NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Agenda
Board of Trustees

February 13, 2025 | 10:30 a.m.-1:00 p.m. Eastern

In-Person
JW Marriott Miami
1109 Brickell Ave
Miami, FL 33131

Conference Room: Grand Ballroom (5th floor)

Virtual Attendees
Webcast Link: Join Meeting
Webcast Password: FEB25MRCBRDA (33225673 when dialing from a phone)
Audio Only: +1-415-655-0002 US Toll | +1-416-915-8942 Canada Toll | Access code: 2303 098 4361

NERC Board of Trustees

Kenneth W. DeFontes Jr. - Chair
Suzanne Keenan – Vice Chair and Chair Elect
Jim Piro
Kristine Schmidt
Jane Allen
Robert G. Clarke
Susan Kelly
Colleen Sidford
Colleen Sidford
Larry Irving
Robin E. Manning
James B. Robb – President and Chief Executive Officer

Call to Order

NERC Antitrust Compliance Guidelines

Introduction and Chair's Remarks

Consent Agenda* – Approve

1. **Minutes**
   a. January 10, 2025 Open Meeting
   b. December 10, 2024 Open Meeting
2. **Committee Membership and Charter Amendments**
   a. Reliability and Technical Security Committee Membership
   b. Reliability Issues Steering Committee Membership
   c. Personnel Certification and Governance Committee Membership

3. **Governance Documents Amendments**
   a. Northeast Power Coordinating Council, Inc. Amended Bylaws

Regular Agenda

4. **Remarks and Reports**
   a. Remarks by Armando Pimentel, President and CEO, Florida Power & Light Company
   b. Remarks by Willie Phillips, Commissioner, FERC
   c. Remarks by Tricia Pridemore, Commissioner, Georgia Public Service Commission, and NARUC President
   d. Remarks by Derek Olmstead, President and CEO Alberta MSA, CAMPUT Representative
   e. President's Report
   f. Report on the February 10, 11, and February 13, 2025 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. Regulatory Oversight
   c. Finance and Audit
      i. 2024 Year-End Unaudited Summary of Results – **Accept**
   d. Enterprise-wide Risk
   e. Technology and Security
   f. Nominating
7. **Semi-Annual Reports to the Board***
   a. Personnel Certification Governance Committee
      i. 2025 Work Plan – **Approve**
      ii. System Operator Certification (SOC) Program Manual – **Approve**
   b. Standards Committee
      i. 2025-2027 Standards Committee Strategic Work Plan – **Approve**
   c. Compliance and Certification Committee
      i. 2025 Work Plan – **Approve**
   d. Reliability and Security Technical Committee
      i. 2025 Strategic Plan – **Approve**

ii. Supply Chain Working Group Elevation to a Subcommittee – **Approve**

e. Reliability Issues Steering Committee

8. **Standards Quarterly Actions***

a. Regional Reliability Standard BAL-004-WECC-4 – **Adopt**

b. Project 2024-03 Revisions to EOP-012-2 – **Update**

c. Modernize Standard Processes and Procedures (MSPP) Task Force – **Update**

BREAK – 15 MINS

9. **Other Matters and Reports**

a. Input Letter and Member Representatives Committee Meeting – **Discussion**

b. TADS Section 1600 Data Request* – **Approve**

c. Regional Delegation Agreements Renewal Timeline* – **Update**

d. NERC.com Modernization Project* – **Update**

e. North American Energy Standards Board* – **Update**

f. North American Transmission Forum* – **Update**

g. North American Generator Forum* – **Update**

10. **Other Matters and Adjournment**

*Background materials included.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Minutes
Board of Trustees

January 10, 2025 | 12:00 – 12:30 p.m. Eastern

Virtual

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 January 10, 2025, at approximately 12:00 noon Eastern, and a quorum was declared present.

Present at the meeting were:

Board Members
Kenneth W. DeFontes, Jr., Chair
Suzanne Keenan, Vice Chair and Chair Elect
Jane Allen
Robert G. Clarke
Larry Irving
Susan Kelly
Robin E. Manning
Jim Piro
James B. Robb, President and Chief Executive Officer
Kristine Schmidt
Colleen Sidford

NERC Staff
Tina Buzzard, Director, Board Operations and Corporate Governance
Manny Cancel, Senior Vice President and Chief Executive Officer of the E-ISAC
Howard Gugel, Senior Vice President, Regulatory Oversight
Kelly Hanson, Senior Vice President and Chief Operating Officer
Soo Jin Kim, Vice President, Engineering and Standards
Mark G. Lauby, Senior Vice President and Chief Engineer
Kimberly Mielcarek, Vice President, Communications
Lauren Perotti, Assistant General Counsel
Sônia Rocha, Senior Vice President, General Counsel, and Corporate Secretary
Liz Saunders, Vice President, People and Culture
Camilo Serna, Senior Vice President, Strategy and External Engagement
Bluma Sussman, Vice President, E-ISAC Stakeholder Engagement

NERC Antitrust Compliance Guidelines

Ms. Buzzard directed the participants' attention to the NERC Antitrust Compliance Guidelines included in the advance agenda package and indicated that all questions regarding antitrust compliance or related matters should be directed to Ms. Rocha.

Introduction and Chair's Remarks

Mr. DeFontes welcomed the attendees to the meeting.

Standards Actions to Address FERC Directives Regarding EOP-012-2 – Extreme Cold Weather Preparedness and Operations

Mr. DeFontes noted the purpose of this meeting is to consider the recommendation of the Regulatory Oversight Committee at its January 10, 2025 meeting related to the development of revisions to the generator cold weather preparedness standard, EOP-012. He recalled that the Federal Energy Regulatory Commission ("FERC") directed NERC to revise the EOP-012 standard to clarify the circumstances under which generators may declare constraints and to clarify other matters relating to corrective action plans, and for NERC to file a revised standard for FERC's approval by March 27, 2025.

Mr. DeFontes reported that it appears increasingly unlikely that NERC will be unable to make FERC's filing deadline using the usual stakeholder balloting process, despite the dedication and hard work of the drafting team charged with addressing the FERC directives. For this reason, the Board is considering using its longstanding authority under Section 321 of the NERC Rules of Procedure to ensure the timely development of a standard that responds to FERC's directives. He cited the low approval percentage in the most recent ballot, the minimal increase in approval percentages across ballots despite the team holding a technical conference, and the stakeholder comments on the most recent posting as factors driving the Board's determination to consider special action under the notice and comment format described in Section 321.5 of the NERC Rules of Procedure.

Mr. DeFontes introduced Mr. Robb to provide additional remarks. Mr. Robb noted the significant loss of generation during past winter storms and the resulting impacts on Bulk-Power System reliability, compared to better performance during more recent winter storms when more generators took the appropriate action to prepare. He emphasized that the development of generator winterization standards is entirely within NERC's area of responsibility, and NERC must develop an EOP-012 standard that both addresses FERC's directives and serves the public interest.

Mr. DeFontes led a discussion of the proposed action. Mr. Gugel added that NERC is exploring ways to address stakeholder concerns related to compliance through its compliance and standards feedback loop processes.

Mr. Manning then presented the recommendation of the Regulatory Oversight Committee, which was for the Board to initiate special action under Section 321.5 of the NERC Rules of Procedure. After discussion and upon motion duly made and seconded, the Board approved the following resolutions:

> **WHEREAS**, on November 1, 2021, the Board, noting the demonstrated risks to reliability posed by multiple cold weather events over previous years, resolved to direct the development of new or revised Reliability Standards to address the recommendations of the February 2021 Event joint inquiry report for cold weather preparedness, operations, and coordination on a high priority basis;
>
> **WHEREAS,** the Federal Energy Regulatory Commission (FERC) issued an order approving Reliability Standards EOP-011-3 and EOP-012-2 by order dated February 16, 2023, while directing NERC to submit further revisions to EOP-012 within one year of the date of the order;
>
> **WHEREAS,** the Board adopted Reliability Standard EOP-012-2 on February 16, 2024, developed to address the directives of the February 16, 2023 Order;
>
> **WHEREAS**, FERC issued an order on June 27, 2024, approving Reliability Standard EOP-012-2 and directing NERC to further revise the EOP-012 standard to address issues not fully resolved from the February 16, 2023

Order, and to submit a revised standard by March 27, 2025;

WHEREAS, the Project 2024-03 Modifications to EOP-012-2 drafting team has posted two successive drafts of a revised EOP-012 Reliability Standard that intends to address the directives from FERC's June 27, 2024 Order, and both drafts have failed to meet with ballot body approval;

WHEREAS, the Board expresses its sincere appreciation to the Project 2024-03 drafting team for their diligent efforts to develop a draft standard responsive to FERC's June 27, 2024 order;

WHEREAS, Section 321 of the Rules of Procedure is a long-standing provision of the NERC Rules of Procedure that provides special rules in cases such as these: where a ballot body has failed to approve a proposed Reliability Standard that contains a provision to adequately address a specific matter identified in a directive issued by an Applicable Governmental Authority such as FERC.

