRI, provided 19 program and administrative recommendations for the System Operator certification and credential maintenance programs to the PCGC and CMWG in August 2022.

The CMRPTF has reviewed evidence and will propose the path forward for potential changes to the existing NERC Certified System Operator (NCSO) certification and Credential Maintenance programs.

The PCGC and CMWG will discuss changes with NERC leadership, MRC, and FERC, propose changes and gather industry feedback, and begin implementation planning.

## **Project 2: SOCCED Enhancements - Ongoing**

The PCGC, CMWG, and NERC staff will continue to work on enhancements to System Operator Certification and Continuing Education Database (SOCCED) for the provider, candidate, and NERC staff administration.

The PCGC, CMWG, and NERC staff will work to further enhance and develop the SOCCED database while maintaining an accurate system of records with an additional focus to gain efficiencies in the administration of the NERC SOC Program, which includes system operator certification and credential maintenance,

The SOCCED Enhancement Project is ongoing by the PCGC in order to target specific areas within SOCCED for improvement.

## **Project 3: Exam Item Bank Maintenance - Ongoing**

The PCGC continues to collaborate with the Exam Working Group and psychometric consultant to keep the SOC Exam Item Bank current. The EWG will continue the review process on the SOC Exam Item Bank and its relevance for the validity of exams implemented using linear-on-the-fly testing. 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 with linear-on-the-fly testing.

The Exam Working Group and the psychometric consultant vendor should complete a job task analysis every three years.

## **Project 4: Exam Program - New**

NERC staff will identify the requirements for System Operator scheduling and exam program in North America.

The PCGC and NERC staff will ensure Canadian candidates have the same ability to test as candidates within the continental United States. The PCGC and NERC staff's monitoring will reduce risks on having to implement stand-up centers and/or cause undue burden on Canadian candidates.

## **Standards Committee Report**

### **Action**

Approve the Standards Committee 2023 Work Plan, and receive information regarding recent activities.

### **Background**

Attached is the Standards Committee (SC) 2023 Work Plan for Board of Trustees consideration and approval. Also included is the Standards Committee Quarterly Report highlighting activities over the last quarter.

# 2023-2025 Standards Committee Strategic Work Plan

## Introduction

The Standards Committee (SC) Strategic Work Plan (Plan) focuses SC actions on overseeing Standards development activities including:

- Addressing emerging risks using input from various sources, including the Reliability and Security Technical Committee (RSTC) and the Reliability Issues Steering Committee (RISC)
- Prioritizing standards development activities
- Supporting process improvements to enhance agility and effectiveness
- Addressing Federal Energy Regulatory Commission (FERC) directives

## 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 to mitigate emergent risks, as appropriate.

## Vision, Mission and Guiding Principles

### Vision

A comprehensive body of results-based Reliability Standards focused on minimizing risk to the North American bulk power system (BPS).

### Mission

The SC is a ballot body elected stakeholder Committee serving and reporting directly to the NERC Board of Trustees (Board). The SC partners with NERC staff to manage and oversee development of a comprehensive set of results-based Reliability Standards prioritized and focused on risk to the bulk power system while maintaining attributes of due process, openness, and balance of interests.

### Guiding Principles

- 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 in an open and inclusive manner for effective and efficient use of NERC and industry resources.
- Promote and take a leadership role on consensus-building activities.

## Work Plan

Consistent with the 2023-2025 Reliability Standards Development Plan (RSDP), this Plan recognizes the transition of the Standard development process to primarily address a small number of FERC directives,

emerging risks, and process improvements. The details of the goals and objectives for 2023-2025 appear in the RSDP.

### **Focus Area: Process Improvement**

To promote continuous improvement existing processes must be periodically reviewed. In support of the vision, mission and guiding principles above, the SC will undertake certain actions.

#### **Implement Board Recommended Enhancements to the Reliability Standards Development Process from the Stakeholder Engagement Group**

- The SC Chair and Vice Chair will lead an initiative to implement the Board of Trustee recommendations specific to the SC to enhance the standards development process. Implementation of these recommendations will require SC Coordination with NERC Staff, other standing committees, and the Standing Committee Coordinating Group (SCCG).

#### **Standards Grading**

- The SC and the Compliance and Certification Committee will convene a joint task force in early 2023 to evaluate the existing Standards Grading process, identify opportunities, and provide recommendations for improvement. This review will occur in lieu of the annual Standards Grading exercise.

### **Focus Area: Risk Mitigation**

To develop a comprehensive body of risk and results-based Reliability Standards the SC will focus on the activities below:

#### **Standards Development Prioritization**

- In support of the recommendations of the Stakeholder Engagement Group, the SC will partner with NERC Staff and consult with the SCCG to effectively prioritize standards development projects based on reliability risk.

#### **Risk Framework**

- Continue to execute and build on the role of the SC in the NERC Risk Mitigation Framework, which includes active participation in the SCCG identified opportunities for feedback loops.

### **Focus Area: Standards Quality**

The Reliability Standards should be clearly written, effective in mitigating risk to the BPS, and not unnecessarily administratively burdensome. To ensure the highest quality body of Standards, the SC will focus on the following:

#### **FERC Directives**

- As detailed in the 2023-2025 Reliability Standards Development Plan there are two outstanding FERC directives being resolved through the Development process. The SC will continue to monitor progress and support final resolution of these directives, as well as any future work related to directives.

### **Periodic Reviews**

- The Project Management and Oversight Subcommittee (PMOS) and NERC staff will identify and schedule Periodic Reviews for SC endorsement. The PMOS will use the most recent Standards Grading results to prioritize/schedule by the end of 1<sup>st</sup> quarter 2023.

### **Transition of Guidelines and Technical Basis to Technical Rationale**

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



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Agenda Item X  
Board of Trustees Meeting  
February 16, 2023

# Reliability Standards

## Quarterly Report

February 16, 2023

**RELIABILITY | RESILIENCE | SECURITY**



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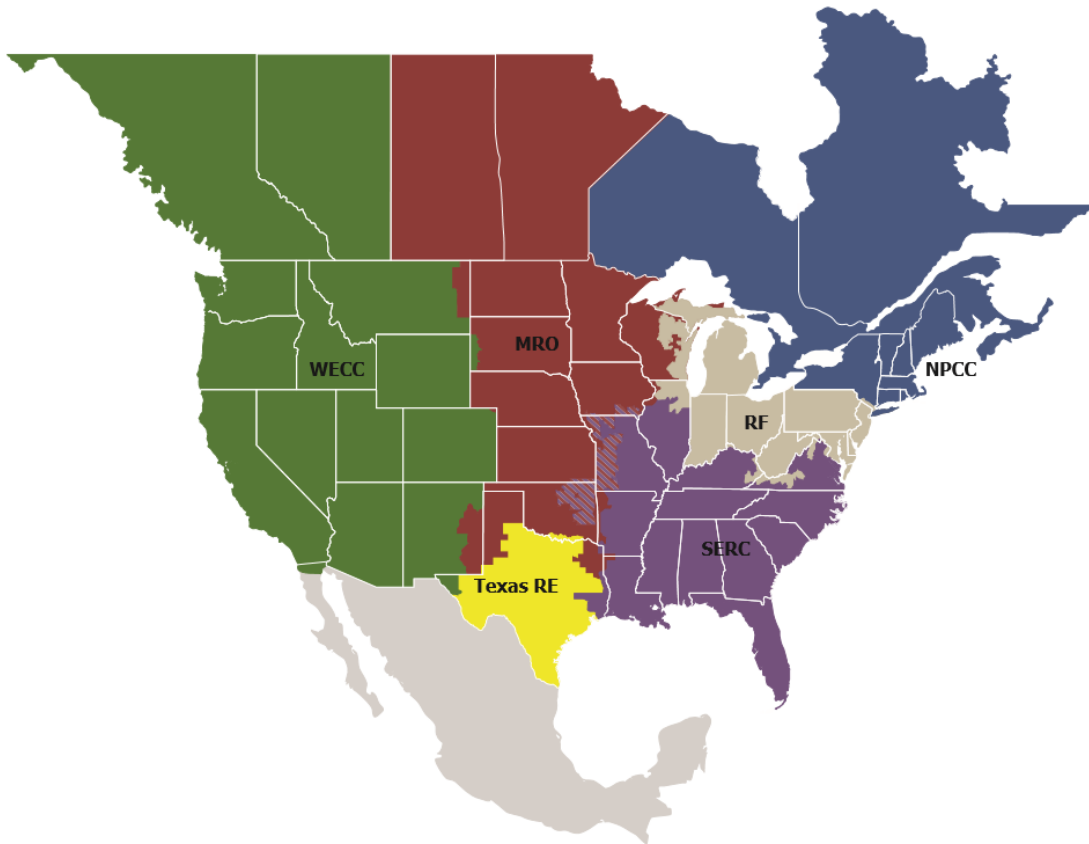
# Preface

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

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

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



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

# Chapter 1: Standards Development Forecast

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## Board Forecast for Standard Projects in Active Development

The following projections reflect anticipated Board of Trustees (Board) adoption dates for continent-wide Reliability Standards.

### May 2023 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: Modifications to PRC-024 (Generator Ride-through)
- 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 2021-06 Modifications to IRO-010 and TOP-003
- Project 2021-08 Modifications to FAC-008
- Project 2022-01 Reporting ACE Definition and Associated Terms
- Project 2022-02 Modifications to TPL-001-5.1 and MOD-032-1
- Project 2022-03 Energy Assurance with Energy-Constrained Resources
- Project 2022-04 EMT Modeling
- Project 2022-05 Modifications to CIP-008 Reporting Threshold

## 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. While NERC's request remains pending, NERC is still considered an accredited developer.

## Projects with Regulatory Directives

Table 1 below lists the current projects with regulatory directives. As of September 30, 2022, there is one standards-related directive to be resolved through standards development activities (not including non-standards related directives).<sup>1</sup>

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<sup>1</sup> 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.

**Table 1: Projects with Regulatory Directives**

Project	Regulatory Directives	Regulatory Deadline
Project 2020-04: Modifications to CIP-012-1	1	N/A

## 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.

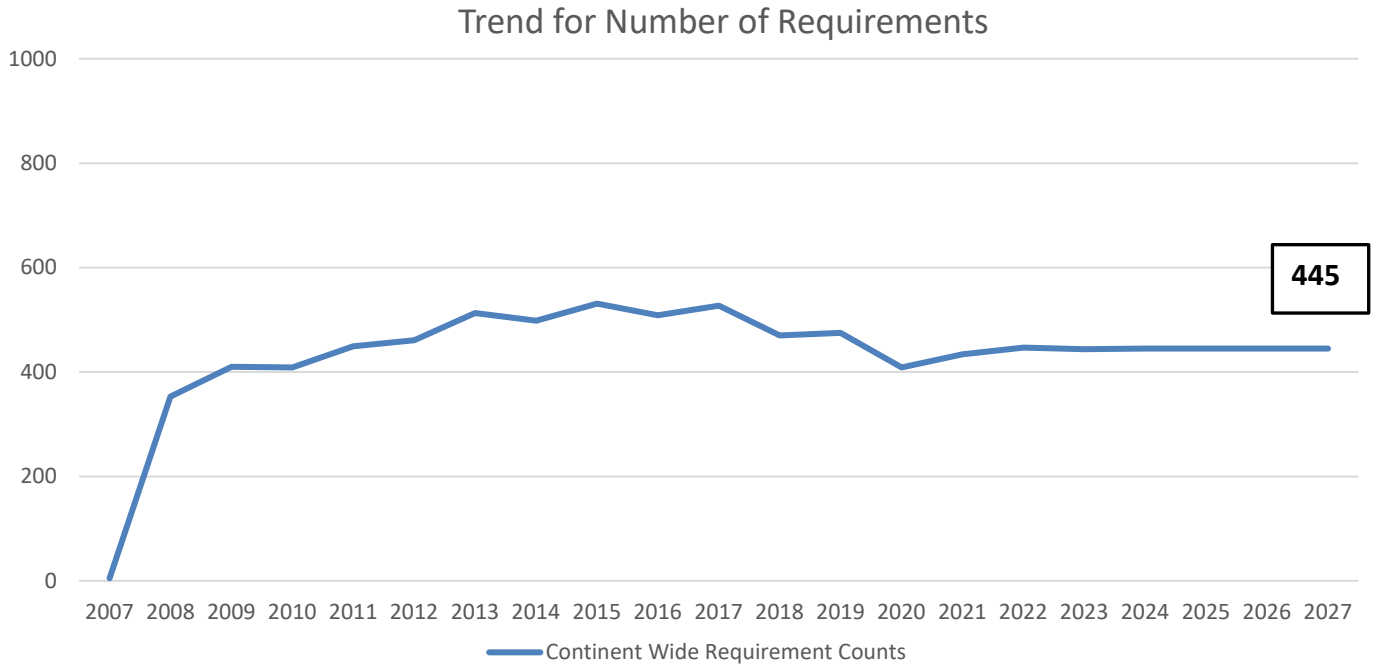
The *US Effective Date Status/Functional Applicability*<sup>2</sup> spreadsheet was used to analyze the number of requirements based on the U.S. Effective Date for each requirement shown in the charts below. Figure 1 displays the Trend in Number of Requirements for Continent-Wide standards, while Figure 2 displays Regional Reliability Standards.<sup>3</sup> 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.<sup>4</sup>

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 70 Regional Reliability standards forecast for 2027.

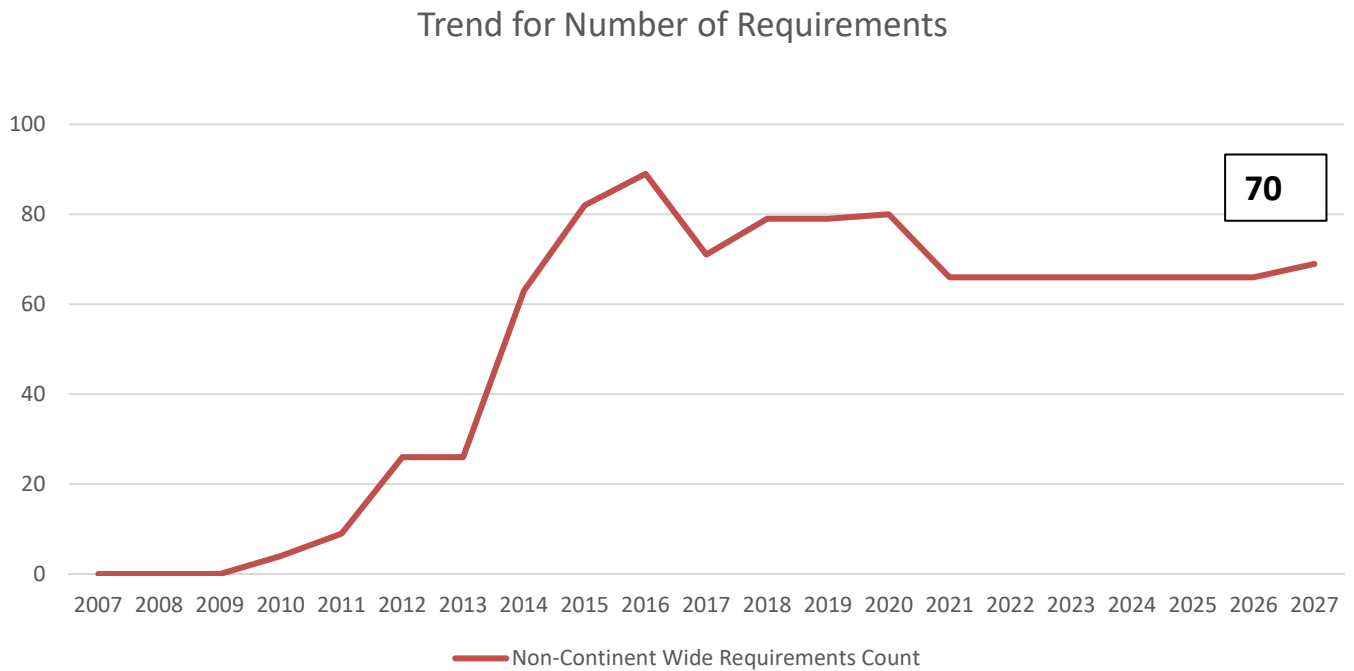
<sup>2</sup> Available from the Standards section of the NERC website: <http://www.nerc.com/pa/Stand/Pages/default.aspx>

<sup>3</sup> Charts were developed using Q1 2022 data.