WHEREAS, the Regulatory Oversight Committee of the Board considered the above facts and circumstances at its January 10, 2025, meeting, determining that the issues raised with regard to proposed Reliability Standard EOP-012-3 would be best resolved through the public notice and comment format described in Section 321.5 of the NERC Rules of Procedure;

WHEREAS, the Regulatory Oversight Committee, after discussion and upon motion duly made and seconded, therefore recommended the Board initiate proceedings under Section 321.5 of the NERC Rules of Procedure to develop a revised EOP-012 Reliability Standard addressing the FERC directives from the June 27, 2024 Order in a timely manner;

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby finds that the ballot body for draft Reliability Standard EOP-012-3 developed under Project 2024-03 Revisions to EOP-012-2 has failed to approve a proposed Reliability Standard that contains provisions to adequately address specific matters identified in directives issued by FERC in its June 27, 2024 Order;

BE IT FURTHER RESOLVED, that the Board finds it necessary and appropriate to employ the special processes described in Rule 321.5 of the NERC Rules of Procedure to develop a proposed draft standard that is responsive to the matters identified in the directives issued by FERC in its June 27, 2024 Order;

BE IT FURTHER RESOLVED, that the Board hereby directs the Standards Committee, with the assistance of stakeholders and NERC staff, to prepare a draft Reliability Standard responsive to the directives in FERC's June 27, 2024 Order to be posted for public comment by no later than January 29, 2025;

BE IT FURTHER RESOLVED, that it is the Board's expectation the Standards Committee prepare a draft Reliability Standard that adequately addresses the directives in FERC's June 27, 2024 Order; however, if the Standards Committee fails to prepare a draft standard that is responsive to the directives in time so that it may be posted as directed in the foregoing resolution, or the Standards Committee determines by resolution that NERC management should prepare the draft standard in the first instance, the Board hereby directs NERC management to prepare the draft Reliability Standard;

BE IT FURTHER RESOLVED, that the Board hereby directs that the draft Reliability Standard developed in accordance with the foregoing resolutions be posted for a 45-day public comment period in accordance with Section 321.5.1 of the NERC Rules of Procedure;

BE IT FURTHER RESOLVED, that the Board hereby directs NERC management to present the draft Reliability Standard to the Board for its consideration, along with the entire record of development and any comments

received, by no later than the open meeting to be convened in March 2025 for this purpose.

Mr. DeFontes noted that the Board approved the resolution with the unanimous consent of the Trustees present. He further noted that, while Mr. Hawkins was not present at the meeting, he previously expressed his support for the resolution.

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

Submitted by,

Sônia Rocha
Corporate Secretary

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Draft Minutes
Board of Trustees

December 10, 2024 | 3:00–4:00 p.m. Eastern

Virtual

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 10, 2024, at approximately 3:00 p.m. Eastern, and a quorum was declared present.

Present at the meeting were:

Board Members
Kenneth W. DeFontes, Jr., Chair
Suzanne Keenan, Vice Chair and Chair Elect
Jane Allen
Robert G. Clarke
George S. Hawkins
Larry Irving
Susan Kelly
Robin E. Manning
Jim Piro
James B. Robb, President and Chief Executive Officer
Kristine Schmidt
Colleen Sidford

NERC Staff
Tina Buzzard, Assistant Corporate Secretary
Manny Cancel, Senior Vice President and Chief Executive Officer of the E-ISAC
Mathew Duncan, Vice President, E-ISAC Security Operations and Intelligence
Howard Gugel, Vice President, Regulatory Oversight
Kelly Hanson, Senior Vice President and Chief Operating Officer
Stan Hoptroff, Vice President, Business Technology
Soo Jin Kim, Vice President, Engineering and Standards
Mark G. Lauby, Senior Vice President and Chief Engineer
Kiel Lyons, Senior Manager, Compliance Assurance
Kimberly Mielcarek, Vice President, Communications
Lauren Perotti, Assistant General Counsel
Sônia Rocha, Senior Vice President, General Counsel, and Corporate Secretary
Liz Saunders, Vice President, People and Culture
Camilo Serna, Senior Vice President, Strategy and External Engagement
Andy Sharp, Vice President and Chief Financial Officer

NERC Antitrust Compliance Guidelines

Ms. Buzzard directed the participants' attention to the NERC Antitrust Compliance Guidelines included in the advance agenda package and indicated that all questions regarding antitrust compliance or related matters should be directed to Ms. Rocha.

Introduction and Chair's Remarks

Mr. DeFontes welcomed the attendees to the meeting.

Consent Agenda

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

Minutes

The draft minutes for the October 8, 2024 meeting were approved as presented to the Board at this meeting.

Standing Committee Membership and Charter Amendments

Compliance and Certification Committee Membership

RESOLVED, that the Board hereby appoints the following individuals to the Compliance and Certification Committee, each for a three-year term from January 1, 2025 through December 31, 2027:

- Daniela Hammons, CenterPoint Energy, representing Sector 1, Investor-Owned Utility
- Scott Brame, North Carolina Electric Membership Corporation, representing Sector 3, Cooperative Utility
- Kimberly Bentley, Western Area Power Administration, representing Sector 4, Federal/Provincial Utility/Federal Power Marketing Administration
- Lauren Price, Arevon Energy, Inc., representing Sector 6, Merchant Electricity Generator
- Greg Campoli, New York ISO, representing Sector 10, ISO/RTO
- Robert Hirchak, Cleco, Member At Large
- Lisa Milanes, California ISO, Member At Large
- Frank Owens, Rayburn Electric, Member At Large

Reliability Issues Steering Committee Charter Amendments

RESOLVED, that the Board, upon recommendation of the Corporate Governance and Human Resources Committee ("CGHRC"), hereby approves the revised charter of the Reliability Issues Steering Committee, substantially in the form presented to the Board at the meeting, to replace the charter dated August 20, 2020.

Regular Agenda

Standards

Project 2023-04 Modifications to CIP-003

Ms. Kim presented proposed Reliability Standard CIP-003-11, highlighting the proposed reliability benefits and high degree of stakeholder consensus for the proposed standard. Upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby adopts the proposed Reliability Standard CIP-003-11, 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 proposed Reliability Standard, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby approves the proposed retirement of Reliability Standard CIP-003-10, or the version of the CIP-003 Reliability Standard that is then in effect, 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.

Project 2023-08 – Transmission System Planning Performance Requirements for Extreme Weather

Ms. Kim presented proposed Reliability Standard TPL-008-1, noting that the proposed standard addresses FERC directives from Order No. 896 to develop a standard that would improve how planning entities plan for the impact of extreme heat and extreme cold events on the Bulk-Power System. Upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby adopts the proposed Reliability Standard TPL-008-1, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby adopts the proposed definition of Extreme Temperature Assessment for inclusion in the *Glossary of Terms used in NERC Reliability Standards*, 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 proposed Reliability Standard, 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.

Project 2021-03 CIP-002

Ms. Kim presented proposed Reliability Standard CIP-002-8, highlighting the reliability benefits of the proposed standard. Upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby adopts the proposed Reliability Standard CIP-002-8, as presented to the Board at this meeting.
>
> **RESOLVED**, that the Board hereby adopts the proposed revised definition of Control Center for inclusion in the *Glossary of Terms used in NERC Reliability Standards*, 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 proposed Reliability Standard, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby approves the proposed retirement of Reliability Standard CIP-002-7, 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.

Project 2022-03 Energy Assurance with Energy-Constrained Resources

Ms. Kim presented proposed Reliability Standards BAL-007-1 and TOP-003-7, highlighting the reliability benefits of the proposed standards. Upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby adopts the proposed Reliability Standard BAL-007-1, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby adopts the proposed Reliability Standard TOP-003-7, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby adopts the proposed definitions of Energy Reliability Assessment and Near-Term Energy Reliability Assessment for inclusion in the *Glossary of Terms used in NERC Reliability Standards*, 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 Standards, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby approves the associated implementation plan for the proposed Reliability Standards and definitions, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that the Board hereby approves the proposed retirement of Reliability Standard TOP-003-6.1, as presented to the Board at this meeting.
>
> **FURTHER RESOLVED**, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

At the conclusion of the discussion, Mr. DeFontes commended NERC and its stakeholders for their work in developing each of the important Reliability Standards on the Board's December agenda.

2025-2027 Reliability Standards Development Plan

Ms. Kim presented the proposed 2025-2027 Reliability Standards Development Plan. After discussion, and upon motion duly made and seconded, the Board approved the following resolutions:

> **RESOLVED**, that the Board hereby approves the 2025-2027 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 ERO 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.

At the conclusion of the discussion, Mr. DeFontes remarked on a high priority project in development, Project 2024-03 Modifications to EOP-012, addressing Federal Energy Regulatory Commission ("FERC") directives from the June 2024 order approving EOP-012-2. He noted that, depending on the results of the ballot scheduled to end December 20, 2024, the Board may be required to invoke its special authorities under Section 321 of the NERC Rules of Procedure to develop a responsive standard by FERC's March 2025 deadline. Mr. DeFontes noted that the Board will consider the results of the pending ballot in determining how to proceed.

Rules of Procedure Section 1600 Cold Weather Generator Data Request

Mr. Lyons presented the proposed request for data or information under Section 1600 of the NERC Rules of Procedure, noting that NERC is proposing this data request to respond to directives in FERC's February 2023 Order approving Reliability Standard EOP-012-1 and directing further revisions and reporting.

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

> **RESOLVED**, that the Board hereby authorizes staff to issue, substantially in the form presented to the Board at the meeting, the proposed request for data or information relating to generator cold weather data, pursuant to NERC's authority in Section 1600 of the NERC Rules of Procedure.

ERO Enterprise Long-Term Strategy

Mr. Serna presented the proposed ERO Enterprise Long-Term Strategy, noting the purpose of the Strategy and referencing the materials included in the advance agenda package. Mr. DeFontes expressed his appreciation for the thoughtful work and industry input used to develop the Strategy, which will provide NERC with a framework for shaping its work ahead.

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

> **RESOLVED**, that the Board hereby approves the ERO Enterprise Long-Term Strategy, substantially in the form presented to the Board at this meeting.

2025 NERC Work Plan Priorities

Ms. Hanson presented the proposed 2025 NERC Work Plan priorities, noting that they represent NERC's goalposts for executing Year 3 of the 2023-2025 Three-Year Plan.

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

> **RESOLVED**, that the Board hereby approves the 2025 Work Plan Priorities, substantially in the form presented to the Board at this meeting.

Board of Trustees Compensation

Mr. Hawkins, CGHRC Chair, presented the proposed recommendations to the Board compensation. He noted that the CGHRC retained the compensation consulting firm of Meridian Compensation Partners (Meridian) to conduct an update to the market study of Board compensation completed in 2021, to aid in its determination of whether to recommend any changes to the Board's compensation program. Mr. Hawkins reviewed the factors considered in recommending the proposed changes to existing trustee compensation, noting that the proposed target annual retainers for the Trustees, chair, and vice chair are below the median of the range contemplated by the NERC Governance Guidelines. He further noted that CGHRC unanimously approved the recommended changes to the trustee compensation program and recommended them for Board approval.

At the conclusion of the presentation, Mr. DeFontes thanked Mr. Clarke, who will be stepping down from the Board at the February 2025 MRC meeting, for his independence and stewardship of this effort on behalf of the CGHRC.

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

> **WHEREAS**, the Board's Corporate Governance and Human Resources Committee (the "CGHRC") is required to review annually the compensation program for independent Trustees and to make recommendations to the Board, as appropriate.
>
> **WHEREAS**, the CGHRC engaged the compensation consulting firm of Meridian Compensation Partners, LLC ("Meridian"), to conduct an update to the market study of Board compensation completed in 2021, to aid in its determination of whether to recommend any changes to the Board's compensation program.
>
> **WHEREAS**, Meridian compared current Trustee compensation and the structure of the Board's current compensation structure to the market perspectives, also updating its view of overall compensation trends, and prepared a report, which has been reviewed and accepted by the CGHRC.
>
> **WHEREAS**, the CGHRC considered: (i) the findings and recommendations in the Meridian report, as well as (ii) the need to consider any compensation adjustment in light of NERC's overall budget, (iii) that the workload for all Trustees has continued to be at a level higher than any of the peer groups, (iv) that the Board Chair, Vice Chair and Committee chairs have substantial additional responsibilities and time commitments, and members of the Board serve as liaisons to the Standards Committee and Reliability and Security Technical Committee, (v) that the current compensation structure, utilizing fixed retainers, is consistent with best practice trends in director compensation, (vi) that it remains important for NERC to be able to recruit and retain qualified and quality individuals to board service, and that NERC competes directly with Regional Entities, Independent System Operators and Regional Transmission Organizations, Investor Owned Utilities, and even private sector companies in attempting to attract such individuals to NERC, and (vii) that the conflict of interest requirements at NERC for Trustees, which include financial interest and investment prohibitions, employment/consulting prohibitions, and industry board service prohibitions, and the fact that NERC is non-profit and offers no stock options or benefits, reinforce the need for NERC to offer competitive compensation to Trustees, understanding the limits NERC places on what might be other opportunities for financial reward.
>
> **WHEREAS**, based on its review of the Meridian report and its deliberations in open session, the CGHRC has recommended Board approval of modifications to the Trustee compensation program.

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

- Annual Retainer: The Board hereby establishes a target annual retainer for each Trustee of $170,000. The new retainer will be implemented annually over the next three years with a $15,000 increase in 2025, a $10,000 increase in 2026, and a $10,000 increase in 2027.
- Chair Retainer: The Board hereby establishes an annual retainer for the Board Chair of $55,000.
- Vice Chair Retainer: The Board hereby establishes an annual retainer for the Board Vice Chair of $15,000.
- Committee Chairs Retainer: The Board hereby establishes an annual retainer for Committee Chairs of $15,000.
- Liaison Retainers: The Board hereby establishes an annual retainer for the Trustee(s) who is designated as the liaison to the Standards Committee and the Reliability and Security Technical Committee of $7,500.

Board of Trustees New Meeting Cadence

Ms. Keenan reviewed the 2026 Board of Trustees meeting cadence, noting that the meeting cadence would help address stakeholder concerns about the lack of a fourth quarter meeting, better align with the MRC leadership and sector election calendar, allow for better distribution for substantive topics throughout the year, provide an opportunity to re-think one-off webinars, and provide for more fulsome internal discussions ahead of Board reporting.

She reported that NERC would host an annual in-person meeting in February, with in-person or hybrid meetings in June and October. The location of the June meetings would alternate between a Canadian location and the NERC Washington, DC office. In years where NERC does not host the Board meetings in Canada, NERC would host other standing committee meetings to promote continued engagement with Canadian stakeholders. Board committee meetings and Board virtual meetings would be held as needed throughout the year. Ms. Keenan noted that the Board would consider any feedback from 2026 when determining the cadence for future years.

Other Matters and Adjournment

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

Submitted by,

Sônia Rocha
Corporate Secretary

Reliability and Security Technical Committee (RSTC) Membership

Action
Approve

Summary
The RSTC's members are appointed following the approval of the Board of Trustees (Board). The Member Selection process, as outlined in the RSTC Charter, includes sector member elections and at-large member recommendations made by the RSTC Nominating Subcommittee (NS).

From October 7 to November 4, 2024, the RSTC held elections to fill vacancies for sector seats expiring on January 31, 2025. Subsequently, from December 2 to December 20, 2024, nominations were collected to fill five at-large seats. The RSTC NS reviewed 13 nominations, including four current members seeking an additional two-year term, based on the qualities outlined in the announcement and the Charter.

The RSTC has nine Sector members and six at-large members, whose terms end on January 31, 2025. The RSTC held elections from October 7 to November 4, 2024, to fill sector seat vacancies. After that, from December 2 to December 20, 2024, the RSTC accepted nominations for the five at-large seats. These seats will have a two-year term from 2025 to 2027.

The RSTC Charter was recently updated to include a provision for the RSTC NS to give consideration to underrepresented sectors when selecting the slate of at-large nominees.

Based on the Member Selection process, the RSTC recommends that the Board approve the appointment of the following representatives for a two-year term from 2025 to 2027.[1]

Sector	Sector Elected Members
1. Investor-owned utility	Todd Lucas* (Southern Company)
2. State/municipal utility	Scott Klauminzer (Tacoma Public Utilities | Tacoma Power)
3. Cooperative utility	Marc Child* (Great River Energy)
4. Federal or provincial utility/Federal Power Marketing Administration	Gayle Nansel (Western Area Power Administration)
5. Transmission dependent utility	Nicola Parrota* (Taunton Municipal Lighting Plant)
6. Merchant electricity generator	Srinivas Kappagantula* (Arevon Energy)
7. Electricity Marketer	Mohammad Awad (Evergy)
8. Large end-use electricity customer	Vacant
9. Small end-use electricity customer	Darryl Lawrence* (Pennsylvania Office of Consumer Advocate)

[1] Background information regarding the proposed slate is attached to this Item 2a.