<sup>4</sup> 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, 2022 – December 31, 2022

FERC Docket No.	Filing Description	FERC Submittal Date
RM22-14-000	<a href="#">Comments on Interconnection NOPR</a> NERC and the Regional Entities submitted comments on the Notice of Proposed Rulemaking (NOPR) regarding Improvements to Generator Interconnection Procedures and Agreements.	10/13/2022
RD23-1-000	<a href="#">Petition for Approval of Proposed Reliability Standards EOP-011-3 and EOP-012-1</a> NERC submitted a petition for approval of Reliability Standards EOP-011-3 and EOP-012-1 and requested expedited action.	10/28/2022
RM22-19-000	<a href="#">Advanced Cybersecurity Investment NOPR Comments</a> NERC and the Regional Entities submitted joint comments on the Notice of Proposed Rulemaking (NOPR) regarding Incentives for Advanced Cybersecurity Investment.	11/7/2022
RM05-17-000; RM05-25-000; RM06-16-000	<a href="#">2023-2025 Reliability Standards Development Plan</a> NERC submitted its Reliability Standards Development Plan (RSDP) for 2023-2025. 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.	11/30/2022
RM13-11-000	<a href="#">2022 Frequency Response Annual Analysis Report</a> NERC submitted its 2022 Frequency Response Annual Analysis report for the administration and support of Reliability Standard BAL-003-2 - Frequency Response and Frequency Bias Setting.	12/1/2022
RD23-3-000	<a href="#">Petition for Approval of Proposed Reliability Standard CIP-003-9</a> NERC submitted a Petition for Approval of Proposed Reliability Standard CIP-003-9.	12/6/2022
RM22-14-000	<a href="#">Reply Comments on Interconnection NOPR</a> NERC submitted reply comments to comments of the Electric Research Institute on the Notice of Proposed Rulemaking (NOPR) regarding Improvements to Generator Interconnection Procedures and Agreements.	12/14/2022
RD20-2-000	<a href="#">CIP SDT Schedule December Update Informational Filing</a> NERC submitted an informational filing as directed by FERC in its February 20, 2020 Order. This filing contains a status update on one	12/15/2022

	standard development project relating to the CIP Reliability Standards.	
RD23-1-000	<a href="#">Reply Comments to Petition for Approval of Reliability Standards EOP-011-3 and EOP-012-1</a> NERC submitted reply comments in response to comments filed regarding NERC's petition for approval of Reliability Standards EOP-011-3 and EOP-012-1.	12/16/2022



## FERC ISSUANCES

### October 1, 2022 – December 31, 2022

FERC Docket No.	Issuance Description	FERC Issuance Date
RM22-12-000	<p><a href="#">NOPR on Reliability Standards to Address Inverter-Based Resources</a></p> <p>FERC issued a Notice of Proposed Rulemaking (NOPR) proposing to direct NERC to develop new or modified Reliability Standards that address reliability gaps related to Inverter-Based Resources (IBRs): data sharing; model validation; planning and operational studies; and performance requirements.</p>	11/17/2022
RD22-5-000	<p><a href="#">Order Approving Reliability Standards FAC-001-4 and FAC-002-4</a></p> <p>FERC issued an order approving Reliability Standards FAC-001-4 and FAC-002-4.</p>	11/17/2022
RD22-4-000	<p><a href="#">Order on Registration of Inverter-Based Resources</a></p> <p>FERC issued an order directing NERC to submit a work plan within 90 days of the order issuance describing how it plans to identify and register owners and operators of all IBRs that are connected to the BPS.</p>	11/17/2022
RD23-2-000	<p><a href="#">Order Directing Report on CIP-014-3</a></p> <p>FERC issued an order directing NERC to conduct a study evaluating the effectiveness of Reliability Standard CIP-014-3 and submit the report within 120 days of the order date.</p>	12/15/2022
EL21-105-000	<p><a href="#">Order Denying Complaint</a></p> <p>FERC issued an order denying the Complaint of George Cotter seeking modifications to Critical Infrastructure Protection Reliability Standards.</p>	12/15/2022

## Chapter 3: Standards Committee Report

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### Summary

This report highlights some of the key activities of the Standards Committee (SC) during the fourth quarter of 2022.

At its October meeting, the SC:

- Authorized initial posting of proposed Reliability Standards IRO-010-5 and TOP-003-6 and the associated Implementation Plan for a 45-day formal comment period, with ballot pool formed in the first 30 days, and parallel initial ballots and non-binding polls on the Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs), conducted during the last 10 days of the comment period.
- Authorized initial posting of proposed Reliability Standard VAR-002-5 and the associated Implementation Plan for a 45-day formal comment period, with ballot pool formed in the first 30 days, and parallel initial ballot and non-binding polls for the Violation Risk Factors and Violation Severity Levels, conducted during the last 10 days of the comment period.
- Approved a waiver of provisions of the Standard Processes Manual (SPM) for Project 2016-02 Modifications to CIP Standards for the additional formal comment and ballot period(s) to be reduced from 45 days to no less than 20 calendar days with ballot(s) conducted during the last 10 days of the comment period.

The November SC meeting was cancelled due to lack of actionable items.

At its December meeting, the SC:

- Approved the Standards Committee (SC) 2023-2025 Strategic Work Plan.
- Appointed chair, vice chair, and members to the Project 2022-04 EMT Modeling Standard Authorization Request (SAR) drafting team (DT), as recommended by NERC staff.
- Authorized a 30-day solicitation for nominations period for the Project 2020-04 Modifications to CIP-012 Standard Drafting Team (SDT) to add additional members to the SDT.
- Discussed the Standards Process Stakeholder Engagement Group Recommendations (SPSEG) and NERC Board of Trustees resolutions in support of moving the SPSEG recommendations forward.

## **Compliance and Certification Committee (CCC) Board Report**

### **Action**

Approve the 2023 CCC Work Plan.

### **Summary**

To complete work associated with CCC activities scheduled to be resolved in 2022, the CCC met via WebEx on December 8 and approved the **2023 CCC Work Plan**. The document is intended to provide an overview of the critical activities and deliverables in 2023. It is also designed to be flexible enough to incorporate other assignments or responsibilities that may emerge during the year. The Work Plan is included in the Board package for final approval.

### **Preview of Upcoming Highlights from the First Quarter 2023 Meeting**

The CCC is pleased to welcome Marcus Freeman (Electricities of North Carolina) and Robert Hirschak (Cleco) as the Committee's newest members. Robert will officially assume his duties on February 1 in response to the departure of Keith Comeaux from the Committee at the end of January. We look forward to their active engagement in the coming three-year period of their term.

The CCC held its first quarter meeting at the offices of Cleco Corporation in Pineville, Louisiana, on February 1-2. The CCC Chair will provide key takeaways from the first quarter meeting during the CCC Chair oral report, including the following highlights:

- The Q1 Focused Discussion will address Program Alignment and Consistency, an issue that was formalized by the Board when it established the ERO Program Alignment Initiative in 2017. The ERO Enterprise Program Alignment Effort is "intended to enhance efforts to identify, prioritize, and resolve alignment issues across the ERO Enterprise." Industry response to this initiative measured by its use of the Consistency Reporting Tool has been significantly less than expected. The CCC will explore the reasons for this outcome through stakeholder feedback. The CCC intends to address the current state of the program alignment initiative more broadly within the ERO Enterprise. The timing of this conversation is important in light of the continued focus on effectiveness, efficiency, and agility across the ERO Enterprise.
- Additional conversation during the meeting will address the level of support needed by the CCC to implement Board directives related to the Standards Improvement Process. Areas expected to be addressed will include, but are not limited to, the role CCC members will hold as part of the Quality Review component of standards development. Generally, the CCC's goal is to ensure that the ERO Enterprise incorporates compliance, monitoring, and enforcement perspectives into various elements of the standards development process.

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# NERC Compliance and Certification Committee 2023 Work Plan

NERC Board Approval: February xx, 2023

Version Approved by CCC: December 08, 2022

**RELIABILITY | RESILIENCE | SECURITY**



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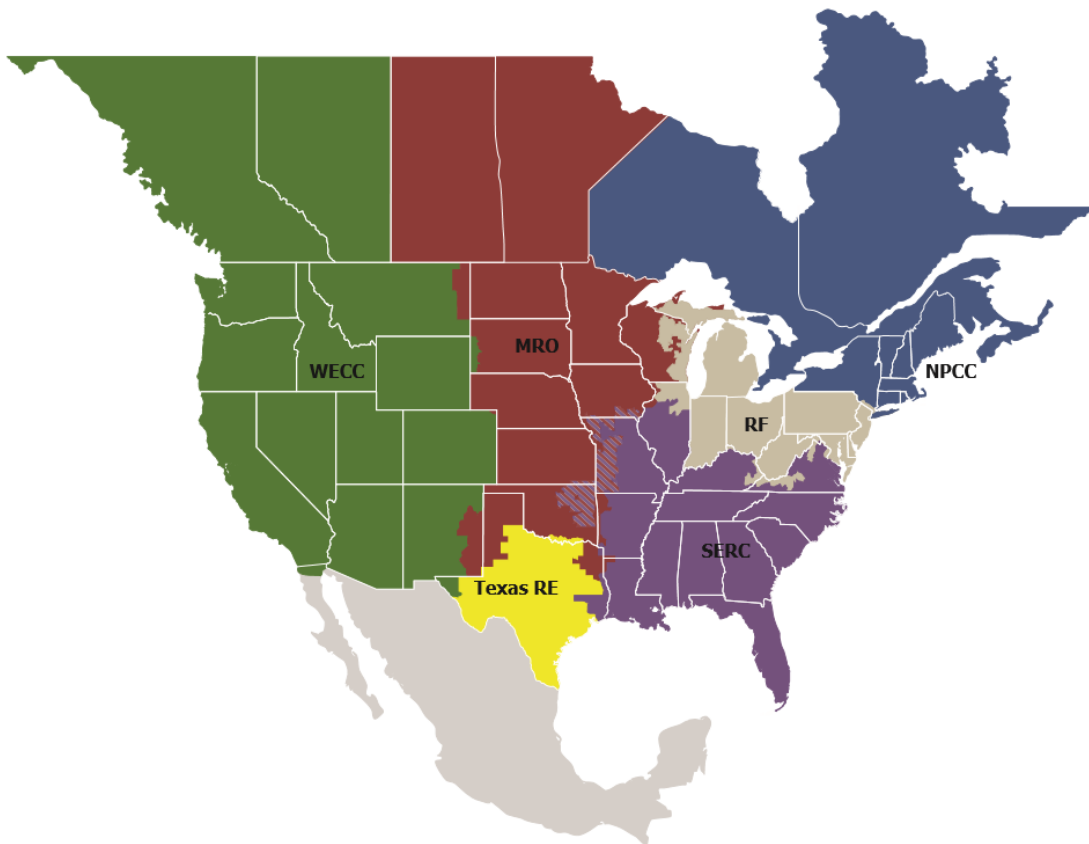
# Preface

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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 North Americans are counting on us*

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



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

## Executive Summary

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The purpose of this Work Plan is to identify the anticipated activities and deliverables of the NERC Compliance and Certification Committee (CCC) for 2023. 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 2023, the CCC will continue to work with 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 2023 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. In 2023, working with ERO Enterprise colleagues and the other NERC Committee colleagues, the expertise of the CCC will support review of Reliability Standards Authorization Requests (SAR) and leverage CMEP tools to better prioritize and address emerging risks to the bulk power system (BPS).
- 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 BPS. The CCC will also identify necessary actions based on stakeholder feedback as inputs to the NERC Board and management. In 2023, the CCC will support the development and provide feedback on any potential registration criteria changes.
- 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 E-ISAC success.
- 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 industry communities to ensure successful implementation of the ERO Enterprise programs (CMEP, ORCP and the Standards Process Manual (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 recommending modifications for improvements and associated changes to the NERC ROP and associated documents or processes. In 2023, 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

ongoing active participation in the Align User Group. 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 Reliability and Security Technical Committee (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 (SCCG) 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 information.



## Introduction

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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 2023 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: 2023 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	<b>Industry Collaboration and Communication</b>	<ul style="list-style-type: none"> <li>• Maintain direct involvement in the Standing Committees Coordination Group (SCCG)</li> <li>• Enhance communications and participation with industry groups with a focused plan for coordination</li> <li>• Participate as members of the Align User Group</li> <li>• 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</li> <li>• Create feedback loops with the Member Representatives Committee (MRC) and the Standards Committee (SC)</li> <li>• Build upon the successful deployment of the ERO Stakeholder Perceptions Program</li> <li>• Seek opportunities to create additional feedback loops with industry organizations as it relates to CMEP and ORCP activities</li> </ul>	CCC, CCC Subcommittees

<p>2</p>	<p><b>Enhancing CCC Program Efficiencies</b></p>	<ul style="list-style-type: none"> <li>• Continue evaluation of various activities and functions of subcommittees/working groups to determine ways to improve the effectiveness and efficiency of the CCC</li> <li>• Periodically review EROMS, ORCS, and Nominating Subcommittee Scopes</li> <li>• Explore opportunities to “cross train” across various CCC subcommittees</li> <li>• Consistent with CCCPP-010, 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</li> <li>• Hold CCC hearing training for CCC members</li> <li>• Identify collaboration opportunities for CCC members with NERC Standing Committees</li> </ul>	<p>CCC, CCC Subcommittees, NERC Standing Committees, NERC Management</p>
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## Chapter 2: 2023 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 ROP, 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	<b>Review and Update of CMEP and CCC Programs and Procedures</b>	<ul style="list-style-type: none"> <li>Review and monitor changes to the CMEP and other NERC initiatives that could require updates or changes to CCC programs and procedures</li> <li>Evaluate and review CCC Charter, including functions and responsibilities</li> <li>Evaluate and review potential ROP changes associated with CCC activities</li> <li>Explore opportunities to “cross-train” among subcommittees</li> </ul>	CCC, CCC Subcommittees, NERC Management
2	<b>Program Support Efforts (CMEP, Standards Development)</b>	<ul style="list-style-type: none"> <li>Identify and participate in risk-based compliance assurance outreach and feedback discussions</li> <li>Support outreach on internal controls</li> <li>Support rollout of key activities or program revisions as requested</li> <li>Partner with ERO Enterprise to provide feedback on RSAW development</li> <li>Provide feedback to the ERO Enterprise on CMEP Practice Guides</li> <li>Review stakeholder requests to become a pre-qualified entity to submit compliance implementation guidance</li> <li>Design and provide input on success criteria for Regional Entity adherence to ROP, Program adherence and Regional Delegated Agreement responsibilities (within Committee purview)</li> <li>Evaluate programs and associated ROP sections for necessary revisions as programs mature</li> <li>Evaluate alignment submissions and work with NERC management on proposed resolutions</li> </ul>	CCC, CCCEC, EROMS, NERC Management

Project #	Project Name	Activities	Resource(s)
3	<b>Assistance with Review of ERO documentation for ORCP</b>	<ul style="list-style-type: none"> <li>Support review of ERO documentation for ORCP to identify revisions and make recommendations as programs mature</li> </ul>	CCC, ORCS
4	<b>Monitor NERC’s adherence to the ROP</b>	<ul style="list-style-type: none"> <li>Support self-certification of CMEP, ORCP, and Standards Development and associated reporting</li> <li>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</li> <li>Develop criteria, process, and assessment of adherence to NERC ROP as a maturity project for effective ways to conduct risk-based reviews</li> </ul>	CCC, EROMS, NERC Internal Audit
5	<b>ERO Regional Entity CMEP Audits</b>	<ul style="list-style-type: none"> <li>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</li> </ul>	CCC, NERC Internal Audit
6	<b>Enterprise-wide Risk Committee (EWRC) Collaboration</b>	<ul style="list-style-type: none"> <li>Provide input to EWRC as requested</li> <li>Fulfill role with NERC Internal Audit</li> <li>Participate and support EWRC activities and discussions</li> <li>Participate in the annual ERO risk discussions with NERC Management as requested</li> </ul>	CCC Leadership, EWRC and ERO Enterprise Management, NERC Director, Internal Audits, Board Finance and Audit Committee
7	<b>NERC Reliability Issues Steering Committee (RISC) Collaboration</b>	<ul style="list-style-type: none"> <li>Provide input to existing risks, mitigation strategies, and emerging risk identification</li> <li>Participate and support RISC activities and discussions</li> </ul>	CCC Leadership, NERC Management

Project #	Project Name	Activities	Resource(s)
8	<b>ERO Enterprise Program Alignment</b>	<ul style="list-style-type: none"> <li>Address potential ERO program alignment issues to support success of CMEP and ORCP</li> <li>Assist NERC with screening of information, support further review of reported items, and provide suggested resolutions if warranted</li> </ul>	CCC, CCCEC, NERC Management
9	<b>Support of ERO Effectiveness</b>	<ul style="list-style-type: none"> <li>Manage ERO Enterprise stakeholder perception program</li> <li>Ensure that information gathered from industry provides insights useful to improve the efficiency and effectiveness of the ERO Enterprise programs</li> <li>Evaluate results of assessments and provide recommendations for the ERO Enterprise and the Board</li> <li>Support development efforts for assessments of ERO effectiveness</li> <li>Periodically solicit input from the industry, including the MRC</li> <li>Act as the hearing body where NERC is the Compliance Enforcement Authority and, as directed by the Board, serve as mediator between NERC and Regional Entities on CMEP disputes</li> </ul>	CCC, EROMS, NERC Management
10	<b>Stakeholder Collaboration</b>	<ul style="list-style-type: none"> <li>Identify industry stakeholder groups where CCC collaboration will strengthen ERO process and approach</li> <li>Participate in industry outreach as requested with ERO personnel on designated ERO topics</li> <li>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</li> </ul>	CCC, Stakeholder Committees

## Chapter 3: Ongoing Responsibilities - Details

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### 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 EROMS 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 EROMS 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 effectiveness of the 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).
  - CCC ORCS participates in Functional Mapping Focus Group.
- Review and provide suggestions for improvement to the 2023 Organization Certification Program activities.

## **Project 4 — Monitor NERC’s Adherence to ROP**

- 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.
- 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 5 — Regional Entity CMEP Audits**

- Consistent with CCCPP-012, work with 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 6 — 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 7 — 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 8 – 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 9 – 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 10 – 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: 2023 CCC Work Plan - Deliverables

The tables below summarize the list of CCC work plan deliverables for projects in 2023.