Sector	Sector Elected Members
10. Independent system operator/ regional transmission organization	Drew Bonser (ERCOT)
12. State Government	Christine Ericson* (Illinois Commerce Commission)
At-large Members	
David Jacobson*	Manitoba Hydro
Kevin Conway	Western Power Pool
David Wand	New Jersey Division of Rate Counsel
Cezar Panait*	Minnesota Public Utilities Commission
Marc-Antoine Roy*	Hydro Quebec
Non-voting Members	
Kal Ayoub (FERC)	United States Federal Government
Bradley Little* (Natural Resources Canada)	Canadian Federal Government

*Returning RSTC Member – the full RSTC Member Roster is posted on the RSTC website.

RSTC NS Report to the Board
January 2025 - The following RSTC members have terms expiring January 31, 2025:
Sector Members:

- Todd Lucas, Sector 1
- Saul Rojas, Sector 2
- Marc Child, Sector 3
- Edison Elizeh, Sector 4
- Nicola Parrotta, Sector 5
- Mark Spencer, Sector 6
- Darryl Lawrence, Sector 9
- Eric Miller, Sector 10
- Christine Erickson, Sector 12

At-large members with expiring terms:

- Ian Grant
- Marc-Antoine Roy
- Cezar Panait
- Thomas Burns
- David Jacobson
- Srinivas Kappagantula

2025-2027 Sector Member Recommended Slate

The RSTC consists of nine Sector members and six at-large members, with terms expiring on January 31, 2025. The RSTC conducted elections from October 7 to November 4, 2024 across all sectors to fill sector seat vacancies, and subsequently, from December 2 to December 20, 2024, the RSTC held nominations to fill five at-large seats. The seats will have a two-year term of 2025-2027.

Sector 1 – Investor-owned utility: Todd Lucas was re-elected to represent Sector 1. He serves as the Vice President of Transmission Operations and Policy at Southern Company, where he leads the Bulk Power Operations (BPO), Energy Management Systems, and Transmission Policy and Services organizations. In his prior role as General Manager of BPO, he ensured reliable operations across Southern's Bulk Electric System (BES) territory and provided oversight of real-time system operations and operations support including several NERC Reliability Functions. Todd is also a member of the RSTC Executive Committee (RSTC EC).

Sector 2 – State/municipal utility: Saul Rojas retired from the RSTC due to additional work assignments at NYPA. Scott Klauminzer was elected to fill the Sector 2 seat. He has been in the Information Technology and Security fields for 35 years. He is currently the Critical Infrastructure Protection Program Manager at Tacoma Power and has extensive experience in physical security and cybersecurity.

Sector 3 – Cooperative utility: Marc Child was re-elected to represent Sector 3. He has broad industry experience with specialization in cybersecurity and physical security, and reliability issues pertaining to both CIP and Operations and Planning (O&P) standards. Marc is an incumbent Sector 3 RSTC member with continuous service on NERC committees since 2007. He is the current sponsor of the SITES subcommittee and member of the RSTC EC.

Sector 4 – Federal or provincial utility / Federal Power Marketing Administration: Gayle Nansel has been elected as the new representative for Sector 4, succeeding Edison Elizeh, who retired from Bonneville Power. Since August 2022, Gayle has served as the Vice President of Operations for the Western Area Power Administration's Upper Great Plains Region (WAPA-UGPR). Prior to this role, she spent over 12 years as the Transmission System Planning Manager for WAPA-UGPR. With 35 years of experience in power system planning, system operations, compliance, and reliability, she has worked with both Midwest Reliability Organization (MRO) and WECC.

Sector 5 – Transmission dependent utility: Nicola Parrotta was re-elected to represent Sector 5. He has over 35 years of experience working or consulting for electric utilities in Massachusetts and New York in energy services, planning and NERC compliance roles. He is the lead compliance officer, responsible for all aspects of the utilities' NERC/NPCC CIP and O&P compliance requirements at Taunton Municipal Lighting Plant.

Sector 6 – Merchant electricity generator: Srinivas Kappagantula has been elected to fill the Sector 6 seat, succeeding Mark Spencer, who retired due to additional work assignments at LS Power. Srinivas is currently an at-large member of the RSTC, with his term expiring on January 31, 2025. He is a key member of the Arevon Asset Management Leadership Team and manages asset compliance functions, developing and maintaining compliance programs while staying informed about relevant regulations and laws in the electricity sector.

Sector 7 – Electricity marketer: Mohammad (Mo) Awad was elected to fill a vacant Sector 7 seat. Mo is the Director of Transmission Operations and Transmission Operations Planning at Evergy. He joined Evergy in 2005 and has held various positions in Transmission Planning, Federal Regulatory Affairs, Operations Analytics, and T&D Asset Management.

Sector 8 – Large end-use electricity customer: No nominations were received for the vacant Sector 8 seat; staff will continue to seek nominees.

Sector 9 – Small end-use electricity customer: Darryl Lawrence has been re-elected to represent Sector 9. He has worked for the Pennsylvania Office of Consumer Advocate (PA OCA) for the past 20 years, focusing on electric transmission and distribution cases. Darryl oversees the PA OCA's federal practice at FERC and represents Sector 9 on NERC's MRC.

Sector 10 – Independent system operator/Regional transmission organization: Eric Miller from Midcontinent Independent System Operator (MISO) rotated off the RSTC and was replaced by Drew Bonser from Electric Reliability Council of Texas (ERCOT). Drew has a cybersecurity background and has extensive experience in the energy sector, with a strong focus on the security and reliability of the BES. He is currently serving as a senior leader within ERCOT and is slated to assume the role of Vice President and Chief Information Security Officer (CISO) in January 2025.

Sector 12 – State Government: Christine Ericson was re-elected to represent Sector 12. She has a planning and cybersecurity background and served on the NERC Planning Committee prior to joining the RSTC. Christine is also a member of the RSTC EC.

2025-2027 At-large Recommended Slate

The RSTC has five at-large seats to fill. The RSTC NS received and reviewed thirteen nominations for five open at-large seats. Among the thirteen nominees, four were current RSTC members seeking an additional two-year term. The RSTC NS deliberated nominations regarding the attributes that were included in the at-large nominations period announcement and consistent with the Charter.

The RSTC Charter was recently updated to include a provision for the RSTC NS to give consideration to underrepresented sectors when selecting the slate of at-large nominees.

David Jacobson (Manitoba Hydro) was selected for another two-year term as an at-large RSTC member. With over 35 years of experience in long-term transmission planning, David leads a team at Manitoba Hydro that conducts studies to support the granting of long-term transmission service. This includes work related to Manitoba Hydro's generator interconnection and transmission service tariffs, as well as ensuring compliance with NERC standards for Transmission Owners, Planning Coordinators, and Physical Security.

Kevin Conway (Western Power Pool) is a senior level utility operations executive with almost 40 years of experience in multi-faceted fields of power generation, transmission operations, power management, information technology, engineering, system maintenance, physical and cyber security measures, industrial safety, FERC Dam Safety, administration and NERC compliance. This is Kevin's first term on the RSTC.

David Wand (New Jersey Division of Rate Counsel) has worked for the NJ DRC since 2019 and has been practicing in the energy sector for the last 15 years, with a particular concentration on

electric transmission and distribution cases. He also manages the Rate Counsel's federal practice at FERC. This is David’s first term on the RSTC.

Cezar Panait (Minnesota Public Utilities Commission) was selected for another two-year term as an at-large RSTC member. He has served as a Regulatory Engineer for the Minnesota Public Utilities Commission since January 2013, providing professional engineering and technical analysis on energy utility facilities planning and permitting, as well as other energy-related matters. His expertise helps the Commission make informed decisions and protect Minnesota's interests in national and regional forums.

Marc-Antoine Roy (Hydro Quebec) was selected for another two-year term as an at-large RSTC member. With over 20 years of experience in distribution, transmission, and generation operations, Marc-Antoine manages a team of engineers that support network operations at Hydro Quebec.

Reliability Issues Steering Committee (RISC) Membership

Action
Approve

Background
As required by the Reliability Issues Steering Committee (RISC) charter, the RISC Nominating Subcommittee (RISCNS) chaired by the Member Representatives Committee (MRC) Vice Chair and including the Board of Trustees Vice Chair, the NERC President and CEO, and the Committee Chair and Vice Chair solicited a pool of candidates to fill open stakeholder-based positions (At-Large and MRC) on the RISC. The RISC nomination period was held December 10, 2024-January 10, 2025. The RISC Charter requires a hybrid representation model consisting of the following types of memberships:

- At-large Members;
- Member Representatives Committee Members (MRC);
- Committee-based members; and
- Non-voting members.

At-large Members – Selection of at least ten (10) At-large members who provide a balanced representation on the RISC of the following:

- Geographic and International diversity, including international, such that Eastern, Western, and Texas Interconnections, along with Canada are represented on the RISC;
- Sector, size, and asset (transmission, distribution, load, generation, etc.) diversity;
- High-level understanding and perspective on reliability risks;
- Experience in a leadership role or background in an executive-level position is strongly preferred; and
- Balanced consideration of these criteria, across the entire membership of the RISC.

MRC Members – Selection of four (4) members as presented by the MRC leadership and in consultation with the RISC Nominating Subcommittee.

Committee-based Members-Selection of three (3) committee-based members—one (1) from each of the standing committees: Standards (SC), Reliability and Security Technical Committee (RSTC) and Compliance and Certification (CCC). These members will be the chair or vice chair unless otherwise recommended by the standing committee leadership and agreed to by the RISC Nominating Committee.

Non-voting members. The Committee Chair, Nominating Subcommittee Chair or RISC secretary will coordinate with the entities entitled to non-voting membership (US Federal Government, Canadian Federal Government, and Provincial Government) to identify representatives for the non-voting seats.
At the February Board meeting each year (or as needed), the RISC NS shall present to the Board a recommended slate of all RISC member candidates as appropriate for consideration and

approval.

Summary

The RISC NS met on January 28, 2025 to review the slate of nominees and recommends that the Board approve the appointment of the following At-Large and MRC representatives for a two-year term concluding January 31, 2027 and the Standing Committee representatives for a one-year term concluding January 31, 2026. The slate recommended fulfills gaps in skillsets and expertise lost by terming members, as well as fulfills gaps of expertise in areas of emerging risks identified in the 2023 ERO Reliability Risk Priorities Report.

At-Large Members

- Joe Sowell, Georgia Transmission Corporation
- Lee Ragsdale, North Carolina Electric Membership Corporation
- Nelson Peeler, Duke Energy
- Tom Galloway, NATF
- Chris Lincoln, New Brunswick Power
- Tim Kelley, SMUD
- Brian Slocum, ITC Holdings, Past Chair
- Felek Abbas, Southwest Power Pool
- John Babik, JEA
- Maurice Moss, American Clean Power Association
- Margaret Albright, Bonneville Power Admin

MRC Members

- Srinivas Kappagantula, Director, Regulatory Affairs, Arevon
- Colin Hansen, CEO and General Manager, KPP Energy

Standing Committees

- Scott Tomashefsky, Compliance and Certification Committee
- John Stephens, Reliability and Security Technical Committee
- Todd Bennett, Standards Committee

Non-Voting Members

Based on the recent administration transition and other regulatory happenings, the RISC NS is not recommending US Federal Government, Canadian Federal Government, and Provincial Government non-voting members at this time. At the right time, the RISC leadership will coordinate with the NERC Vice President, Government Affairs to determine these representatives and bring before the Board for approval at a future meeting.

Additional Recommended Slate Information

At-Large

Joe Sowell is the Vice President of System Planning for Georgia Transmission Corporation (GTC) in Tucker, GA. GTC serves as the transmission service provider for 38 distribution cooperatives in

Georgia. Our total assets exceed $4 billion, which includes over 5,000 miles of transmission lines and more than 700 substations. Joe oversees the development of GTC's capital expansion for both bulk and load-serving transmission systems, focusing on system protection to meet reliability and economic metrics. Additionally, Joe is a member of the SERC Reliability Risk Working Group, the EIPC Technical Committee, and EPRI's Research Advisory Council.

Lee Ragsdale has worked in the Energy Sector for 27 years and has been involved in the NERC ecosystem since 2009. Throughout his experience with NERC, he has served on or led every industry stakeholder committee except for the RSTC, though he has participated in several subgroups under the RSTC. Lee currently serves—and has served multiple terms—on the MRO Board. He will conclude his two terms as MRC Chair in February 2025. His extensive experience, engagement with stakeholders, and industry relationships would provide significant contributions to the RISC. Importantly, his insight into the current risks and opportunities facing our industry would be a valuable asset to the RISC. In his current role, he leads reliability, resilience, and security policy and intelligence for one of the largest investor-owned utilities and renewable energy companies in the U.S. He has volunteered for three of the five risk profiles in the upcoming report.

Nelson Peeler has over 35 years of experience in various utility operations and planning, as well as bulk power system reliability topics. He has led initiatives in system operations, transmission planning, engineering, fuel procurement, power trading, system optimization, and other areas across the Duke Energy enterprise, which operates in six states and two different RTO areas. Nelson has extensive experience working with the ERO and has served on regional boards such as SERC, RF, and FRCC, as well as the NERC MRC and RISC, where he was a past chair.

Tom Galloway has 43 years of industry experience and has served as the CEO of NATF since October 2011. Prior to this role, he served as the Senior Vice President of NERC and the Vice President of SERC.

Chris Lincoln is the Incumbent Chief Information Security Officer at NB Power, a position he has held since March 2021.

Tim Kelley is currently the Senior Regulatory Advisor for the Sacramento Municipal Utility District (SMUD), where he oversees the coordination of balloting and revision comments on NERC and WECC reliability standards under development. He brings over 15 years of experience in the NERC reliability compliance field, including six years as SMUD's Reliability Compliance Manager. Tim is a member of both the NERC Reliability Issues Steering Committee (RISC) and the WECC Standards Committee, and he has been active in the Western Interconnection Compliance Forum (WICF), serving on its Steering Committee since 2010. His previous work experience includes project management and electrical engineering services with Integrated Engineers and Contractors Corporation, Constellation Energy, and Northeast Utilities. Tim began his career in the U.S. Navy, serving six years on a nuclear submarine as an electronics technician and reactor operator. He earned a Bachelor of Science degree in Electrical Engineering from the University of Massachusetts and completed his Master of Business Administration at California State University in Sacramento. Tim holds a California professional engineering license in electrical engineering.

Brian Slocum is a current at-large member and past chair of RISC, with 25 years of industry experience focused on planning, operations, IT, and engineering.

Felek Abbas has over 30 years of experience in the electric industry focused on cybersecurity, engineering, consulting, and risk management. Currently the Vice President and Chief Security Officer at Southwest Power Pool, he oversees cybersecurity and emergency management. Formerly a consultant at Ernst & Young, he implemented cybersecurity solutions for various entities and contributed to the NERC CIP v5 standards. Felek holds a degree in electrical engineering from Auburn University and is an (ISC)2 Certified Information Systems Security Professional.

John Babik is the Chief Compliance Officer at JEA with over 35 years in the utility sector, specializing in NERC and NAESB standards. He has been instrumental in developing regulatory standards and representing JEA in compliance efforts. His experience includes roles in NERC and regional committees, focusing on grid operations and compliance.

Maurice Moss has extensive experience in electric reliability and governance, having served on the Board of Directors for the Midwest Reliability Organization and as Chair of the American Public Power Association's Legal and Regulatory Section. Currently at the American Clean Power Association, he advocates for clean energy policies and oversees initiatives to integrate renewable energy into the grid. Maurice's background in compliance and risk management positions him well for the NERC RISC.

Margaret (Meg) Albright is a registered Professional Engineer and Project Management Professional with over 30 years in the electrical utility field, specializing in Test & Energization, Design, Planning, Project Management, and Operations.

MRC Members

The MRC Leadership, in consultation with the RISC NC, recommends Srinivas Kappagantula and Colin Hansen to provide additional diversity for the MRC members on the RISC. The current MRC members include representation from the Marketers and Canadian Provincial Utility sectors. Mr. Kappagantula represents Merchant Generators and Mr. Hansen represents Transmission-Dependent Utilities and is a recent past president of the Board of Directors for APPA. Further, Mr. Kappagantula has previously served on the RISC.

Standing Committee Members

Scott Tomashefsky is the Chair of the Compliance and Certification Committee and will serve as the representative on the RISC.

John Stephens is the Vice Chair of the Reliability and Security Technical Committee and will serve as the representative on the RISC.

Todd Bennett, is the Chair of the Standards Committee and will serve as the representative on the RISC.

Personnel Certification Governance Committee (PCGC) Membership

Action
Approve

Background
The PCGC is seeking the Board of Trustees approval for the following leadership changes:

- Michael Hoke from Vice chair to Chair position
- Marty Sas to Vice chair.

All PCGC members are NERC Certified System Operators (NCSO).