	Project Name	Deliverable	Schedule
1	<b>Enhancing Program Efficiencies</b>	<ul style="list-style-type: none"> <li>• Support ERO 102 training development</li> <li>• Consider potential efficiencies regarding registration and certification</li> <li>• Work with NERC staff to review, and update if needed, registration criteria</li> <li>• Support review of Practice Guides and work with ERO staff on intended use across Regions</li> <li>• In partnership with ERO Staff, review current practices and processes related to Implementation Guidance and make adjustments where needed</li> <li>• Update to the CCC new member training materials</li> <li>• Review and efficiency changes to the CCC webpage on NERC.com</li> </ul>	<p>Q4 2023 (ORCS)</p> <p>Q1-Q4, 2023 (CCC Executive Committee)</p> <p>Q4 2023 (Nominating Subcommittee)</p>
2	<b>Review and Update of CMEP and CCC Programs and Procedures</b>	<ul style="list-style-type: none"> <li>• Review all CCC procedures and update as needed per EROMS schedule</li> <li>• Review CCC Charter, EROMS and ORCS scopes and update as needed</li> <li>• Review and document understanding of governance and clarify role of the CCC with respect to Canada</li> </ul>	<p>Q4 2023 (CCC, EROMS, ORCS)</p>

	Project Name	Deliverable	Schedule
3	<b>ERO Regional Entity CMEP Audits</b>	<ul style="list-style-type: none"> <li>Support NERC Internal Audit’s review of the six regional entities, in accordance with CCCPP-012, as needed, including any follow-up from 2022 audits.</li> <li>This will include finalizing the scope and audit procedures, and the use of CCC members as audit observers.</li> </ul>	Q4-2023
4	<b>Enterprise-wide Risk Collaboration</b>	<ul style="list-style-type: none"> <li>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 ROP.</li> <li>Provide summary findings related to ERO Stakeholder Perceptions conducted by CCC.</li> <li>Share draft report with EWRC in Q1 and provide final report in Q2</li> </ul>	Q1-Q4 2023
5	<b>ERO Program Alignment</b>	<ul style="list-style-type: none"> <li>Periodic reports regarding the effectiveness of the ERO Program Alignment Initiative and Reporting Tool (with NERC management).</li> <li>Review with NERC staff issues received and resolutions to date</li> </ul>	Q2 and Q4 2023 (CCC Executive Committee)
6	<b>Support of ERO Program Effectiveness</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Provide summary findings related to ERO Stakeholder Perceptions conducted by CCC.</li> <li>Support activities associated with direction provided from the NERC Board to implement recommendations associated with the November 2022 Standards Process Engagement Stakeholder Group Proposal.</li> </ul>	Q1 – Q4 2023 (EROMS)

	Project Name	Deliverable	Schedule
7	<b>Stakeholder Collaboration</b>	<ul style="list-style-type: none"> <li>• With assistance from the CCC Subcommittees and 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.</li> <li>• Ensure that a robust set of stakeholder feedback is fully incorporated into the Committee’s work related to Stakeholder Perceptions, consistent with CCCPP-008.</li> <li>• Collaborate with NERC Standing Committees and ERO Enterprise leadership to facilitate solutions, enhance program efficiency, effectiveness, and agility.</li> <li>• Support review of SAR to help prioritize emerging issues</li> </ul>	Q1-Q4 2023

## Chapter 5: Logistics and NERC Budget Requirements for CCC Activities

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The ongoing COVID-19 pandemic dramatically changed how the entire industry performed work in 2020 and 2021. Uncertainty remained in 2022 with respect to the types of meetings and the potential venues for CCC-related meetings, thus the CCC conducted hybrid meetings, including in-person and WebEx options. Travel restrictions may continue in 2023. It is the intent of the CCC to ensure that all CCC members are able to fully participate. To that end, CCC meetings and related activities will be in-person with a WebEx option available.

### **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

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### Revision History

Date	Version Number	Comments
November 29, 2022	1	CCC Executive Committee Review
December 08, 2022	1	CCC Review and Approval
February XX, 2023	1	Board Approval

## **Reliability and Security Technical Committee Report**

### **Action**

Approve the RSTC 2023 Strategic Work Plan.

### **RSTC Strategic Plan**

The NERC Reliability and Security Technical Committee (RSTC) is a stakeholder committee chartered by the NERC Board of Trustees (Board) to proactively support the NERC ERO Enterprise's mission. The RSTC, in accordance with its charter, will develop and maintain a two-year strategic plan and an associated work plan to carry out the functions of the committee:

- Ensure alignment of the strategic work plan with ERO reports and analyses, including the NERC Business Plan and Budget, ERO Enterprise Long-Term Strategy, biennial Reliability Issues Steering Committee (RISC) ERO Reliability Risk Priorities report, State of Reliability report recommendations, Long Term, Seasonal and Special Reliability Assessment recommendations, and ongoing event analysis trends;
- Coordinate the objectives in the strategic work plan with the Standing Committees Coordinating Group; and,
- Obtain annual NERC Board approval.

This strategic plan guides the functions and core mission of the RSTC, providing a sustainable set of expectations and deliverables for the RSTC to assess and enhance reliability, resilience, and security of the BPS. The RSTC engages in the identification and communication of reliability risks along with potential mitigation strategies. These activities will include close coordination with the RISC as well as taking steps to create industry wide awareness. This strategic plan will not remain static throughout a two-year timeframe. Rather, it is crucial that the plan retain the flexibility to address emerging issues. The RSTC will annually review the goals and specific items or as necessary.

This two-year plan, along with its goals and measures, is typically reviewed during the December RSTC meeting, and enhancements to the plan will be made and presented to the NERC Board each year in accordance with the Charter as required to achieve the goal of promoting reliability, resilience, and security.

### **RSTC Highlights**

The RSTC held meetings on December 6-7, 2022 via WebEx. The following are highlights from the meeting:

The RSTC approved:

- System Protection and Control Working Group (SPCWG) Scope Document
- Resources Subcommittee (RS) Scope Document
- Technical Reference Document Load Composition Analysis
- Whitepaper on Transient Voltage Response (TVR) Criteria

- Supply Chain Working Group (SCWG) Security Guidelines:
- Supply Chain Secure Equipment Delivery
- Cyber Security Risk Management Lifecycle
- Open Source Software
- White Paper: Battery Energy Storage and Multiple types of DER Modeling
- Reliability Guideline: Parameterization of the DER\_A Model for Aggregate DER
- White Paper: Cybersecurity for Distributed Energy Resources and DER Aggregators

The RSTC approved the RSTC Subordinate Group Review Team Recommendations. The following groups provided work plan and technical justification to retain the group in their current form:

- Electric Gas Working Group
- EMP Working Group
- Load Modeling Working Group
- Security Working Group
- Supply Chain Working Group
- SPIDER Working Group
- System Protection and Control Working Group

The Energy Reliability Assessment Task Force (ERATF) recommended that it should be promoted to a working group and the review team requested additional justification to be presented at the March 2023 meeting for final action.

RSTC reviewers were solicited to review the following documents:

- SPIDERWG: Standards Authorization Requests - FAC-001 and FAC-002 Standards
- SITES: Whitepaper: Zero Trust
- SWG: BCSI in the Cloud Tabletop Exercise (Technical Reference)

The RSTC endorsed Standard Authorization Requests:

- Analysis and Mitigation of BES Inverter-Based Resource Performance Issues
- EOP-004-4 Event Reporting Alignment with Inverter-Based Resource Performance Issues

The RSTC Work Plan Summit January 31-February 2

- Review RSTC work plan items for risk mitigation and coordination between groups
- Review mitigation plans for risks identified in the RISC Report and the Joint FERC/NERC Cold Weather report



## **Future Actions**

- March 21-23, 2023 open meeting
  - Review RSTC Work Plan for 2023
  - Act on Endorsement request for two SARs

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Reliability and Security Technical Committee

2023-2024 Strategic Plan

January 2023

**RELIABILITY | RESILIENCE | SECURITY**



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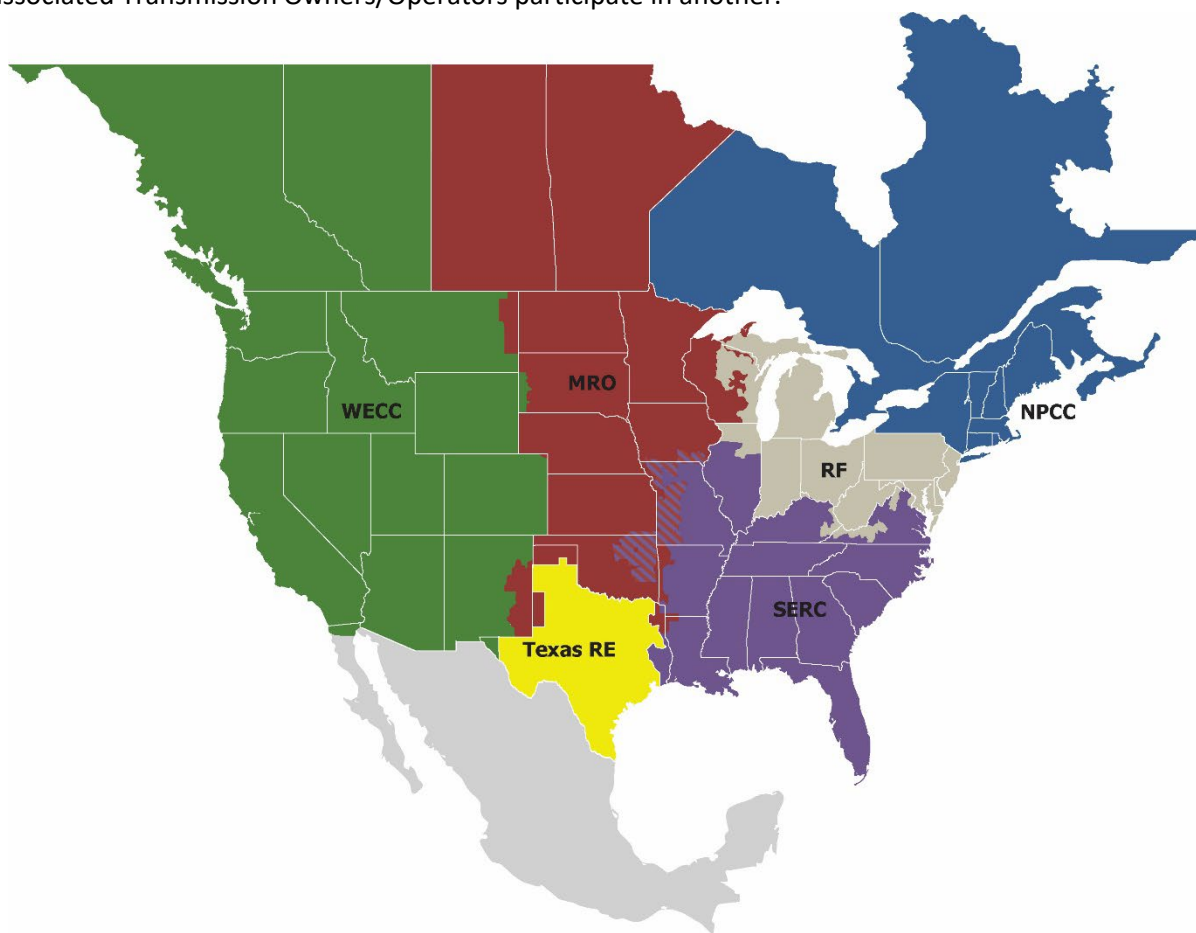
## Preface

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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, 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 Regional Entity boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one Regional Entity while associated Transmission Owners/Operators participate in another.



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

# Introduction

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The NERC Reliability and Security Technical Committee (RSTC) is a stakeholder committee chartered by the NERC Board of Trustees (Board) to proactively support the NERC ERO Enterprise's mission. The RSTC, in accordance with its charter, will develop and maintain a two-year strategic plan and an associated work plan to carry out the functions of the committee:

- Ensure alignment of the strategic work plan with ERO reports and analyses, including the NERC Business Plan and Budget, ERO Enterprise Long-Term Strategy, biennial Reliability Issues Steering Committee (RISC) ERO Reliability Risk Priorities report, State of Reliability report recommendations, Long Term, Seasonal and Special Reliability Assessment recommendations, and ongoing event analysis trends;
- Coordinate the objectives in the strategic work plan with the Standing Committees Coordinating Group; and,
- Obtain annual NERC Board approval.

This strategic plan guides the functions and core mission of the RSTC, providing a sustainable set of expectations and deliverables for the RSTC to assess and enhance reliability, resilience, and security of the BPS. The RSTC engages in the identification and communication of reliability risks along with potential mitigation strategies. These activities will include close coordination with the RISC as well as taking steps to create industry wide awareness. This strategic plan will not remain static throughout a two-year timeframe. Rather, it is crucial that the plan retain the flexibility to address emerging issues. The RSTC will annually review the goals and specific items or as necessary.

This two-year plan, along with its goals and measures, is typically reviewed during the December RSTC meeting, and enhancements to the plan will be made and presented to the NERC Board each year in accordance with the Charter as required to achieve the goal of promoting reliability, resilience, and security.

# Chapter 1: Mission, Vision, and Guiding Principles

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## Mission

Ensure the reliability and security of the bulk-power system by identifying critical risks and deploying effective and efficient risk mitigations.

## Vision

The RSTC is the premier technical authority on BPS reliability, resilience, and security, and its effectiveness stems from the stakeholder members that command deep technical knowledge, broad industry experience, and a collective duty to ensure the reliability of the bulk-power system.

## Guiding Principles

The following principles serve to guide our practices:

- Coordinate with the RISC on priorities to align the RSTC strategic plan with ERO's strategic plan.
- Maintain a focus on identification, analyses, and mitigation of existing and emerging reliability, resilience, and security risks.
- Support the Board-approved annual Work Plan Objectives
- Continually strive for the development and dissemination of high-quality lessons learned through event analysis (EA), emerging cause code trending, and information sharing.
- Maintain relationships with other NERC standing committees (e.g. support the Standing Committee Coordinating Group), NERC Forums, and industry trade groups (e.g. NATF, IEEE).
- Maintain and enhance reliability, resilience, and security through the pursuit of clear NERC Reliability Standard Authorization Requests, Reliability Standards, Reliability Guidelines, Security Guidelines, Technical Reference Documents, NERC Alerts, Interpretations, lessons learned, and compliance clarifications.
- Maintain high levels of industry specific expertise to provide sound conclusions and opinions on operating, planning and security issues.
- Incorporate a planning, operations and security perspective into NERC reports issued to industry.
- Deliver technically sound and accurate analyses, assessments, and recommendations;
- Identify critical emerging issues and trends that could potentially have reliability impacts in the near term and long term.
- Ensure the facts are unbiased and not providing an advocacy of policy matters;
- Promote coordination effectiveness across the NERC ERO Enterprise;
- Ensure continued provision of high levels of expertise, technically sound conclusions, and timely results/deliverables;
- Ensure the RSTC structure, processes and procedures, its working relationships with other technical standing committees, its working groups and task forces are focused on the highest priorities for reliability, resilience and security within the ERO enterprise;

## Chapter 2: RSTC Strategic Planning Process

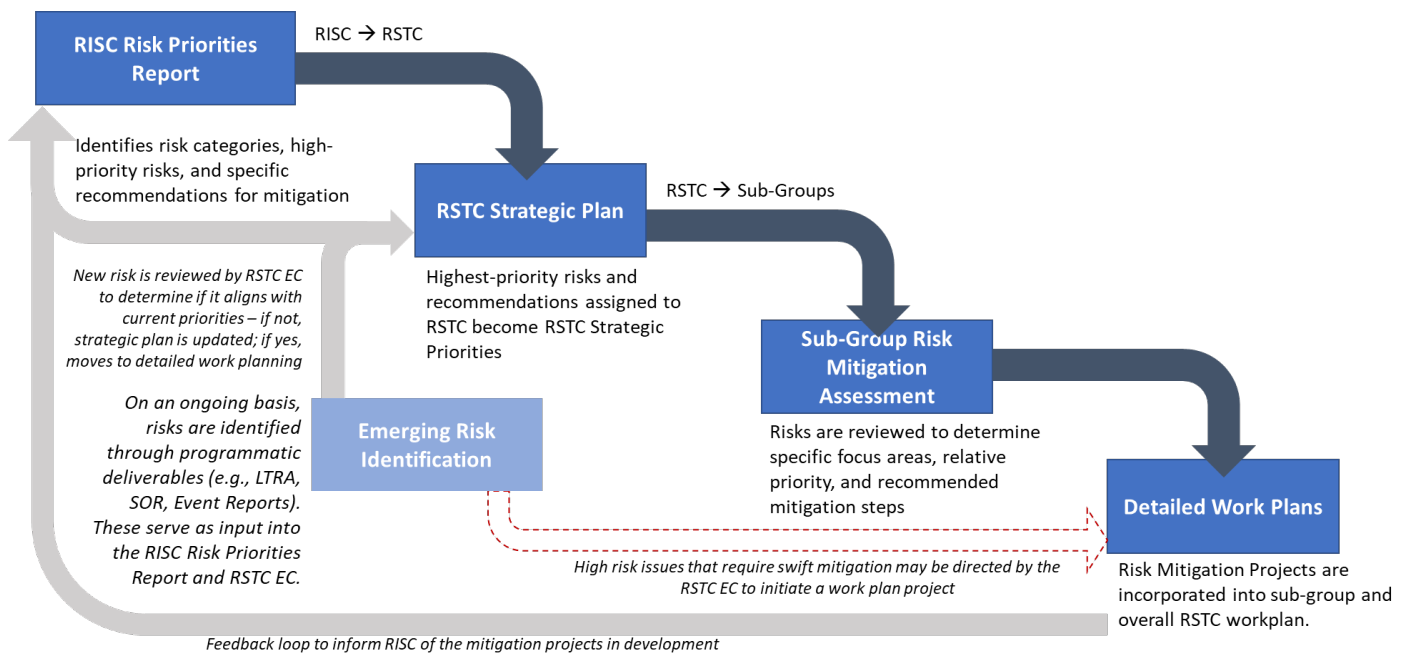
The RSTC Strategic Planning Process ensures high priority risks are systematically addressed by the RSTC using a common framework for decision-making with broad concurrence, as well as ensuring all committee members and stakeholders have clear expectations on how the RSTC plans to meet its objectives.