Summary
Requesting approval for the PCGC Chair and Vice Chair for two-year terms ending December 31, 2026. The following provides additional information/short bio for them both:

- Michael Hoke, PJM Interconnection (PJM)
  - Mr. Michael Hoke – Principal Trainer in the State and Member Training Department of PJM Interconnection oversees the development and delivery of content for in-person and online training programs targeted to PJM members and stakeholders. Topics include transmission operating criteria, system protection, communications, human performance, NERC standards and system restoration. Mr. Hoke also develops simulation exercises using various software such as LabVolt, Powerworld OPS-X, IncSys Power Simulator and Bismarck National Energy Center of Excellence online simulations. Mr. Hoke manages the PJM Transmission Owner Operator and Generation Dispatcher certification programs. He is the department liaison to the PJM System Operations Subcommittee and the PJM System Operations Training Advisory Committee. Prior to joining PJM, Mr. Hoke was employed by FirstEnergy as a distribution dispatcher, transmission dispatcher and supervisor of transmission operations in their Reading Control Center. His responsibilities included operation and monitoring of the transmission system and supervising Transmission System Operators in the FirstEnergy Reading Control Center. He is also a retired Senior Master Sergeant of the Pennsylvania Air National Guard, having served 31 years with the 193rd Special Operations Wing in Harrisburg, PA. His duties included maintaining navigation and communications systems on EC-130-E aircraft and supervising guard personnel on training weekends. Mr. Hoke holds an associate degree in Electro-Mechanical Engineering Technology from Harrisburg Area Community College. Mr. Hoke has completed the United States Air Force Senior Non-commissioned Officer leadership course and various industry train the trainer programs.
- Marty Sas, SERC Reliability Corporation (SERC)
  - Mr. Sas is Principal Engineer, Reliability Assessment and Performance Analysis (RAPA) & Technical Services at SERC. He has been with SERC for 5 years and has been working

in the BES industry for 21 years. The primary focus of his current role is to be the liaison to the Reliability Risk Working Group (RRWG), Reliability Coordinator Working Group (RCWG), System Operator Working Group (SOWG), along with assisting the RAPA and other departments at SERC in the coordination and assessment of the bulk power system, to assure effective and efficient reduction of risks to the reliability and security of the BES. Before SERC, Mr. Sas spent 13 years at Midwest Reliability Organization (MISO), and five years as the Senior Manager of South Reliability Coordination and Engineering. He began his career at MISO as RC for the East Region and then moved to the South Region as the Lead RC to assist in the creation in establishing the MISO South Region. Before MISO, he spent four years at PJM as a Power and Generation Dispatcher and has been in the utility industry since 1994 holding several positions with Utility Line Construction Company ranging from a Construction Manager to Field Engineer. Mr. Sas currently holds his NCSO and has a Bachelor of Science Degree in Physics from the Clarion University of Pennsylvania.

Proposed Northeast Power Coordinating Council, Inc. Bylaws Amendments

Action

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

Background

On September 12, 2024, the NPCC Board of Directors (NPCC Board) approved Bylaw amendments regarding NPCC's purpose, membership eligibility, NPCC Board composition, NPCC Board quorum and voting, member quorum and voting, transition from a 501(c)(6) organization to a 501(c)(3) organization, and other clarifying changes. NPCC Members approved the amended Bylaws on December 4, 2024.

Summary

The following is a summary of the substantive amendment to the NPCC Bylaws. Non-substantive or minor amendments not discussed herein are reflected in the redline draft in Attachment 1.

Article II - OFFICES

- *Section 2.1 Principal Office* – Adds provision to permit the principal office to be located anywhere within the NPCC geographic region, instead of limiting it to Manhattan. Also, adds language to allow the principal office to remain in an established location in the unlikely scenario that the area of NPCC changes.

Article III - PURPOSE

- *Section 3.2 Purpose* – Adds provision to permit "*any other lawful activity necessary or appropriate to achieve the stated purpose*" of promot[ing] and enhance[ing] the reliable and efficient operation of the international, interconnected Bulk Power System in Northeastern North America. This change addresses the evolving activities of NPCC and reduces the risk that NPCC is performing activities that are outside the scope of its Bylaws. Additionally, clarifies that NPCC may enter into "agreements" with Canadian authorities, as necessary.

Article IV - MEMBERSHIP

- *Section 4.1 Eligibility* – Modifies NPCC membership eligibility to remove the ability of a natural person to be an NPCC member and requires an applicant to have a *material* interest in the reliable operation of the Northeastern North American Bulk Power System.
- *Section 4.3 Voting* – Modifies Sector (7) to remove the ability of single end use customers and other Regional Entities to be members of NPCC. This change will not impact any existing members.

Article V – ORGANIZATION OF NPCC

- *Section 5.1 – Member Representatives* – Removes section and is combined with Section 4.2(b)
- *Section 5.3 President and CEO (formerly 5.4)* – Modifies language to clarify the President is the CEO.
- *Section 5.4 Vacancies (formerly 5.5)* – Modifies voting requirements to fill NPCC Board vacancies with a simple majority vote of the Directors present at a meeting. Also, moves language about authority and responsibilities of the NPCC Board Chair to Section 6.2

Article VI – BOARD OF DIRECTORS

- *Section 6.1 Hybrid Board(a)* – Modifies the NPCC Board composition to permit up to five Independent Directors, including the Board Chair. The Board Chair is also given a vote.
- *Section 6.2 Terms and Compensation(c)* – Sets a new five-term limit, with a maximum of ten years, for the NPCC Board Chair. Also, adds language from Section 5.4 about authority and responsibilities of NPCC Board Chair being defined by NPCC Board in separate agreement.
- *Section 6.*5 *Quorum and Voting Requirements for the Board(a)* – Modifies quorum requirements to be a simple majority of the NPCC Board.
- *Section 6.5 Quorum and Voting Requirements for the Board(b)* – Modifies voting requirements to be a simple majority of the NPCC Board present when quorum is met. Also, adds language so actions can neither be approved by only three sectors of the NPCC Board nor can they be defeated by only two sectors of the NPCC Board.

Article VII – COMMITTEES

- *Section 7.2 Board Committees* – Modifies the names of three NPCC Board Committees to more accurately reflect their responsibilities. The Corporate Governance and Nominating Committee becomes the Governance and Nominating Committee. The Management Development and Compensation Committee becomes the Compensation Committee. The Pension Committee becomes the Retirement Plan Investment Committee.

Article VIII – MEMBERS' VOTING RIGHTS

- *Section 8.1 Quorum and Voting Requirements for Meetings of Members(a)* – Modifies quorum requirements to be a simple majority of the NPCC members.
- *Section 8.1 Quorum and Voting Requirements for Meetings of Members(b)* – Modifies voting requirements to be a simple majority of the NPCC members present when quorum is met.

Article XVIII – DISSOLUTION

- *Proposed Section 18.1 Termination of NPCC* – Adds new provision so that a two-thirds affirmative majority vote of the members is needed to dissolve NPCC as a corporation.

- *Section 18.2* Distribution *of Asset (formerly 18.1)* – Modification to require that the distribution of NPCC assets upon the dissolution of NPCC be consistent with Section 501(c)(3) of the US IRS code.[1]

NextSteps

If approved by the NERC Board of Trustees, NERC will file a joint petition with NPCC seeking approval of the proposed amendments to the NPCC Bylaws with the Federal Energy Regulatory Commission (FERC) and applicable governmental authorities.

Attachments:

Attachment 1- REDLINE – Northeast Power Coordinating Council Bylaws

[1] NPCC Board approved revisions to NPCC's Certificate of Incorporation to reorganize as a 501(c)(3) organization on September 12, 2024, followed by NPCC Members' approval on December 4, 2024.

AMENDED AND RESTATED BYLAWS
OF
NORTHEAST POWER COORDINATING COUNCIL, INC.

(a New York not-for-profit corporation)

Adopted on May 18, 2006
Amended on July 24, 2007
Amended on January 1, 2012
Amended on July 8, 2022
Amended on January 3, 2023

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AMENDED AND RESTATED BYLAWS OF

NORTHEAST POWER COORDINATING COUNCIL, INC.

(a New York not-for-profit corporation)

ARTICLE I – DEFINITIONS

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

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

"*Board*" means the Board of Directors of NPCC.

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

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

"*Bylaws*" means these Amended and Restated Bylaws of NPCC.

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

"*ERO*" or Electric Reliability Organization means the organization certified by FERC as defined in 18 C.F.R. §39.1. "FERC" means the Federal Energy Regulatory Commission.

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

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

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

"*NPCC*" means Northeast Power Coordinating Council, Inc.

"*NPCC Reliability Criteria*" means NPCC's more stringent operating, design and protection criteria that are regionally specific reliability requirements that apply to the Full Members of NPCC that own or operate

generation or transmission facilities for which faults or disturbances can have a significant adverse impact outside of the local area and which have been identified utilizing an impact-based methodology.

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

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

ARTICLE II – OFFICES

2.1 Principal Office. The principal office of NPCC shall be located within the NPCC region, at such location as the Board of Directors may from time to time determine. Once established, the principal office may remain in its location, even if outside the NPCC region. ~~in New York County, State of New York.~~

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

ARTICLE III - PURPOSE

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

3.2 Purpose. The purpose of NPCC is to promote and enhance the reliable and efficient operation of the international, interconnected Bulk Power System in Northeastern North America through (i) the development of Regional Reliability Standards and compliance assessment and enforcement of continent-wide and Regional Reliability Standards, coordination of system planning, design and operations, and assessment of reliability, pursuant to an agreement with the Electric Reliability Organization ("*ERO*") which designates NPCC as a Regional Entity and delegates authority from FERC, and by Memoranda of Understanding or other agreements with applicable Canadian Provincial regulatory and/or governmental authorities (collectively, "*Regional Entity activities*"), and (ii) the establishment of regionally-specific reliability criteria, and the monitoring and enforcement of compliance with such criteria (collectively, "*Criteria Services activities*"), and (iii) any other lawful activity deemed necessary or appropriate to achieve the stated purpose..

ARTICLE IV – MEMBERSHIP

4.1 Eligibility. Upon suitable application describing the nature and activities of the applicant and qualifying for one or more of the Sectors identified in Section 4.3, additional ~~persons or~~ entities shall be accepted by the Board as Members in the appropriate categories, defined as follows:

1) ***General Membership*** is voluntary and is open to any ~~person or~~ entity, including any ~~person or~~ entity that has a~~n~~ material interest in the reliable operation of the Northeastern North American Bulk Power System.

2) ***Full Membership*** shall be available to entities which are General Members. Independent system operators ("*ISOs*"), regional transmission organizations ("*RTOs*"), Transcos and other organizations or entities that perform the Balancing Authority function operating in Northeastern North America are ~~expected~~ required to be Full Members of NPCC. The New York State Reliability Council and any other sub- regional reliability councils which may be formed are also ~~expected~~

required to be Full Members. Full Members are subject to compliance with regionally-specific more stringent reliability criteria for their generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area and which are identified utilizing a reliability impact-based methodology. Full Members are entitled to receive additional services from the Criteria Services division of NPCC.

4.2 Application as a Member and Renewal of Membership.

(a) Any ~~person or~~ entity that is eligible to become a Member of NPCC in accordance with Section 4.1 may become either a General Member or a Full Member by completing and submitting to NPCC a membership application on a form prescribed by the Board. Any ~~person or~~ entity that ~~applies~~ is accepted to NPCC as a Member shall comply with the conditions and obligations of Membership specified in these Bylaws. As an additional condition of Membership in NPCC, each ~~person or~~ entity registering as a Member shall execute an agreement with NPCC, in a form to be specified by the Board, that such ~~person or~~ entity will hold harmless all Directors, officers, employees and agents of NPCC, as well as volunteers participating in good faith in the activities of NPCC, to the extent permitted by U.S. federal or Canadian Provincial laws, rules and regulations, for any injury or damage caused by any act or omission of any Director, officer, employee, agent or volunteer in the course of performance of his or her duties on behalf of NPCC, other than for acts of gross negligence, intentional misconduct or a breach of confidentiality.

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

(c) From time to time, the Board may establish a date by which Members shall submit their application renewals. All Members shall confirm their applications within thirty (30) calendar days of the date of receipt of a request by NPCC, using an application renewal form prescribed by the Board. Any Member that has not submitted an application renewal within thirty (30) calendar days following the date established by the Board may have its Membership terminated. NPCC shall notify any ~~person or~~ entity that has its Membership terminated pursuant to this Section 4.2(c), by written notice sent to such former Member's last known address on the records of NPCC.

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

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

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

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

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

b. Agents or associates that represent groups of TDUs;

c. Electric distribution companies;

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

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

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

a. Entities providing energy to end-use customers under a power marketing agreement or other authorization not classified as a regulated tariff;

b. Entities that buy, sell, or broker energy and related services for resale in wholesale or retail markets, whether a non-jurisdictional entity operating within its charter or an entity licensed by a jurisdictional regulator; or

c. Generation and transmission cooperatives and joint-action agencies that perform an electricity broker, aggregator, or marketer function.

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

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

a. Any entity within Northeastern North America authorized by an appropriate regulatory and/or governmental authority to be a Sub-Regional Reliability Council;

b. ~~Entities or customers that take delivery of energy that is not purchased for resale within Northeastern North America;~~

~~c~~b. Agents or associations representing groups of large end users within Northeastern North America;

~~d~~c. Agents, state consumer advocates, or other advocate groups representing groups of small customers within Northeastern North America;

~~e. Any other Regional Entity; or~~

df. Any ~~person or~~ entity~~, including any entity~~ that qualifies to participat~~e~~ing in the Registered Ballot Body of the ERO; or

e. Any other entity~~,~~ that has a material~~n~~ interest in the reliable operation of the bulk power system in Northeastern North America.

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

4.5 Term of Membership. Membership in NPCC shall be retained so long as Member meets its respective qualifications, obligations, and conditions of Membership as set forth in these Bylaws.

4.6 Termination of Membership. In addition to a termination for non-renewal pursuant to Section 4.2(c), the Board may terminate the membership if, in the judgment of the Board, the Member has failed to meet its respective qualifications, obligations, and conditions of Membership as set forth in these Bylaws. The Board will give the affected Member at least twenty-one (21) days prior written notice of termination, which will include the specific basis for termination and, if applicable, an opportunity to cure the problem or appeal the reason for the proposed termination. Prior to termination of membership, the Board shall consider any information provided by the affected Member in response to the notice described herein.

ARTICLE V - ORGANIZATION OF NPCC

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

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

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

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

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

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

ARTICLE VI - BOARD OF DIRECTORS

6.1 Hybrid Board.

(a) The Board shall consist of fourteen (14) Stakeholder Directors, at least ~~two~~ three (~~3~~2) but no more than five (5) Independent Directors, one of which shall be the ~~, an~~ independent Board Chair and the President and CEO.

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

(c) Two (2) Co-Vice Chairs, one from Sector 8 and one from a stakeholder sector ~~from different voting sectors~~ on the Board shall be selected by the Directors and approved by a vote of the entire membership. In the temporary absence of the Board Chair, a Vice Chair designated by a two-thirds (2/3) vote of the Directors shall perform the duties of the Board Chair. The Co-Vice Chairs shall retain the voting rights that they otherwise held by virtue of serving as a Director.

6.2 Term and Compensation.

(a) The term of office of each Stakeholder Director shall be two (2) years. There shall be no limit on the number of terms which may be served by any Stakeholder Director. Stakeholder Directors shall serve without compensation, including when performing duties of a Co-Vice Chair.

(b) With the exception of the Board Chair, t~~T~~he term of office of each Independent Director shall be two (2) years. Independent Directors may serve up to four (4) terms for a maximum of eight (8) years. Each Independent Director shall be entitled to receive compensation as the Board may from time to time determine in its sole discretion.

(c) The term of office of the Board Chair shall be two (2) years. The Board Chair may serve up to five (5) terms ~~,~~ for a maximum of ten (10) years. ~~with no limitations on the number of terms that may be served~~. The authority and responsibilities and c~~C~~ompensation arrangements of the Board Chair shall be defined by the Board and contained in a separate ~~written~~ agreement approved by the Board.

6.3 Powers and Duties.

(a) The Board shall develop NPCC policies, direct the activities of NPCC, accept additional entities as Members, review and approve or modify Member voting sector assignment, and make

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

(b) To carry out the purposes of NPCC, the Board, acting through the President and CEO and NPCC staff shall, incur such administrative expenses, and retain such independent professional consulting services for NPCC and the committees of NPCC as it may deem desirable.

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

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

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

Sector (3). Transmission Dependent Utilities; Distribution Companies and Load-Serving Entities (Maximum of 2)

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

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

Sector (6). State and Provincial Regulatory and/or Governmental Authorities ~~Regulators~~ (Maximum of 2)

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

Sector (8). Independent Directors (Minimum of 3, Maximum of 5~~2~~)

6.5 Quorum and Voting Requirements for the Board.

(a) At any meeting of the Board, presence of ~~attendance in person by~~ at least one-half (1/2) of the ~~Stakeholder~~ Directors, including ~~in each of at least sixty percent (60%) of the stakeholder sectors and~~ at least ~~one~~ two (2~~1~~) Independent Directors shall constitute a quorum.