Following the issuance of the RISC report, a Strategic Planning group convenes to conduct the 2-year Strategic Planning Process

The Strategic Planning Process begins with the latest version of the RISC’s Risk Priorities report, which presents the results of strategically defined and prioritized risks, as well as specific recommendations for mitigation. The RSTC provides input into the development of this report and the RISC’s risk assessment through a variety of mechanisms, including reliability assessments and event reports.

The RSTC Strategic Plan (this document) then aligns the highest-priority risks and recommendations from the Risk Priorities Report and with the priorities outlined for the RSTC over the next two years. Additional priorities based on high-priority emerging risks identified by the RSTC may be included within the 2-year Strategic Plan (as determined by the RSTC’s Executive Committee).

Once all priorities are identified for the RSTC, specific risks are identified and RSTC subgroups determine the recommended mitigation steps. These risk mitigation projects, along with programmatic actions, then comprise the detailed RSTC Work Plan. Many of the identified risks share interdependencies that will be considered in the development of the work plan.



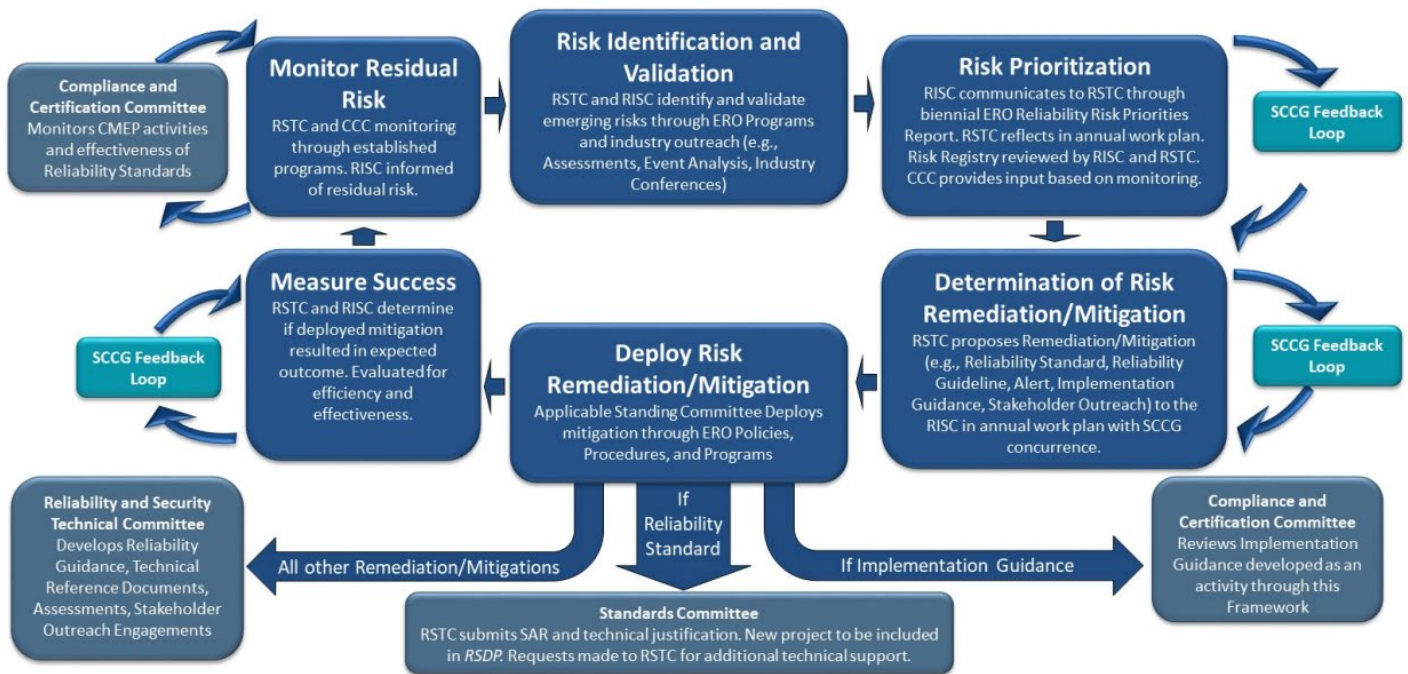
**Figure 1: RSTC Strategic Planning Process Flow Chart**

## RSTC Strategic Plan Role in Risk Mitigation

The RSTC provides expertise in reliability, resilience, and security, and plays a key role in the mitigation of reliability, resilience, and security risks. As identified in the RISC’s Framework<sup>1</sup> for Risk Mitigation, the RSTC is responsible for all steps of the framework, including: Risk Identification and Validation, Risk Prioritization, Determination of Risk Remediation/Mitigation, Deploying Risk Remediation/Mitigation, Measure Success, and Monitor Residual Risk. Therefore, the strategic plan includes key activities to support each of these steps.

The Risk Mitigation Framework guides the ERO in the prioritization of risks and provides guidance on the application of ERO policies, procedures, and programs to inform resource allocation and project prioritization in the mitigation of those risks. Additionally, the framework accommodates measuring residual risk after mitigation that enables the ERO to evaluate the success of its efforts in mitigating risk and provides a necessary feedback mechanism for future prioritization, mitigation efforts, and program improvements.

The successful reduction of risk is a collaborative process between the ERO, industry, and the technical committees including the RSTC and the RISC. The framework provides a transparent process using industry experts in parallel with ERO experts throughout the process—from risk identification and deployment of mitigation strategies to monitoring the success of these mitigations.



**Figure 2: ERO Mitigation Framework for Known and Emerging Reliability Risks**

The RSTC’s Notional Work Plan Process<sup>2</sup> provides a detailed review of each step and how the RSTC supports and actively contributes to the risk mitigation framework. The following table summarizes how the RSTC performs each step and the expected deliverables that support the Risk Mitigation Framework:

<sup>1</sup> [https://www.nerc.com/comm/RISC/Related%20Files%20DL/Framework-Address%20Known-Emerging%20Reliabilit-Securit%20%20Risks\\_ERRATTA\\_V1.pdf](https://www.nerc.com/comm/RISC/Related%20Files%20DL/Framework-Address%20Known-Emerging%20Reliabilit-Securit%20%20Risks_ERRATTA_V1.pdf)

<sup>2</sup> [https://www.nerc.com/comm/RSTC/Documents/RSTC%20Work%20Plan%20Notional%20Process\\_Approved\\_Sept\\_2020.pdf](https://www.nerc.com/comm/RSTC/Documents/RSTC%20Work%20Plan%20Notional%20Process_Approved_Sept_2020.pdf)



Risk Mitigation Framework Steps	RSTC Role	RSTC Deliverable Type
<b>1. Risk Identification and Validation</b>	RSTC identifies and validates risks through its performance, event, and future technical analysis and assessments	<ul style="list-style-type: none"> <li>● Identification and Monitoring                             <ul style="list-style-type: none"> <li>▪ Long-Term and Seasonal Reliability Assessments</li> <li>▪ Special Assessments</li> <li>▪ Event and Disturbance Reports</li> <li>▪ State of Reliability Report</li> <li>▪ Other reliability/security indicators, whitepapers, gap assessments</li> </ul> </li> </ul>
<b>2. Risk Prioritization</b>	RSTC provides support and consulting to the RISC prioritization and risk ranking actions.	
<b>3. Determination of Risk Remediation/Mitigation</b>	RSTC proposes remediation/mitigation	<ul style="list-style-type: none"> <li>● RSTC Biennial Strategic Plan</li> </ul>
<b>4. Deploying Risk Remediation/Mitigation</b>	RSTC develops and deploys remediation/mitigation	<ul style="list-style-type: none"> <li>● RSTC Work Plan                             <ul style="list-style-type: none"> <li>▪ Standard Authorization Requests – SAR</li> <li>▪ Reliability/Security Guidelines</li> <li>▪ Compliance Guidance</li> <li>▪ Reliability and Security Assessments</li> <li>▪ Stakeholder Outreach</li> <li>▪ Technical Reference Document</li> <li>▪ NERC Alert</li> </ul> </li> </ul>
<b>5. Measure Success</b>	RSTC ensures an approach to measure the effectiveness of the risk remediation/mitigation and deploys it. Measurement approach should be included in the approval of the deployed remediation/mitigation.	<ul style="list-style-type: none"> <li>● Identification and Monitoring                             <ul style="list-style-type: none"> <li>▪ State of Reliability Report</li> <li>▪ Event and Disturbance Reports</li> <li>▪ Special/Specific Reliability and Security Indicators</li> </ul> </li> </ul>
<b>6. Monitor Residual Risk</b>	RSTC monitors residual risk through established programs.	<ul style="list-style-type: none"> <li>● Identification and Monitoring                             <ul style="list-style-type: none"> <li>▪ Long-Term, Seasonal, and Special Reliability and Security Assessments</li> <li>▪ Event and Disturbance Reports</li> <li>▪ State of Reliability Report</li> </ul> </li> </ul>

Risk Mitigation Framework Steps	RSTC Role	RSTC Deliverable Type
		<ul style="list-style-type: none"> <li>▪ Other reliability and security indicators and whitepapers</li> </ul>

**Determination of Risk Remediation/Mitigation**

Technical group, RSTC EC, and Sponsors discuss the reliability/resilience issues, technical justification, and consider possible solutions. Potential outcomes or solutions include deliverables in the RSTC Charter such as white papers, reference documents, technical reports, reliability guidelines, SARs and compliance implementation guidance. Other potential solutions are contained in NERC Rules of Procedure (RoP), ERO Event Analysis Process, NERC Alerts, and other risk management measures. Finally, the RSTC EC authorizes tasks to be added to the RSTC Work Plan (which could include collaboration with other groups), rejects proposed tasks, or refers matter(s) to the RSTC for further discussion.

## Chapter 3: Strategic Objectives and Priorities

---

The RSTC's strategic objectives provide a bridge between the RSTC's mission and vision, and the annual goals and work plan deliverables needed to achieve them. The strategic objectives of the RSTC provide clear expectations of the goals and deliverables of the committee and its subgroups, and are not expected to change often. However, the risk priorities and the expected work products may change, as needed. The five strategic objectives of the RSTC are:

1. Drive effective mitigation actions against emerging and established reliability and security risks, specifically targeting risk priorities.
2. Promote and increase stakeholder and regulator engagement and awareness.
3. Learn from events and past performance trends and deploy mitigation.
4. Identify and assess long-term planning and emerging reliability and security risks.
5. Make recommendations and develop solutions that support technology and security integration into BPS planning and operations.

To achieve these objectives, the RSTC uses its subgroups (subcommittees, task forces, and working groups) to develop its work products. The subgroups are organized under three groupings: Performance Monitoring, Risk Mitigation, and Reliability and Security Assessment.

There are two types of key projects included in the RSTC work plan to support these five strategic objectives:

1. **Programmatic:** Periodic, cyclical, or continuous actions, deliverables, and processes that support the identification, prioritization, and monitoring of reliability risks. The RSTC's **Performance Monitoring** and **Reliability and Security Assessment** subgroups primarily serve to support programmatic strategic objectives.
2. **Priority Risk:** Targeted and focused actions to identify and develop specific reliability risk mitigations. The RSTC's **Risk Mitigation** subgroups primarily serve to support the risk priority mitigation objectives. This also includes emerging risks identified between strategic planning periods (from assessments, disturbance reports, etc.).

### Programmatic

1. **Identify key areas of concern, trends, and emerging reliability issues by periodically assessing system reliability and performance.**

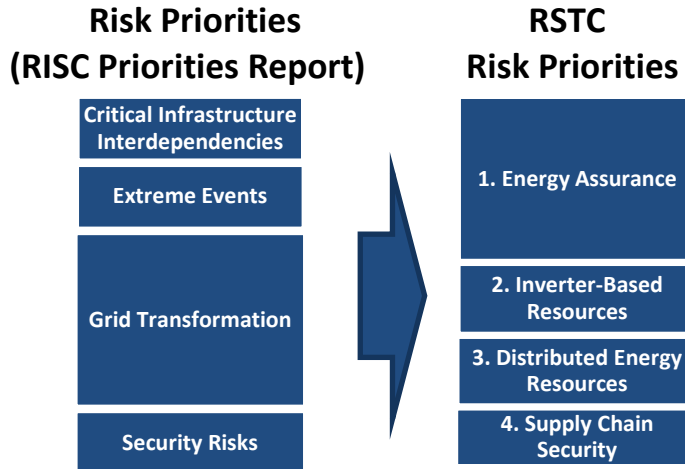
The RSTC will focus on developing reliability assessments, evaluations, and studies, and extracting insights to identify reliability, resilience and security risks. By identifying and quantifying emerging these risks, the RSTC is able to craft risk-informed recommendations and provide the basis for actionable risk mitigations. The RSTC supports this process primarily through the Reliability Assessment Subcommittee (RAS), Performance Analysis Subcommittee (PAS), and Resources Subcommittee (RS). Primary deliverables include:

- **Long-Term Reliability Assessment (annually):** 10-year outlook of resource and energy adequacy, resource and transmission projections, and leading indicators. Emerging reliability and security integration issues are identified.
- **Seasonal Reliability Assessments (annually):** Summer and winter season operational outlook, projection, and leading indicators.
- **Special Reliability Assessments (ad-hoc):** topical technical evaluation of a specified reliability risk.
- **State of Reliability Report (annually):** Historical performance, evaluating 5-year (or longer) trends, indicators, and lagging metrics.

- **Frequency Response Annual Analysis (annually):** Historical performance of frequency response and per a Federal Energy Regulatory Commission (FERC), Canadian Federal or Provincial directive.
- 2. Identify lessons learned and trends based on system events and make recommendations for improvement.**
- The RSTC will focus on event prevention or mitigation by supporting and continually enhancing the ERO’s EA program to ensure a comprehensive process, as well as rapidly developing and disseminating lessons learned. Through the Event Analysis Subcommittee (EAS), the RSTC approves any changes to the EA Process and reviews periodic event reports and lessons learned. Any mitigation actions for the ERO to pursue or recommendations for industry can result in additions to the RSTC work plan and, depending on the outcomes of the risk assessment, may be added to the strategic objectives. Primary deliverables include:
- **Event and Disturbance Reports (*ad-hoc*):** Event reports detail specific details and root causes of BPS events. The EA Process is approved by EAS, and individual reports are published by the ERO and serve as input to the RSTC.
  - **Lessons Learned (*ad-hoc*):** Identified best practice or revealing reliability risk based on an event or group of events. Lessons Learned documents are published by the ERO and serve as input to the RSTC.
- 3. Promote and increase stakeholder engagement and awareness of reliability risks.**
- The RSTC will continue to promote outreach to stakeholder and policy making organizations on reliability, resilience, and security matters through webinars and in-person conferences, workshops, and other mediums to deliver content and reliability messages. The RSTC will leverage strong relationships with industry groups, such as NERC’s Forums (e.g. NATF, NAGF), IEEE, and EPRI as well as regulatory and governmental authorities, to target specific technical areas of concern and work together on industry outreach. Primary engagements include:
- **Reliability Conferences and Workshops (*ad-hoc*):** Convene industry to share and exchange ideas and practices that promote reliability in a variety of technical areas. Conferences can support the RSTC’s mission by “creating a forum for aggregating ideas and interests, drawing from diverse industry stakeholder expertise, to support the ERO Enterprise's mission.”
  - **Webinars (*ad-hoc*):** Virtual information sharing and exchange provides opportunities to quickly engage industry and achieve our collaboration goals. Webinars serve an integral function of providing insight and guidance by disseminating valuable reliability information to owners, operators, and users of the BPS.

## Priority Risks

Based on the Risk Priorities identified by the RISC, the RSTC has identified four strategic priorities: 1) energy assurance, 2) inverter-based resources, 3) distributed energy resources, and 4) supply chain security. Cyber security is integral to each of these strategic priorities.



Future actions by the RSTC on the Risk Priorities are focused on the risk mitigation and deployment parts of the Framework for Risk Mitigation. Through this strategic plan, primary subgroups are identified and tasked with identifying risk mitigation solutions (e.g., Reliability Standard, Reliability/Security Guideline) and working with the RSTC EC and subgroup sponsors to add the risk mitigation projects to the RSTC Work Plan. The RSTC EC authorizes projects to be added to the RSTC Work Plan (which could include collaboration with other groups), rejects proposed tasks, or refers matter(s) to the RSTC for further discussion. For each RSTC Risk Priority, a 2-Year plan is detailed below indicating strategic direction, specific risks, mitigation approaches, and the relative priority.

## 1. Energy Assurance

Unassured fuel supplies, including the timing and inconsistent output from variable renewable energy resources, fuel location, and volatility in forecasted load, can result in insufficient amounts of energy on the system to serve electrical demand and ensure the reliable operation of the BPS throughout the year.<sup>3</sup> The RSTC and its subgroups will ensure modeling requirements include needed information and data to support valid and accurate modeling and representation to enable reliable operations of BPS, as well as resource and energy planning.

The RSTC will develop methods, processes, tools, and/or SARs that are needed to address energy security – factoring in extreme events and critical infrastructure interdependencies.

RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
Insufficient assessment of energy supplies to ensure operational awareness and energy availability.	<ul style="list-style-type: none"> <li>Modeling and data sharing requirements</li> <li>System Operations</li> <li>Probabilistic resource planning</li> </ul>	ERATF RAS RTOS	<ul style="list-style-type: none"> <li>SAR for Reliability Standards (submitted in 2022)</li> </ul>	<ul style="list-style-type: none"> <li>Provide technical support to the Standards Drafting Team</li> <li>Enhancement to Reliability Assessment Process</li> </ul>
Insufficient assessment of energy supplies to evaluate resource requirements in the long-term planning horizon.	<ul style="list-style-type: none"> <li>Modeling and data sharing requirements</li> <li>Probabilistic resource planning</li> </ul>	ERATF RAS PAWG	<ul style="list-style-type: none"> <li>SAR for Reliability Standards (submitted in 2022)</li> </ul>	<ul style="list-style-type: none"> <li>Provide technical support to the Standards Drafting Team</li> <li>Enhancement to Reliability Assessment Process</li> </ul>

<sup>3</sup> <https://www.nerc.com/comm/RSTC/ERATF/ERATF%20Energy%20Adequacy%20White%20Paper.pdf>

## 2. Inverter-Based Resources

The electric power grid in North America is undergoing a significant transformation in technology, design, control, planning, and operation. These changes are occurring more rapidly than ever before. Particularly, technological advances in inverter-based resources are having a major impact on generation, transmission, and distribution systems. The speed of this change continues to challenge grid planners, operators, and protection engineers. Implemented correctly, inverter-based technology can provide significant benefits for the BPS; however, events have shown that the new technology can introduce significant risks if not integrated properly. Further attention is needed to settings of controllable devices, protective relays, remedial action schemes, and power electronics installed to stabilize the system. FERC also published two issuances in November of 2022 pertaining to inverter-based resources and their reliable integration into the BPS.

The ERO has established a strategy that outlines steps NERC and the Regional Entities will take to mitigate risks associated with the integration of large amounts of IBR.<sup>4</sup> The RSTC will support this strategy by focusing on the improvement of IBR interconnection, planning studies, and operations, as well as staying abreast of new inverter technologies and risks. Over the next two years, the RSTC will be focused on determining the risk mitigations for some risks, while developing and deploying risk mitigations for others.

RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
Insufficient or inaccurate modeling, data, and/or study requirements to ensure adequate planning, protection, and operation of the BPS	<ul style="list-style-type: none"> <li>Modeling and data sharing requirements</li> <li>Systemic modeling errors in positive sequence dynamic models</li> </ul>	IRPS EAS PAS RTOS SPCWG RAS RS ERATF SITES	<ul style="list-style-type: none"> <li>Reliability Guideline</li> <li>SAR</li> </ul>	<ul style="list-style-type: none"> <li>Reliability Guidelines                             <ul style="list-style-type: none"> <li>Interconnection Studies Guideline</li> </ul> </li> <li>MOD-032 action plan</li> <li>Technical support to Standards Drafting Teams                             <ul style="list-style-type: none"> <li>EMT Modeling SDT (submitted 2022)</li> <li>PRC-024 SDT</li> </ul> </li> </ul>
Insufficient evaluation of the potential impacts of IBRs by planning authorities	<ul style="list-style-type: none"> <li>Long-term planning studies</li> </ul>	IRPS	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Technical support to Standards Drafting Teams                             <ul style="list-style-type: none"> <li>EMT Modeling SDT (submitted 2022)</li> </ul> </li> <li>Reliability Guidelines</li> <li>EMT Modeling (2023)</li> </ul>

<sup>4</sup> [https://www.nerc.com/comm/Documents/NERC\\_IBR\\_Strategy.pdf](https://www.nerc.com/comm/Documents/NERC_IBR_Strategy.pdf)

RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
Insufficient evaluation of the potential impacts of IBRs by Reliability Coordinators and Balancing Authorities	<ul style="list-style-type: none"> <li>Real-Time Assessments</li> </ul>	<p>RTOS</p> <p>EAS</p>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Technical support to Standards Drafting Teams</li> <li>Reliability Guidelines</li> <li>White Paper</li> </ul>
Insufficient interconnection requirements or inability to enforce interconnection requirements for IBRs	<ul style="list-style-type: none"> <li>Inaccurate models and insufficient studies for IBR interconnections</li> <li>Abnormal performance issues with IBRs</li> </ul>	<p>IRPS</p> <p>RS</p>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>SAR for Reliability Standard                             <ul style="list-style-type: none"> <li>FAC-001/FAC-002 SAR (2023)</li> </ul> </li> </ul>
Enhancements needed for identification of IBR events	<ul style="list-style-type: none"> <li>Event analysis</li> </ul>	<p>IRPS</p> <p>RS</p>	<ul style="list-style-type: none"> <li>Gap analysis of emerging risks not addressed by Reliability Standards</li> </ul>	<ul style="list-style-type: none"> <li>SAR for Reliability Standard</li> <li>EOP-004 SAR (December 2022)</li> </ul>
Need for electromagnetic modeling and studies for IBRs	<ul style="list-style-type: none"> <li>IBR modeling and studies</li> </ul>	<p>IRPS</p>	<ul style="list-style-type: none"> <li>Reliability Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Reliability Guidelines                             <ul style="list-style-type: none"> <li>EMT Modeling (2023)</li> </ul> </li> </ul>
Inadequate analysis of abnormal performance issues by IBR GOs	<ul style="list-style-type: none"> <li>Post-event performance validation</li> </ul>	<p>IRPS</p> <p>RS</p> <p>PAS</p>	<ul style="list-style-type: none"> <li>SAR for Reliability Standard (submitted in 2022)</li> </ul>	<ul style="list-style-type: none"> <li>SAR for Reliability Standard                             <ul style="list-style-type: none"> <li>Proposed new standard (December 2022)</li> </ul> </li> </ul>
Growing need for grid forming inverter technology	<ul style="list-style-type: none"> <li>Changing resource mix</li> <li>Grid transformation</li> </ul>	<p>IRPS</p>	<ul style="list-style-type: none"> <li>White Paper</li> </ul>	<ul style="list-style-type: none"> <li>White Paper                             <ul style="list-style-type: none"> <li>Grid Forming for BESS Paper</li> </ul> </li> </ul>
Need for enhanced commissioning practices	<ul style="list-style-type: none"> <li>Plant commissioning</li> <li>Interconnection process</li> </ul>	<p>IRPS</p> <p>RS</p>	<ul style="list-style-type: none"> <li>White Paper</li> </ul>	<ul style="list-style-type: none"> <li>White Paper                             <ul style="list-style-type: none"> <li>Commissioning White Paper</li> </ul> </li> <li>SAR for Reliability Standard</li> </ul>



RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
				<ul style="list-style-type: none"> <li>FAC-001/FAC-002 SAR (2023)</li> </ul>
Emerging IBR reliability risks	<ul style="list-style-type: none"> <li>Changing resource mix</li> <li>Grid transformation</li> </ul>	IRPS	<ul style="list-style-type: none"> <li>White Paper</li> </ul>	<ul style="list-style-type: none"> <li>White Paper                             <ul style="list-style-type: none"> <li>Gap analysis of emerging IBR issues not addressed by NERC standards</li> </ul> </li> </ul>

### 3. Distributed Energy Resources

Distributed energy resources (DERs) levels are rapidly growing across many areas of North America and are impacting how the BPS is planned, designed, and operated. This influx of DERs presents potential benefits as well as challenges for grid reliability, resilience, and security as they are potentially impactful users of the BPS. While each individual DER is distribution-connected, the priority is focused on the reliable operation of the BPS, and the potential impact of aggregated DERs.

The ERO is proactively identifying and addressing BPS reliability impacts with increasing levels of DERs, and the RSTC will support this effort through collaborative engagement with industry stakeholders to drive risk mitigation activities—specifically, DER modeling capabilities, studies incorporating DER impacts to the BPS, operational impacts of DERs to the BPS, and regulatory considerations related to DERs. Further, the RSTC will focus on approaches for evaluating the potential impacts and benefits of energy storage, hybrid resources, aggregated DERs, and other emerging technologies. Over the next two years, the RSTC will be focused on determining the risk mitigations for some risks, while developing and deploying risk mitigations for others.

RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
Insufficient modeling, data, and/or study requirements to ensure adequate planning, protection, and operation of the BPS	<ul style="list-style-type: none"> <li>data collection</li> <li>modeling tools</li> <li>model verification</li> <li>modeling usage</li> </ul>	SPIDERWG EAS	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>SAR for Reliability Standard                             <ul style="list-style-type: none"> <li>MOD-031/MOD-032</li> <li>PRC-006</li> </ul> </li> </ul>

RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
Insufficient evaluation of the potential impacts of IBR by planning authorities	<ul style="list-style-type: none"> <li>• Planning Studies</li> <li>• Design Criteria</li> <li>• Operations Planning</li> </ul>	SPIDERWG EAS	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Reliability Guideline                             <ul style="list-style-type: none"> <li>▪ Planning Studies (2023)</li> <li>▪ Balancing (2024)</li> </ul> </li> <li>• SAR for Reliability Standard                             <ul style="list-style-type: none"> <li>▪ FAC-001/FAC-002</li> </ul> </li> </ul>
Insufficient BPS situational awareness to determine operating state, reserve and other operational requirements, and maintain operational control.	<ul style="list-style-type: none"> <li>• T-D Interface</li> <li>• Aggregators</li> <li>• Protection Systems</li> <li>• Decentral Operation</li> <li>• Security</li> </ul>	SPIDERWG EAS	<ul style="list-style-type: none"> <li>• Whitepaper on DER Aggregator (2023)</li> <li>• Whitepaper on DER Security Vulnerabilities (2023)</li> <li>• Whitepaper on Communication and Coordination (2023)</li> </ul>	<ul style="list-style-type: none"> <li>• SAR for Reliability Standard                             <ul style="list-style-type: none"> <li>▪ EOP-005</li> <li>▪ BAL-003</li> <li>▪ TOP-001/002</li> <li>▪ TOP-003</li> <li>▪ TOP-010</li> </ul> </li> </ul>

#### 4. Supply Chain Security

Exploitation of cyber security risks could arise from a variety of external and/or internal sources. Additionally, the operational and technological environment of the electrical grid is evolving significantly and rapidly and increasing the potential cyberattack surface. Sources of potential exploitation include increasingly sophisticated attacks by nation-state, terrorist, and criminal organizations. Vulnerability to such exploits is exacerbated by insider threats, poor cyber hygiene, supply-chain considerations, and dramatic transformation of the grid’s operational and technological environment. Supply chains, specifically, are a targeted opportunity for nation-state, terrorists, and criminals to penetrate organizations without regard to whether the purchase is for information technology, operational technology, software, firmware, hardware, equipment, components, and/or services.

Supply chain risk management and the threats from components and sub-components developed by potential foreign adversaries should continue to be addressed by NERC and industry with evaluation of CIP-013 standard for any needed improvements. Over the next two years, the RSTC will be focused on determining the risk mitigations.

RISK FRAMEWORK ACTIONS				
Identified Specific Risks	Technical Areas of Focus	Primary Subgroups	Risk Mitigation Determination	Develop and Deploy Risk Mitigation
Inadequate supply chain security can disrupt, infiltrate, and expose OT systems to unauthorized control.	<ul style="list-style-type: none"> <li>• Open Source Software</li> <li>• Provenance</li> <li>• Risk Management Lifecycle</li> <li>• Secure Equipment Delivery</li> <li>• Vendor Risk Management</li> <li>• Cloud Computing</li> <li>• Vendor Incident Response</li> <li>• Supply Chain Procurement</li> </ul>	SCWG	<ul style="list-style-type: none"> <li>• Whitepaper: NERC Standards Gap Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• SAR for Reliability Standard                             <ul style="list-style-type: none"> <li>▪ CIP-013</li> </ul> </li> </ul>

## Chapter 4: Primary Subgroup Strategic Direction

In the table below, the RSTC’s primary subgroups (those directly under the RSTC) each play a role in meeting the objectives and priorities of the RSTC. To provide additional clarity and direction, strategic direction that aligns with the RSTC’s strategic priorities, in addition to what is identified in the scope of the subgroup, is provided below:

Subgroup	Risk Framework Focus	Related Strategic Risk Priorities	Additional or Focused Key Actions to Support Strategic Risk Priorities
<b>Event Analysis Subcommittee (EAS)</b>	Identification Monitoring	<ul style="list-style-type: none"> <li>• Energy Assurance</li> <li>• Inverter-Based Resources</li> <li>• Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of event trends related to inverter-based resources, DERs, and other “faint signals” that may be emerging from continuing system transformation.</li> </ul>
<b>Performance Analysis Subcommittee (PAS)</b>	Identification Monitoring	<ul style="list-style-type: none"> <li>• Energy Assurance</li> <li>• Inverter-Based Resources</li> <li>• Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of trends related to inverter-based resources, DERs, and other “faint signals” that may be emerging from continuing system transformation.</li> </ul>
<b>Real Time Operating Subcommittee (RTOS)</b>	Identification Monitoring	<ul style="list-style-type: none"> <li>• Energy Assurance</li> <li>• Inverter-Based Resources</li> <li>• Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Provide a forum for coordinating system operating procedures in all four Interconnections, including:               <ul style="list-style-type: none"> <li>• Coordinate operating Reliability Standard implementation to promote consistency across the Interconnections.</li> <li>• Prepare for the upcoming operating peak demand season.</li> <li>• Review significant system disturbances and abnormal transaction curtailments, or others as requested by RTOS, for “lessons learned”.</li> <li>• Review Interconnection frequency events at each meeting.</li> <li>• Provide feedback and guidance on matters relating to real-time challenges that DER activity presents grid operators</li> </ul> </li> </ul>
<b>Synchronized Measurement Working Group (SMWG)</b>	Monitoring	<ul style="list-style-type: none"> <li>• Inverter-Based Resources</li> <li>• Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Support any data collection or analysis of power system performance following selected events and significant disturbances. Coordinate with other NERC groups such as the Event Analysis Subcommittee and the System Analysis and Modeling Subcommittee, as applicable.</li> </ul>

Subgroup	Risk Framework Focus	Related Strategic Risk Priorities	Additional or Focused Key Actions to Support Strategic Risk Priorities
<b>Resources Subcommittee (RS)</b>	Identification Monitoring	<ul style="list-style-type: none"> <li>Inverter-Based Resources</li> </ul>	<ul style="list-style-type: none"> <li>Providing industry leadership and guidance on matters relating to balancing resources and demand issues as well as resulting issues related to interconnection frequency.</li> </ul>
<b>Energy Reliability Assessment Task Force (ERATF)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>Energy Assurance</li> <li>Inverter-Based Resources</li> <li>Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate developments of energy reliability assessment activities with industry working groups and other RSTC working groups</li> <li>Engage industry research and development organizations to validate the technical foundation(s) and development of the tool(s), metrics, and methods</li> <li>Coordinate studies and plans with adjacent Balancing Authorities to identify enhanced collaborative regional support</li> <li>Support standard drafting team</li> </ul>
<b>Reliability Assessment Subcommittee (RAS)</b>	Identification Monitoring	<ul style="list-style-type: none"> <li>Energy Assurance</li> <li>Inverter-Based Resources</li> <li>Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>Support the annual review of each Assessment Area’s long-term and short-term resource adequacy plans. This includes:                             <ul style="list-style-type: none"> <li>Identifying and monitor the key issues, risks, and uncertainties that may impact or have the potential to impact BPS reliability;</li> <li>Coordinating timely submittals of Assessment Area narratives and responses to questions developed by NERC with support from the RAS.</li> </ul> </li> </ul>
<b>Security Integration and Technology Enablement Subcommittee (SITES)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>Inverter-Based Resources</li> <li>Distributed Energy Resources</li> <li>Supply Chain Security</li> </ul>	<ul style="list-style-type: none"> <li>Provide guidance to industry with recommendations for cyber and physical security practices, emerging technology solutions (e.g., cloud computing, virtualization), and approaches to appropriately secure operational technology systems</li> </ul>
<b>6 GHz Task Force (6GTF)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>Energy Assurance</li> </ul>	<ul style="list-style-type: none"> <li>Information that can be used for a range of audiences that describe potential emerging risks and possible solutions to address these risks.</li> </ul>
<b>Electric-Gas Working Group (EGWG)</b>	Determining Deploying	<ul style="list-style-type: none"> <li>Energy Assurance</li> </ul>	<ul style="list-style-type: none"> <li>Author guidelines, white papers, compliance guidance, etc. in support of</li> </ul>

Subgroup	Risk Framework Focus	Related Strategic Risk Priorities	Additional or Focused Key Actions to Support Strategic Risk Priorities
	Measuring		natural gas disruption considerations and risks that are applicable to all regions and could extend to be inclusive of all fuel sources.
<b>EMP Working Group (EMPWG)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>• Energy Assurance</li> </ul>	<ul style="list-style-type: none"> <li>• The EMPWG will serve as a stakeholder forum for focusing on HEMP from a transmission planning and system analysis perspectives. Some of the primary focuses of EMPWG will be data collection, modeling practices that are to determine the BPS expectations for an EMP event.</li> </ul>
<b>Facility Ratings Task Force (FRTF)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>• Energy Assurance</li> </ul>	<ul style="list-style-type: none"> <li>• The RSTC, in its role serving as</li> <li>• the technical expertise and executing the collaborative role with RISC to prioritize efforts related to BES risk response, will delegate responsibility to the FRTF to carry out activities to:                             <ul style="list-style-type: none"> <li>▪ Provide information to industry on the issues,</li> <li>▪ Support industry readiness and success on this topic</li> </ul> </li> </ul>
<b>Inverter-Based Resource Performance Subcommittee (IRPS)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>• Inverter-Based Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and maintain Reliability Guidelines and/or SAR(s) to address:                             <ul style="list-style-type: none"> <li>▪ Frequency and voltage ride-through characteristics of inverter-based resources.</li> <li>▪ Review and document recommended delays for the lowest levels of frequency to ensure transient/distorted waveform “ride through”.</li> <li>▪ Explore the development of a performance-based NERC Reliability Standard that clearly addresses the control of inverter-based resources, not to be confused with the protective relay functions as specified in PRC-024-2.</li> <li>▪ More clearly understand the potential limitations in early generation inverter technology to</li> </ul> </li> </ul>

Subgroup	Risk Framework Focus	Related Strategic Risk Priorities	Additional or Focused Key Actions to Support Strategic Risk Priorities
			<p>meet the proposed performance characteristics that support BPS reliability. Identify the extent to which these inverters may be modified to support BPS reliability, and articulate the limitations that may exist with today’s inverter-based resource (particularly solar PV) fleet.</p> <ul style="list-style-type: none"> <li>▪ Study the impacts that inverter momentary cessation (momentarily cease active power output) for voltage excursions could have on BPS reliability. Recommend performance characteristics related to momentary cessation, including the expected voltage levels and restore output characteristics.</li> </ul>
<p><b>Load Modeling Working Group (LMWG)</b></p>	<p>Determining Deploying Measuring</p>	<ul style="list-style-type: none"> <li>• Energy Assurance</li> </ul>	<ul style="list-style-type: none"> <li>• Formulate and guide the NERC vision and activities to promote the advancement and utilization of dynamic load models and modeling practices.</li> <li>• Establish guidelines and technical reference documents related to dynamic load modeling practices, including explanations of existing dynamic load models and their structure, data sets, and parameter derivation.</li> </ul>
<p><b>Security Working Group (SWG)</b></p>	<p>Determining Deploying Measuring</p>	<ul style="list-style-type: none"> <li>• Supply Chain Security</li> </ul>	<ul style="list-style-type: none"> <li>• Provide timely technical reports to RSTC on CMEP matters related to cyber and physical security</li> <li>• Develop materials from organized industry activities (such as tabletop exercises) led by or in collaboration with the SWG</li> <li>• Review lessons learned published by NERC where the RSTC seeks additional industry feedback to help determine whether additional guidance to industry is necessary</li> </ul>

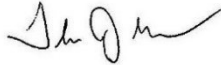
Subgroup	Risk Framework Focus	Related Strategic Risk Priorities	Additional or Focused Key Actions to Support Strategic Risk Priorities
<b>Supply Chain Working Group (SCWG)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>• Supply Chain Security</li> </ul>	<ul style="list-style-type: none"> <li>• Development of Security Guidelines and metrics to provide guidance on Supply Chain issues or concerns.</li> </ul>
<b>System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>• Inverter-Based Resources</li> <li>• Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>• NERC SPIDERWG will serve as a stakeholder forum for focusing on DER from a transmission planning and system analysis perspectives with primary focuses on DER data collection, modeling practices, model improvements, and steady-state and dynamic simulation assessments.</li> </ul>
<b>System Protection and Control Working Group (SPCWG)</b>	Determining Deploying Measuring	<ul style="list-style-type: none"> <li>• Inverter-Based Resources</li> <li>• Distributed Energy Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Provide subject matter expertise for NERC Reliability Standards and technical guidelines, including, but not limited to, the following:                             <ul style="list-style-type: none"> <li>▪ Protection and control systems, including local and wide area applications, and synchrophasor applications.</li> <li>▪ Remedial Action Schemes (RAS).</li> <li>▪ Power system monitoring</li> </ul> </li> </ul>



## Chapter 5: Risk Mitigation Assessment Template

The RSTC uses this template to for subgroups to evaluate risks and determine appropriate risk mitigation/remediation solutions:

Priority	(From RSTC Risk Priorities)
Identified Specific Risk	(From RSTC Strategic Plan – Identified Specific Risks)
Description of Risk	(Description from subgroup)
Technical Background Materials	(Links to whitepapers, technical papers, other RSTC or ERO published material)
Relative Priority	(High, Med, Low – Based on the Subgroup’s Assessment)
Recommended mitigation steps	<p>(Proposed mitigation plan including, but not limited to, the following actions:</p> <ul style="list-style-type: none"> <li>• Reliability Standards – SAR</li> <li>• Reliability/Security Guidelines</li> <li>• Compliance Guidance</li> <li>• Reliability Assessments</li> <li>• Stakeholder Outreach</li> <li>• Technical Reference Document</li> <li>• NERC Alert)</li> </ul> <p>Identify the new RSTC Work Plan actions. Approval of this plan, per the RSTC Notional Work Plan Process, appends the RSTC work plan to include action items with specific deliverables.)</p>

**To:** NERC Board of Trustees (BOT)  
**From:** Thomas J. Galloway, NATF President and CEO   
**Date:** January 20, 2023  
**Subject:** NATF Periodic Report to the NERC BOT (February 2023)  
**Attachments:** NATF External Newsletter (January 2023)

The NATF interfaces with the ERO as well as other external organizations on key reliability, resiliency, security, and safety topics to promote improvement, while reducing duplication of effort. Some examples are listed below and in the attached NATF external newsletter, which is also available on our public website: [www.natf.net/news/newsletters](http://www.natf.net/news/newsletters).

## NATF-ERO Leadership Meetings

To promote effective coordination, NATF and ERO leadership meet periodically to discuss topics and activities. November topics included supply chain, facility ratings, transmission infrastructure, RSTC strategic plan, and 2023 NATF-EPRI-NERC transmission resilience summit. The next call occurs in April.

## Resilience

The NATF and its members have undertaken numerous activities focused on bulk power system resilience for over 10 years, including work with EPRI to produce several resilience summits, with the next summit to be held on May 17, 2023, presented jointly by the NATF, EPRI, and NERC (more information to come). As noted in the attached January *NATF External Newsletter*, the NATF and EPRI recently have developed a common definition of resilience to guide our collective and respective work in resilience. It has often been said that there is no single definition of resilience, so the NATF-EPRI definition can serve as a point of convergence and create a common vernacular through use by organizations across the electricity subsector. The definition was developed in a deliberate fashion including a review of available resilience definitions and frameworks with intentional incorporation of common terms and concepts.

## Grid Transformation

As noted in the attached newsletter, the NATF has a coordinated framework for working on grid transformation that includes a set of domains and associated projects organized into three different time horizons: immediate, mid, and longer-range. Immediate and mid-horizon projects primarily focus on understanding changes to system operational characteristics so practices can be adjusted to preserve high levels of reliability. The longer-range projects emphasize planning and construction approaches that reduce system risk, avoid sources of common-mode failure, and improve system resilience.

## Supply Chain

Industry, regulatory staff, suppliers, and other stakeholders are encouraged to take advantage of the opportunity to provide input into the annual review and update of the *NATF Supply Chain Security Criteria* and the *Energy Sector Supply Chain Risk Questionnaire*, which is now underway. These tools are useful for risk

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management and compliance efforts and are mechanisms to drive convergence on information needed so suppliers can have responses ready. Thus, it is important for stakeholders to help identify the information needed to conduct risk analyses, and keep it current, through the annual revision process. Inputs are due by February 17.

## Facility Ratings

NATF members continue to work towards advancing the maturity of their facility ratings programs and practices to establish and maintain the accuracy of bulk power system facility ratings. Member subject-matter experts developed a set of leading practices to guide program enhancements. A summary of these practices has been made available to the entire industry, along with a risk construct providing approaches for prioritizing implementation of the key practices. These documents are posted on the [NATF's public site](#).

# North American Transmission Forum External Newsletter

January 2023

## New NATF-EPRI Resilience Definition

The Resilience Steering Group, which includes representation from both the NATF and EPRI, has created a new NATF-EPRI definition of resilience. Development included a thorough review of available resilience definitions and frameworks with intentional incorporation of common terms and concepts. The new definition will guide NATF and EPRI collective and respective work in resilience and can serve as a point of convergence through use by organizations across the electricity subsector.

The original (2017) definition was limited to transmission resilience. While transmission entities are a special focus for the NATF, we recognize many of our members and other utilities include business units beyond transmission, including generation, distribution, or both. In addition, many entities approach resilience holistically, so an overall definition for the electricity subsector aligns with and realizes efficiencies from that approach.

New definition:

The ability of the system and its components (both equipment and human) to (1) **prepare** for, (2) **anticipate**, (3) **absorb**, (4) **adapt** to, and (5) **recover** from non-routine disruptions, including high impact-low frequency (HILF) events, in a reasonable amount of time

Where:

1. **Prepare** involves both longer-term mitigation strategies (e.g., system hardening, sparing strategies/acquisition) and shorter-term preparations (e.g., reconfigurations, staging)
2. **Anticipate** provides situational awareness before and during an event
3. **Absorb** requires inherent robustness of the system and supporting processes during an event
4. **Adapt** entails flexibility and scalability of the system and supporting processes during an event
5. **Recover** relates to response and recovery activities during an event

The *Understanding the Definition of Resilience* companion document expounds on the implications and application of this definition and is posted to the NATF [public website](#) for industry use.

\*\*\*

## NATF-EPRI-NERC Transmission Resilience Summit

Industry leaders and subject-matter experts engaged in resilience activities are encouraged to mark your calendars and plan to attend the 2023 NATF-EPRI-NERC Transmission Resilience Summit on May 17, 2023, in Tempe, Arizona, hosted by Salt River Project at its PERA facility. The theme of the summit will be climate resilience. Detailed agenda planning is underway, and registration information will be published shortly.

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## NATF Framework for Addressing Grid Transformation

Grid transformation is one of the four risk profiles of the *2021 ERO Reliability Risk Priorities Report*. The NATF defines grid transformation as “the modification of processes for planning, constructing, and operating the bulk electric system due to increased penetration of variable energy resources and changing load behaviors.” Significant, rapid deployment of renewable resources, the bulk of which will be inverter-based devices, combined with the body of knowledge yet to be developed, suggests that grid transformation may be the most significant issue to be managed by the electricity industry over the next 30 years.

The NATF has a framework that helps us recognize problem statements related to grid transformation, identify which problem statements should be within NATF scope and which would best be left to others, and create scope statements for projects to address the problem statements. The NATF’s focus on promoting excellence in the safe, reliable, secure, and resilient operation of the electric transmission system is infused in the framework’s nine domains (modeling; planning; operations; emergency response and system restoration; construction and capacity; inverter behavior; interconnection requirements; load behaviors; and data communications, computing, and security) and related projects.

\*\*\*

## Scorable Version of NATF Supply Chain Risk Questionnaire Now Available

Based on industry feedback, the NATF has developed a scorable version of the *Energy Sector Supply Chain Risk Questionnaire* to provide an optional format for entities to help assess supply chain risk. This optional format provides all the same questions as the existing questionnaire but adds the ability for entities to provide their own per-question score and weight to a completed questionnaire. This flexible approach allows entities to adjust weights to reflect their unique needs or priorities while allowing for the consistent evaluation of multiple responses. No prescribed thresholds or requirements are made by the NATF, and all scores are provided by the entities themselves.

This new version is posted on the NATF’s public [Supply Chain Cyber Security Industry Coordination](#) site. Use the “Scorable Option” link to the right of *Energy Sector Supply Chain Risk Questionnaire V3.0*.

\*\*\*

## Annual Supply Chain Criteria and Questionnaire Revision Process Underway

The annual revision process for the *NATF Supply Chain Security Criteria* and the *Energy Sector Supply Chain Risk Questionnaire* is now underway, providing the opportunity for industry-wide inputs. 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.

These tools are useful for risk management and compliance efforts. Both the criteria and the questionnaire are incorporated into the ERO Enterprise-endorsed implementation guidance documents for CIP-013 (available on the NERC website and the NATF public website):

- [NATF CIP-013 Implementation Guidance: Using Independent Assessments of Vendors](#)
- [NATF CIP-013 Implementation Guidance: Supply Chain Risk Management Plans](#)

These documents support using the criteria and questionnaire in a risk-based manner, where the entity determines which criteria or questions apply for a procurement.

Suppliers are working to have a complete set of responses ready and available upon request. To support suppliers in this endeavor, the criteria or questionnaire should not be modified. After receiving a complete set of responses, entities can determine which of the criteria or question responses need to be considered in the risk assessment for the procurement.

**As the criteria and questionnaire are mechanisms to drive convergence on information needed so suppliers can have responses ready, it is important that the information you need to conduct risk analyses is included!**

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*Input on the criteria and questionnaire can be submitted to [supplychain@natf.net](mailto:supplychain@natf.net) until close of business February 17 for consideration in the 2023 review cycle.*

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*As a reminder: The criteria and questionnaire are mapped to the National Institute of Standards and Technology (NIST) frameworks; and are also mapped to other security frameworks that are certified or assessed by a qualified third-party.*

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## Supplier Sharing Calls

The NATF is hosting a webinar series (“supplier sharing calls”) exclusively for suppliers for the purpose of improving security practices through supplier mentoring. The value for the industry is improved supplier cyber security practices and risk reduction.

The meetings are being held bi-monthly, with the next call scheduled for January 25 from 1:00–2:30 pm eastern. Please encourage attendance from suppliers who are looking to improve their cyber security practices or could serve as mentors to other suppliers. For more information or to obtain an invitation, please contact [supplychain@natf.net](mailto:supplychain@natf.net).

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## EMS External Modeling Reference Document Posted for Industry

The NATF has posted version 3.0 of the *NATF EMS External Modeling Reference Document* to our [public website](#) for the benefit of the industry.

The document provides guidance to improve performance of EMS external models. The document is intended for personnel with responsibility for development and maintenance of EMS models for real-time state estimator and real-time contingency analysis.

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*For more information about the NATF, please visit <https://www.natf.net/>.*

## **Project 2021-04 Modifications to PRC-002**

### **Action**

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

- Reliability Standard – PRC-002-4 - Disturbance Monitoring and Reporting Requirements  
[Project 2021-04 PRC-002-4 - clean](#)
- [Project 2021-04 PRC-002-3 redline \(nerc.com\)](#) Implementation Plan  
[PRC-002-4 Implementation Plan \(nerc.com\)](#)
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs)  
[VRF VSL Justifications \(nerc.com\)](#)
- Retirements  
[Reliability Standard – PRC-002-3 - Disturbance Monitoring and Reporting Requirements](#)

### **Background**

NERC initiated Project 2021-04 Modifications to PRC-002 to address two standards authorization requests related to the PRC-002 standard and is proceeding in two phases. The first phase of this project addressed a request to clarify requirements for Fault Recorder data.

The second phase of this project will address recommendations of the NERC Inverter-based Resource Performance Task Force (IRPTF) to revise the PRC-002 standard to better account for the growth of inverter-based resources on the bulk-power system (BPS), including ensuring that adequate data is available to conduct event analysis and identify the root causes of large system disturbances.

### **Summary**

Proposed Reliability Standard PRC-002-4 represents the conclusion of the first phase of work under Project 2021-04. In the proposed standard, the standard drafting team (SDT) modified Requirement R1, Part 1.2 and Requirement R5 to clarify notification requirements, made certain terminology clarifications throughout, and added a new Requirement, Requirement R13 that carries forward the re-evaluation requirement presently reflected in the PRC-002 implementation plan. Changes are also proposed to the selection methodology in Attachment 1 to the standard to add a criterion that explains when changing Standards Efficiency Review (SER) and fault recording (FR) data locations on re-evaluation would not be required.

### **Standards Development Process**

The proposed Reliability Standard PRC-002-4 was posted for an initial 45-day formal comment period and ballot from June 9, 2022 to July 25, 2022. The initial ballot for the proposed standard received a 66.90 percent approval and 87.24 percent quorum, with the proposed implementation plan receiving 75.89 percent approval and 88.15 percent quorum. The non-binding polls for the Violation Risk Factors and Violation Severity Levels received 69.1 percent supportive opinions with 85.61 percent quorum.

The SDT conducted an additional 45-day formal comment and ballot from September 26 to November 10, 2022, then extended to November 14, 2022 to reach quorum. The additional ballot received a 96.36 percent approval and 75.52 percent quorum, with the proposed implementation plan receiving 95.85 percent approval and 75.96 quorum. The non-binding polls for the Violation Risk Factors and Violation Severity Levels received 96.09 percent supportive opinions with 78.42 percent quorum.

The SDT conducted a 10-day final ballot from December 7, 2022 to December 16, 2022. The final ballot for the proposed standard received 96.43 percent approval and 83.79 quorum, with the proposed implementation plan receiving 96.11 percent approval and 84.32 percent quorum.

### **Minority Issues**

None.

### **Pertinent FERC Directives**

None.

### **Cost Effectiveness**

For the most part, the modifications in the proposed Reliability Standard would eliminate unnecessary and administrative compliance burden for the responsible entities. If new disturbance monitoring equipment is required, the approximate cost would be \$50,000 to \$100,000 per installation unless the existing equipment is set up for monitoring and storage.

### **Additional Information**

A link to the project history and files is included here for reference:

[Project 2021-04 Modifications to PRC-002 \(nerc.com\)](https://www.nerc.com/Project-2021-04-Modifications-to-PRC-002)



## **Project 2021-05 Modifications to PRC-023**

### **Action**

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

- Reliability Standard – PRC-023-6 – Transmission Relay Loadability  
[PRC-023-6 Transmission Relay Loadability clean \(nerc.com\)](#)  
[PRC-023-6 Transmission Relay Loadability redline \(nerc.com\)](#)
- Implementation Plan  
[PRC-023-6 Implementation Plan \(nerc.com\)](#)
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs)  
[VRF VSL Justifications \(nerc.com\)](#)
- Retirements  
Reliability Standard – PRC-023-5 - Transmission Relay Loadability

### **Background**

NERC initiated Project 2021-05 Modifications to PRC-023 in 2021 to address concerns identified by the NERC System Protection and Control Subcommittee (SPCS) regarding the application of Requirement R2 and Attachment A exclusion 2.3 in Reliability Standard PRC-023-4. The SPCS identified that Requirement R2, as it has been interpreted and applied, could lead to increased reliability risk by entities limiting or disabling their out-of-step blocking elements. The SPCS further identified that Attachment A exclusion 2.3 is no longer needed, and its continued existence has contributed to the confusion regarding the application of Requirement R2. The SPCS recommended both Requirement R2 and Attachment A exclusion 2.3 be removed from the PRC-023 standard.

### **Summary**

The Project 2021-05 standard drafting team (SDT) addressed the SPCS recommendation by retiring Requirement R2 and Attachment A exclusion 2.3 in proposed Reliability Standard PRC-023-6. The SDT determined that Requirement R2 is redundant to Requirement R1, in that the single fault condition regulated by Requirement R2 is a subset of the faults regulated by Requirement R1, it requires the same entity response, and failure to comply with Requirement R2 would also mean a failure to comply with Requirement R1. The SDT reviewed NERC data and the history of the PRC-023 standard and concluded that the retirement of Requirement R2 would not create a reliability gap and would enhance the clarity and efficiency of the standard. The SDT also removed the Attachment A exclusion 2.3 as recommended by the SPCS.

### **Standards Development Process**

The proposed Reliability Standard PRC-023-6 was posted for an initial 45-day formal comment period and ballot from October 10 to December 2, 2022, with an extension to December 5, 2022 to reach quorum. The initial ballot for the proposed standard received 98.37 percent approval and 80.66 percent quorum, with the associated implementation plan receiving 100

percent approval with 80.59 percent quorum. The non-binding polls for the Violation Risk Factors and Violation Severity Levels achieved 99.36 supportive opinions with 78.46 percent quorum.

The SDT met to review comments and determined to proceed to final ballot. The SDT conducted a final ballot from January 10 to January 24, 2023. The final ballot for the proposed standard received 98.27 percent approval and 87.96 percent quorum, with the proposed implementation plan receiving 100 percent approval and 87.91 percent quorum

### **Minority Issues**

None.

### **Pertinent FERC Directives**

In Order No. 733, FERC directed NERC to revise the original version of the PRC-023 Reliability Standard, PRC-023-1, to move an obligation related to evaluating out-of-step blocking schemes from the standard's applicability section to a separate Reliability Standard requirement with the appropriate Violation Risk Factors and Violation Severity Levels. *See Transmission Relay Loadability Standard, Order No. 733, 130 FERC ¶ 61,221 at P 244 (2010), order on reh'g and clarification, Order No. 733-A, 134 FERC ¶ 61,127, order on reh'g and clarification, Order No. 733-B, 136 FERC ¶ 61,185 (2011).*

To address this directive, NERC created a new Requirement R2 in Reliability Standard PRC-023-2 to address out-of-step blocking. Requirement R2 was carried forward into subsequent versions of the standard and is now being proposed for retirement in proposed Reliability Standard PRC-023-6.

### **Cost Effectiveness**

No concerns regarding cost effectiveness were identified.

### **Additional Information**

A link to the project history and files is included here for reference:

[Project 2021-05 Modifications to PRC-023 \(nerc.com\)](https://www.nerc.com/2021-05-Modifications-to-PRC-023)

## **Cold Weather Standards Status**

### **Action**

Update

### **Background**

From February 8 - 20, 2021, extreme cold weather and precipitation affected the south central United States. During this time, large numbers of generating units experienced outages, derates, or failures to start, resulting in energy and transmission emergencies and load shed across the Electric Reliability Council of Texas (ERCOT), Southwest Power Pool (SPP), and Midcontinent Independent System Operator (MISO) footprints. System conditions during this event, referred to as the February 2021 Event, resulted in the largest controlled firm load shed event in U.S. history. The system experienced the third largest in quantity of outaged megawatts (MW) of load after the August 2003 northeast blackout and the August 1996 west coast blackout.

In response to the February 2021 Event, a joint inquiry team consisting of staff from the Federal Energy Regulatory Commission (FERC), NERC, and the six Regional Entities, investigated the causes of the event and made recommendations to prevent future reoccurrence. In its November 2021 [report](#), the joint inquiry team made 10 recommendations for NERC Reliability Standards revisions to address cold weather preparedness and operations, along with recommended two-phase timeline for the completion of standards.

In November 2021, the NERC Board of Trustees (Board) approved a resolution directing the development of Reliability Standards in two phases to address the recommendations of the Joint Inquiry team, in accordance with the Joint Inquiry team's recommended timelines. Project 2021-07 was initiated to address the Joint Inquiry team recommendations. In October of 2022 the Board adopted EOP-011-3 and EOP-012-1 to mark the conclusion of phase 1 of work under this project. NERC filed a petition for approval of EOP-011-3 and EOP-012-1 and request for expedited action with the Federal Energy Commission on October 28, 2022, and with the Canadian authorities shortly thereafter. Work is underway to complete the development of Reliability Standards to address the remaining recommendations. NERC staff will provide an update on ongoing activities addressing the report recommendations.

### **Additional Information**

A link to the project history and files is included here for reference:

[\[Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination\]](#)

## **Standards Process Improvement Opportunities**

### **Action**

Update

### **Background**

Since 2007, mandatory Reliability Standards have played an integral role in addressing new and emerging risks to the reliability and security of the grid. Given the pace of change taking place on the bulk power system, NERC must continually improve its standard development processes to ensure that they are nimble and agile enough to keep pace with the speed at which novel risks are emerging. With the importance of addressing the challenges of the transforming grid in mind, the Board of Trustees (Board) directed NERC staff at its February 10, 2022, meeting, to examine the body of rules regarding Reliability Standards development and, considering the feedback of stakeholders, recommend such changes that would improve NERC's ability to address urgent reliability needs with appropriate agility, while also maintaining reasonable notice and opportunity for public comment, due process, openness, and balance of interests.

NERC staff developed preliminary recommendations and convened a Standards Process Stakeholder Engagement Group (SPSEG) to provide feedback and develop consensus recommendations for improving agility of the process while maintaining the key role of stakeholders in producing consensus standards. This group included representatives from the Board, NERC staff, MRC, Standards Committee, Compliance and Certification Committee, Reliability and Security Technical Committee, and Reliability Issues Steering Committee with representation from U.S. and Canadian entities.

The SPSEG developed [recommendations](#) to propose to the Board that fall into the following categories: [revisions to Section 300 of the NERC Rules of Procedure](#), [revisions to the \*Standard Processes Manual\*](#), recommendations for standing committees, and a review of the Registered Ballot Body criteria. Stakeholder participation through an open and transparent process is key to the success of the ERO model, and the recommendations are intended to enhance, and not reduce or replace, the role of stakeholder feedback in NERC's standard development processes.

NERC staff will provide an update on activities implementing the recommendations.

### **Additional Information**

[Standards Process Stakeholder Engagement Group page](#)

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Standards Actions

Howard Gugel, Vice President of Engineering and Standards  
Board of Trustees Meeting  
February 16, 2023

**RELIABILITY | RESILIENCE | SECURITY**



- Background
  - Addresses two Standard Authorization Requests (SARs)
  - Clarify notification requirements for fault recorder data
  - Re-evaluation requirement currently in the PRC-002 implementation plan
- Reliability Benefit
  - To have adequate sequence of events recording Standards Efficiency Review (SER) and fault recording (FR) data available to facilitate analysis of Bulk Electric System (BES) disturbances
- Action
  - Adopt
    - Reliability Standard - PRC-002-4 – Disturbance Monitoring and Reporting Requirements

- **Reliability Benefits**

- Eliminate confusion surrounding out-of-step blocking settings
- Retired Requirement R2, which addresses setting out-of-step blocking elements (also known as “power swing blocking”)
- Removed the applicability exclusion in Attachment A, Item 2.3, which excludes protection systems intended for protection during stable power swings

- **Action**

- Adopt
  - Reliability Standard - PRC-023-6 – Relay Performance During Stable Power Swings

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Cold Weather Standards Update

RELIABILITY | RESILIENCE | SECURITY





- Background
  - Address 6 Key Recommendations (1a, 1b, 1c, 1g, 1h and 1i) from the Joint Inquiry Report
  - September 30, 2023 deadline to complete development

- Revised EOP-011-3 and EOP-012-2 to meet the phase 2 recommendations
- Develop four new NERC Glossary Terms
  - Extreme Cold Weather Temperature
  - Generator Cold Weather Critical Component
  - Fixed Fuel Supply Component
  - Generator Cold Weather Reliability Event
- Update Facilities section to address industry comments on unit vs plant level of applicability
- Planned initial posting in February 2023

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Standards Process Improvement Opportunities

RELIABILITY | RESILIENCE | SECURITY



- Recommendations in four areas
  - Rules of Procedure
  - Standard Processes Manual
  - Standing Committees
  - Registered Ballot Body

- Remove requirement for the American National Standards Institute (ANSI) accreditation
- Provide Board authority to direct the development of a Reliability Standard
- Modify section 321 to include projects to address Board directives
- Posted for comment through March 6
- Bring changes to Board in May

- Revise Section 1.4 to reflect that NERC's process is modeled on the ANSI Essential Requirements
- Revise Section 4.2 to clarify what it means for Standard Authorization Requests ("SARs") to have had "some vetting in industry"
- Revise Section 4.12 to create a tiered structure for comment periods
- Revise Section 4.13 to eliminate the requirement for a final ballot
- Revise Section 16.0 to include Board Directives in waiver process
- Posted for comment and ballot through March 6

- Standards Committee Process Subcommittee developing changes
- Registered Ballot Body evaluation to be performed



# Questions and Answers



## **Year-End Review of the Achievements of the 2022 Work Plan Priorities**

### **Action**

Update

### **Background**

The Board of Trustees (Board) approved the 2022 ERO Enterprise Work Plan Priorities (2022 Priorities) at its November 2021 meeting. The 2022 Priorities identified key accomplishments that align closely with the [ERO Enterprise Long-Term Strategy](#), and focused on the following:

- Improving Bulk Electric System (BES) resilience for wide-spread long-term extreme temperature events
- Deepening planning and operating focus beyond capacity adequacy, towards energy sufficiency
- Enhancing and developing new Standards: cyber (bright-line criteria), weatherization, energy sufficiency and inverter performance
- Expanding the impact of the Electricity Information Sharing and Analysis Center (E-ISAC) through enhanced information sharing, communications, and monitoring of critical security threats

NERC management provided a semiannual informational update to the Board on the 2022 Priorities as part of the August 18, 2022, [meeting presentations](#). 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 2022, as well as a summary of the end-of-year status of the 2022 Priorities.

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Year-End Review 2022 Achievements and Work Plan Priorities

Erika Chanzas, Manager of Business Planning  
Board of Trustees Meeting  
February 16, 2023

**RELIABILITY | RESILIENCE | SECURITY**



- Complex, rapidly evolving risk and threat environment:
  - Inverter-based generating resources
  - Extreme weather
  - Unprecedented pace of security threats
  - Geopolitical tensions and ongoing pandemic
- Key accomplishments in the following areas:
  - Advances in achieving our mission
  - Leveraging the ERO Enterprise
  - Maturing NERC's business functions
  - Delivered against 43 of the 44 tactical 2022 priorities set in late 2021
- *Key takeaway: 2022 was a challenging, transformational year!*

## Addressing Critical Reliability and Security Risks

- Continued aggressive efforts around cold weather preparation
- Expanded our understanding of inverter-based and distributed energy resources
- Revised the security approach for low impact cyber assets
- Added energy reliability standards projects and assessments

## Being a Trusted, Independent Source

- Broadened the conversation on managing the changing resource mix with critical policy bodies
- Increased social media followers, website views, and media coverage of reliability assessments

## Expanding Outreach and Partnerships

- Engaged government regulators and offices (FERC, NARUC, DOE, DHS, CAMPUT, Electricity Canada)
- Collaborated with technical groups (NATF, NAGF, EPRI, NAESB, National Academy of Engineering)
- Partnered with interdependent associations (natural gas, TSA)
- Fostered international relationships (U.N. Economic Commission for Europe, World Economic Forum)

## Strengthening the E-ISAC

- Received Net Promoter Score of 58, reflecting an excellent level of member satisfaction
- Increased membership: E-ISAC (144 new organizations) and CRISP (9 new participants)
- Contributed to the success of the DOE Energy Threat Analysis Center (ETAC) pilot

## Executing a Strong ERO Enterprise CMEP

- Completed align implementation for U.S. entities and nearing completion for Canadian provinces that have opted in
- Made strong gains in aligning CMEP work practices across the Regional Entities

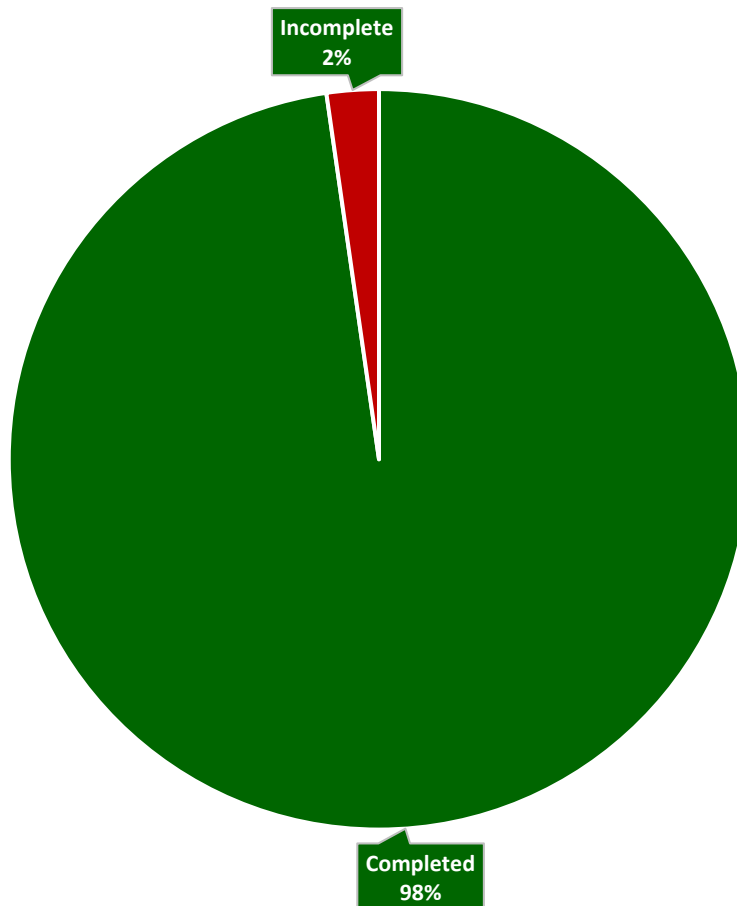
## Collaborating on Critical Efforts Across the ERO

- Created a shared Data Loss Prevention framework
- Exploring a systematized approach to Identity Access Management
- Collaborated on Facility Ratings resources
- Assembled key ERO Enterprise leaders to focus on long-term strategy refresh

## Investing in NERC's People, Culture, & Processes

- Improving and leveraging systems for key HR processes
- Achieved an all-time high employee engagement score (86) and turnover rate below 10%
- Opened the new D.C. office (the NERC Collaboration Hub), designed for today's workforce
- Strengthening our control and cyber security environment
- Developing and retooling key functional processes to be more responsive and efficient

## Priorities in 2022 Work Plan



- 43 of 44 items completed or progress achieved commensurate with expectations.
- One item incomplete relative to expectation.
- Detailed work plan priorities assessment enclosed for information.



# Questions and Answers

# **Appendix**

## **Detailed Work Plan Priorities Assessment**



## **ERO Enterprise Long-Term Strategy Focus Areas**

1. Expand risk-based focus in Standards, Compliance Monitoring, and Enforcement
2. Assess and catalyze steps to mitigate known and emerging risks to reliability and security
3. Build a strong, E-ISAC-based security capability
4. Strengthen engagement across the reliability and security ecosystem in North America
5. Capture effectiveness, efficiency, and continuous improvement opportunities

## **2022 Near-Term Priorities**

1. Improve BES resilience for widespread long-term extreme temperature events
2. Deepen planning and operating focus beyond capacity adequacy, towards energy sufficiency
3. Enhance and develop new Standards: cyber (bright-line criteria), weatherization, energy sufficiency and inverter performance
4. Expand the impact of the E-ISAC through enhanced information sharing, communications, and monitoring of critical security threats



Priority has been fully achieved



Priority was partially achieved



Priority was not reached

## Key Objectives

### Standards: Cyber

Incorporate transmission planning and operational cyber risks into BPS Standards

Implement supply chain report recommendations

Complete evaluation of the bright-line risk criteria and change the criteria

### Standards: Energy and Reliability

Modify Reliability Standards based on actions identified by FERC/ERO Enterprise 2021 Cold Weather Inquiry

Implement 2021 Energy Reliability Assessment Task Force standard recommendations

**Modify standards ensuring transmission planning energy scenarios are studied for:**

- a. Normal and extreme events
- b. Gas-electric interdependencies
- c. Distributed energy resource events

## Status Highlights



Collaborated with stakeholders on CIP-014 (transmission planning); developing CIP-002 (transmission control centers)



CIP-003-9 (security management controls) adopted by Board



Part of CIP-002 development; whitepaper determined no modification to bright-line, but recommended additional controls for external routable connectivity



EOP-011-3 (emergency operations) and EOP-012-1 (extreme cold weather preparedness) adopted by Board



Standards project in progress



Developing criteria (part of three-year plan); developing Energy Assurance standard/recommendations for TPL enhancements; developed design basis criteria for natural gas contingency

## Key Objectives

### Standards: Emergent Risks

#### Modify existing Reliability Standards:

- a. Inverter performance
- b. Relay commissioning

### Compliance

Develop and implement plan to address facility ratings

## Status Highlights



SARs for inverter performance accepted by Standards Committee; SPIDERWG identified standards revisions related to impacts of DERs; multiple standards projects underway

Completed white paper and made recommendations for alternative mitigations; relay commissioning standard modification is not needed at this time



Industry themes reports distributed

## Key Objectives

### Assessment: Energy and Reliability

#### Implement FERC/ERO Enterprise 2021 Cold Weather Inquiry:

- a. Reframing of resource adequacy in reliability assessments
- b. Approach to natural gas-electric interdependency on BPS reliability

#### Develop strategy for oversight of the transforming resource mix:

- a. Seasonal Assessments include energy availability scenarios and probability-based analysis to assess potential energy limitations from extreme events
- b. Conduct energy adequacy assessments for all assessment areas and publish in 2022 LTRA
- c. Implement 2021 Energy Reliability Assessment Task Force recommendations
- d. To measure resilience, collect load loss recovery data from extreme events

Develop technical guidance to support increasing amounts of distributed energy resources and inverter-based resources

## Status Highlights

RAS formulating strategy on energy assessments



Design Basis Criteria for a natural gas study approved by RSTC; conducted survey to measure Fuel Assurance Guideline

2021 Summer Reliability Assessment (SRA) published with scenarios



Probabilistic Analysis effort included in 2022 LTRA

SARs accepted by Standards Committee and remaining ERATF work plan items on track

ERO Load Loss Data Collection team active and recommendation made to develop 1600 data request in 2023



Developed various Reliability Guidelines, studies, reports, and SARs

## Key Objectives

### Assessment: Supply Chain and Security Engineering

Implement Supply Chain report's recommendations

Supply chain risk mitigations for low impact BES Cyber Assets

Develop cybersecurity risk scenarios for BPS planning, engineering, and operations

Complete study on the implications of a coordinated cyber attack

Identify improvements to bright-line criteria or identify enhanced approach

## Status Highlights



Cyber attacks white paper presented and modifications to CIP-003 for supply chain adopted by Board



IEEE-NERC Technical Report complete; developing white paper on cyber-informed transmission planning



White paper on cyber attacks around low impact BES Cyber Assets presented to Board (as noted above) and enhanced approach recommended



## Key Objectives

### Strategy

Execute and refine strategic plan

Develop OT system monitoring and analysis capabilities and activate the objectives of the 100 day plan

Continue collaboration with Analysis Center for Systemic Risk (ARC) to refine risk mitigation strategies

Continue sharing and engagement with other critical infrastructure sectors and ISACs

Maintain strategic partnerships with U.S. and Canadian government partners, technology sector, and other key stakeholders

Explore opportunities to expand participant funding of key programs

## Status Highlights



Plan updated to include vendor affiliate program, natural gas collaboration, CRISP expansion, OT analysis, ETAC support, etc.



Seven threat hunts conducted to date; ongoing weekly internal OT threat analysis circulated; produced OT ransomware report



Collaborating with ARC on an ongoing basis, but progress with ARC delayed (ARC unable to share its risk register with E-ISAC)



Over 750 shares to other ISACs sharing critical and timely information; Tri-Sector Plan activated during Ukraine crisis and hosted over 10 Crisis Action Plan calls



15 cross-sector ISACs are E-ISAC members; E-ISAC coordinating with MS/EI-ISAC; received 96 shares from DNG-ISAC



Revised MOU with DOE, including funding requests; launched vendor affiliate program; CRISP five year strategy developed

## Key Objectives

### Information Sharing

Maintain focus on and share information regarding the most critical security threats (i.e., OT, Supply Chain)

Develop plans to significantly expand CRISP participation and evaluate other sensor technologies

Improve coordination and connectivity to Intelligence Community

Continue to conduct threat workshops, webinars and industry-wide exercises

### Analysis

Develop products to summarize analysis of sensors and proactively share with stakeholders

Deploy automated information sharing tools

Refine performance metrics to more accurately assess productivity and value

## Status Highlights



Posted over 760 shares to the E-ISAC portal – 147 Posts covered OT/ICS topics



5 companies joined Essence Integration Program and 4 joined standard CRISP



Attended classified briefings; E-ISAC part of the ETAC; collaborated on DOE ARES



Conducted monthly webinars and physical security workshops; completed GridSecCon and planning next GridEx



Conducted threat hunts in CRISP and platforms such as Neighborhood Keeper, and evaluating IronNet; identified and shared proactive threats from supply chain and remote access vulnerabilities



Automated Information Sharing providing indicators and bulletins in production



Metrics for information analysis and analytic products developed or in progress



## Key Objectives

### Engagement

Successfully roll out new E-ISAC portal and develop robust feedback mechanisms

Continue Industry Engagement Program (IEP) and increase membership

Provide products and services tailored to small and mid-size systems

Continue to strengthen engagement and collaboration with natural gas sector

Maintain Canadian engagement, effectively activate the IESO relationship and use Project Lighthouse

## Status Highlights



New portal activated in May 2022, including additional feedback mechanism; regular feedback also collected as part of IEP



Average net promoter score of 58 across five IEPs; 9% membership increase in 2022 (144 new organizations)



Issued weekly report for small/medium utilities; added 5 co-ops to CRISP Essence Integration Program



Conducted regular engagement with gas trade associations and utilities; added 3 natural-gas-only and 2 combo utility E-ISAC members



Monthly analyst exchanges and access to Lighthouse provided cross-border awareness of threats; also received Canadian Cyber Centre Avantail feeds directly

## Key Objectives

### Enhance Outreach to Stakeholder/Policy Organizations

Continue to sharpen reliability assessment recommendations and further develop state and Provincial outreach around key findings in partnership with the Regional Entities

Continue to expand outreach to stakeholder organizations that represent resource transition mix (solar, wind, natural gas, battery technology, etc.) to further engage on reliability, resilience and security matters

### Cold Weather

**Execute a robust outreach strategy surrounding the recommended actions outlined in the Mid-South Cold Weather Event Inquiry report in coordination with FERC to include:**

- a. U.S. Senate and House Committees of Jurisdiction
- b. Stakeholder associations
- c. U.S. Government

## Status Highlights



SRA received the most media interest of any report; extensive SRA briefings to state and provincial regulators, NARUC, CAMPUT, Capitol Hill, DOE Secretary, and FERC



Conducted outreach with solar, wind, and natural gas associations



Engaged in regular conversations on cold weather event, SRA, and natural gas interdependency; coordinated with Texas RE

Conducted outreach with NARUC, solar and wind associations, and Trades and Forums

Collaborated with FERC, including cold weather technical conference planning support; conducted outreach with DOE

## Key Objectives

### Leveraging the Work of Others

Leverage renewed working relationships with EPRI and NATF and NAGF to expand joint impact on technical reliability matters

Look for other organizational relationships to leverage where joint impact on the BPS reliability could be expanded through better coordination/intentionality, such as U.S. DOE, CAMPUT, Ministers of Energy, NARUC, and Power Systems Engineering in Research Center (PSERC), etc.

Continue to develop relationships with registered entities through NERC and the Regions

## Status Highlights



Coordinated with NATF on Facility Ratings and conducted a joint presentation at Board Compliance Committee; engaged NAGF on generator winter preparations Reliability Standards; participated in EPRI's Summer Session; engaged in the modeling workshop with over 1,000 participants



Engaged regularly with NARUC, DOE, and FERC, CAMPUT; initial outreach to Ministers of Energy, leveraging outreach and coordinated communications



Conducted quarterly meetings with trade associations and state outreach

## Key Objectives

### Align/SEL

Roll-out Align R4 by Q3 2022, supported by stakeholder outreach and education, end-use training, and business unit readiness activities

Explore potential additional uses of Evidence Locker functionality for other registered entity data gathering (e.g., NERC Alerts)

### ERO Enterprise

Solidify the ERO-Enterprise Transformation with increasing proof points per the Phase 2 Roadmap

Update long-term strategy to reflect the current industry reliability, security, and resilience environment

## Status Highlights



Released Align R4.5 into production; training and education ongoing



Determined that NERC Alerts will be enhanced with the current solution; no further use cases for other uses of Evidence Locker functionality identified at this time



Collaboration groups regularly discussed areas that support the roadmap and transformation; successful May Leadership Workshop, which focused on getting input on critical challenges and must-win battles to be considered in the update of the ERO Enterprise Long-Term Strategy; finalizing draft strategy



## Joint RISC/RSTC Presentation: Evaluation and Prioritization of Emerging Risks

### Action Review

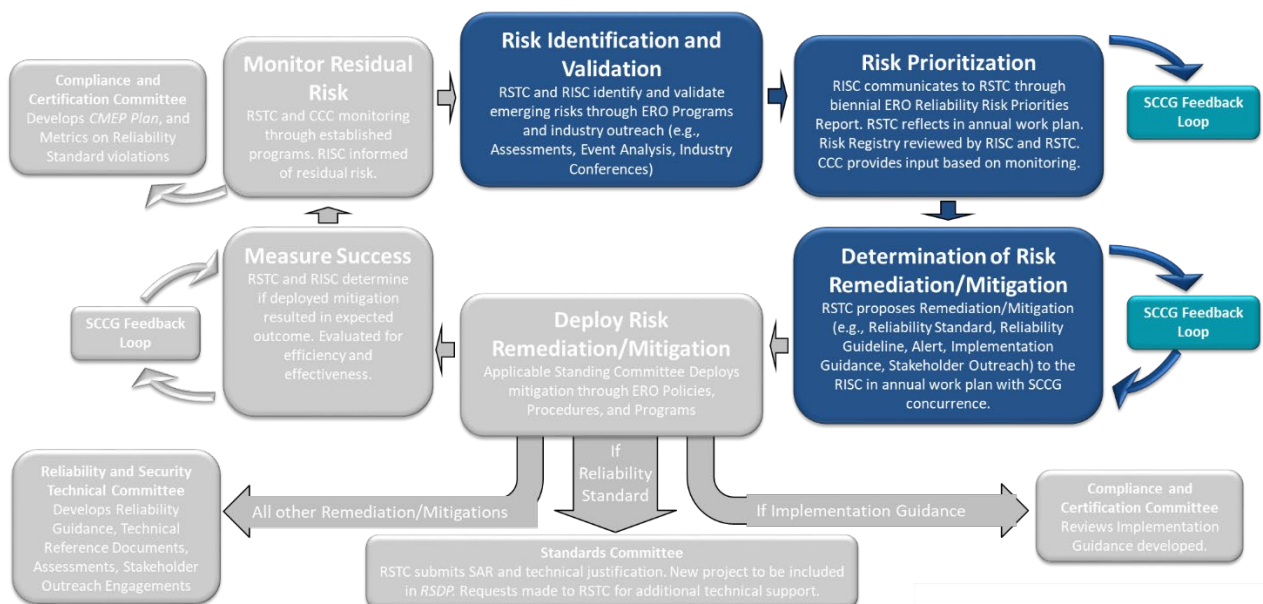
### RISC-RSTC Coordination

The ERO mission requires establishing a consistent framework to identify, prioritize and address known and emerging reliability and security risks. To support its mission the ERO has developed the *Framework to Address Known and Emerging Reliability and Security Risks (Framework)*. The Framework is an iterative six-step risk management framework shown in the diagram below. Mitigation of risks to Bulk Electric System (BES) reliability can be classified according to the likelihood of the risk occurring and the severity of its impact.

The RISC and RSTC collaborate to ensure that risks identified through the development and publication of the biennial *ERO Reliability Risk Priorities Report* are prioritized and mitigated. The two committees also consider risks identified through other ERO Programs such as Reliability Assessments, Event Analysis and a variety of industry engagements.

The presentation will include discussion from the RISC and RSTC Chairs and will focus on the first three steps of the Risk Mitigation Framework:

1. Risk Identification and Validation
2. Risk Prioritization
3. Determination of Risk Remediation/Mitigation



**Request to Use Expedited Procedures for Requesting Time-Sensitive Data or Information under Section 1606 of the Rules of Procedure – Internal Network Security Monitoring Study Directive**

**Action**

Authorize

**Background**

On January 19, 2023, the Federal Energy Regulatory Commission (FERC or the Commission) issued Order No. 887<sup>1</sup> directing NERC to develop Reliability Standards requirements to require internal network security monitoring for all high impact Bulk Electric System (BES) Cyber Systems and medium impact BES Cyber Systems with External Routable Connectivity.

In addition, Order No. 887 directed NERC to conduct a study of the risks stemming from a lack of internal network security monitoring and the feasibility of requiring it for other BES Cyber Systems not subject to the final rule, such as low impact BES Cyber Systems and medium impact BES Cyber Systems without external routable connectivity. As part of this study, the Commission stated that NERC should collect information on the number of these BES Cyber Systems, specifically the quantity of:

1. Substation and generation locations that contain medium impact BES Cyber Systems without external routable connectivity;
2. Low impact locations (including a breakdown by substations, generations resources, and control centers) that contain low impact BES Cyber Systems without external routable connectivity; and
3. Low impact locations that contain low impact BES Cyber Systems with external routable connectivity (including a breakdown by substations, generation resources, and control centers).

The Commission directed NERC to file the study by January 18, 2024, which is within 12 months of the issuance of Order No. 887.

In order to prepare the study directed by the Commission that includes the data required by the order, NERC intends to collect data and information using its authority under Section 1600 of the NERC Rules of Procedure.

**Summary**

In order to meet the January 18, 2024 deadline directed by the Commission for the submission of this study, NERC Staff requests authorization to use a shortened posting schedule for the proposed Section 1600 request for data or information as permitted under Section 1606 of the Rules of Procedure.

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<sup>1</sup> 1 Internal Network Security Monitoring for High and Medium Impact Bulk Electric System Cyber Systems, Order No. 887, 182 FERC ¶ 61,021 (Jan. 19, 2023) [hereinafter Order No. 887], <https://elibrary.ferc.gov/eLibrary/filedownload?fileid=F15F19FA-BDDF-C87E-94CA-85CB36100000>.

Section 1600 of NERC's Rules of Procedure normally requires a twenty-one (21) day review period by FERC's Office of Electric Reliability and a subsequent forty-five (45) day public comment period before a request for data or information can be issued to reporting entities. Section 1606 of the NERC Rules of Procedure allows for expedited procedures to be used to issue a request for data or information in circumstances such as these, where the data or information is necessary to comply with a directive in an order issued by the Commission or by another Applicable Governmental Authority. The NERC Board must provide its authorization before these expedited procedures may be used.<sup>2</sup>

Use of expedited procedures would enable NERC staff to present the proposed data request to the Board for approval at the May 11, 2023 Board meeting, and to collect, evaluate, and prepare a study using the requested data within the timeframe directed by FERC. NERC will use the data collected to assess the risk to the Bulk Power System should the BES Cyber Systems outside the scope of the directed revised Reliability Standards not have internal network security monitoring in place.

NERC management recommends abbreviating the time for public comment from 45 days to as few as 21 days. NERC management also recommends an expedited review period for FERC staff, from 21 days to as few as 5 days, with plans to conduct outreach and coordination with FERC Staff during the data request drafting stage. NERC staff will endeavor to provide as much time as possible for the comment and review periods, recognizing the time constraints of the directive and the need to obtain the information in a timely manner.

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<sup>2</sup> The NERC Board previously authorized the exercise of Section 1606 procedures during the development of the bright line criteria in CIP-002 in 2010 and the collection of information to assess supply chain risks in 2019.