(b) Except as otherwise expressly provided in NPCC's Certificate of Incorporation, these Bylaws or applicable law, actions by the Board shall be approved upon receipt of an ~~two-thirds (2/3)~~ affirmative majority ~~of the weighted sector votes, with each~~ of Directors present ~~casting one (1) vote within the applicable sector,~~ at a meeting of the Board at which a quorum is present, however, in no event will an action of the Board be valid where the action was passed solely by the vote of Directors from three Sectors or defeated solely by the vote of Directors from two Sectors. Ma~~The Board Chair shall also be entitled to cast one (1) vote during any meeting of the Board at which a quorum is present to prevent any deadlock. The following process shall be used to determine if there are sufficient affirmative votes:~~

~~• The number of votes cast is the sum of affirmative and negative votes, excluding abstentions.~~

~~• The number of affirmative votes cast in each voting sector will be divided by the sum of affirmative and negative votes cast in that voting sector to determine the fractional affirmative vote for each voting sector. Abstentions will not be counted for the purposes of determining the fractional affirmative vote for a voting sector.~~

~~• The sum of the fractional affirmative votes from all sectors divided by the number of sectors voting will be used to determine if a two-thirds (2/3) affirmative majority has been achieved. A sector will be considered as "voting" if any Director of the sector casts either an affirmative or a negative vote.~~

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

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

6.7 Election and Removal of Directors.

(a) Stakeholder Directors shall be elected by a vote of the majority of the Members in the respective stakeholder sector. No stakeholder sector shall elect more than two Stakeholder Directors in such sector. No Member or any Affiliate of a Member may designate more than one (1) Stakeholder Director to represent such Member or Affiliate. Stakeholder Director candidates will be selected in accordance with the Rules of Procedure set forth in Schedule A.

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

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

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

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

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

6.8 Indemnification. Subject to the limitation set forth in Section 6.9 below, NPCC shall indemnify its Directors, officers and other corporate agents, (collectively, "*NPCC Indemnitees*"), and may indemnify employees, in each case, up to the full extent permitted by the N-PCL and other applicable law. Such right of indemnification shall inure to the benefit of the legal representative of any NPCC Indemnitee. The foregoing right of indemnification shall be in addition to, and not in restriction or limitation of, any right such NPCC Indemnitee may have under applicable law (including the N-PCL).

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

ARTICLE VII - COMMITTEES

7.1 Committees of the Corporation. NPCC shall have such technical committees, subcommittees, task forces and other working groups, which may include a Regional Standards Committee ("*RSC*"), a Compliance Committee ("*CC*") and a Reliability Coordinating Committee ("*RCC*").

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

(a) Finance and Audit Committee

(b) ~~Corporate~~ Governance and Nominating Committee

(c) ~~Management Development and~~ Compensation Committee

(d) ~~Pension~~ Retirement Plan Investment Committee

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

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

ARTICLE VIII - MEMBERS' VOTING RIGHTS

8.1 Quorum and Voting Requirements for Meetings of Members.

(a) At any meeting of the Members of NPCC, attendance in person or by proxy by a majority ~~one-half (1/2)~~ of the Members ~~in each of at least sixty percent (60%) of the stakeholder voting sectors on the roster of Members maintained by NPCC~~ shall constitute a quorum.

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

~~(b) The following process shall be used to determine if there are sufficient affirmative votes:~~

- ~~The number of votes cast will be the sum of affirmative and negative votes, excluding abstentions.~~
- ~~The number of affirmative votes cast in each sector will be divided by the sum of affirmative and negative votes cast to determine the fractional affirmative vote for each sector. Abstentions will not be counted for the purposes of determining the fractional affirmative vote for a sector.~~
- ~~The sum of the fractional affirmative votes from all sectors divided by the number of sectors voting will be used to determine if a two-thirds (2/3) affirmative majority has been achieved.~~

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~~(A sector will be considered as "voting" if any Member of the sector casts either an affirmative or a negative vote.)~~

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

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

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

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

ARTICLE IX - MEMBERS' RIGHTS AND OBLIGATIONS

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

(1) Rights:

a. Attendance at all meetings of the General Membership of NPCC; and, subject to procedures established by the committees and to the terms of applicable confidentiality agreements, attendance at meetings of NPCC's committees of the corporation, task forces and any other such NPCC groups.

b. Access to minutes of each committee of the corporation, subcommittee, task force or any other NPCC group, subject to procedures established by the committees and to the terms of applicable confidentiality agreements.

c. Vote to amend these Bylaws in accordance with Section 19.1.

d. Vote to establish, modify or eliminate NPCC Regional Reliability Standards and programs.

e. For Full Members only: Vote to establish, modify or eliminate NPCC's regionally-specific more stringent reliability criteria.

(2) Obligations:

a. Each Member shall agree, in writing, to accept the responsibility to promote, support, and comply with the purposes and policies of NPCC as set forth in its Certificate of Incorporation and Bylaws as from time to time adopted, approved or amended.

b. Each Member acknowledges that it has the responsibility to plan and design its bulk power system components, where applicable, and conduct its operations, consistent with its registration, in compliance with Reliability Standards, Regional Reliability Standards and Regional Variances consistent with applicable laws, regulations, permits and licenses.

c. Each Member agrees to submit such data and reports as required by NPCC in order to perform compliance enforcement obligations delegated to it by the ERO, subject to established procedures and to the terms of applicable confidentiality agreements.

d. In addition, each Full Member shall:

(i) plan and design its generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area, as identified utilizing a reliability impact-based methodology, in compliance with criteria, guides and procedures established by NPCC and applicable Reliability Standards;

(ii) conduct its operations in compliance with criteria, guides and procedures established by NPCC and applicable Reliability Standards, and consistent with applicable laws, regulations, permits and licenses;

(iii) assure that, whenever it enters into arrangements with non- Members which could have an impact on the reliability of the international, interconnected Bulk Power System in Northeastern North America, the arrangements will not adversely impact the ability of the Full Members to comply with regionally-specific more stringent reliability criteria established by NPCC, Reliability Standards, or the criteria of regional reliability organizations established in areas in which the facilities used for such arrangements are located;

(iv) notify NPCC of its existing facilities and operating procedures and of its plans for major additions or modifications affecting the operation of the

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

(v) promptly notify NPCC and all other Members in writing or electronically if its generation and transmission facilities on which faults or disturbances can have a significant adverse impact outside of the local area, as identified utilizing a reliability impact-based methodology, are not being designed or operated, or its operations are not being conducted, in compliance with criteria, guides, and procedures established by NPCC, stating its reasons, and providing its plan and schedule to achieve compliance;

(vi) submit such data and reports as required by the NPCC Reliability Criteria Compliance and Enforcement Program and to abide by the compliance assessments and sanctions prescribed by NPCC's Reliability Criteria Compliance and Enforcement Program procedures, subject to Alternative Dispute Resolution; and

(vii) undertake and perform the administrative and financial obligations described in Article XIII of these Bylaws.

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

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

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

ARTICLE XI - MEETINGS

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

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

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

ARTICLE XII - BUDGET

12.1 Annual Budget. The Board shall cause to be prepared an annual budget for the administrative and other expenses of NPCC, including the expenditures for the fiscal year for any material special projects undertaken by NPCC and reasonable and proper reserves and provisions for contingencies, an accompanying business plan for NPCC, and a funding mechanism including any supplemental funding mechanism, for each fiscal year. The annual budget, business plan, and funding mechanism of NPCC shall be developed in the form and format and on the schedule stipulated by the ERO for a fiscal year commencing on January 1 and ending on December 31. Each annual budget, business plan, and funding mechanism shall be approved by the Board at a regular meeting or a special meeting of the Board duly called for that purpose. The Board shall approve each annual budget, business plan, and funding mechanism on or before the date stipulated by the ERO during the year prior to the start of the fiscal year in order to allow for timely submittal of the approved annual budget, business plan, and funding mechanism to the FERC and the applicable Canadian Provincial regulatory and/or governmental authorities.

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

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

ARTICLE XIII - FUNDING

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

(a) Funding of NPCC Regional Entity division activities shall be through mechanisms established by the ERO, FERC and applicable Canadian Provincial regulatory and/or governmental authorities.

(b) General Members shall not be assessed an annual membership fee.

(c) Full Members, other than Full Members that perform the Balancing Authority function, shall not be assessed an annual membership fee.

(d) Full Members that perform the Balancing Authority function shall be assessed and pay a proportional share of the expenses for criteria services in proportion to the ratio of the second previous year's Net Energy for Load within the Balancing Authority Area to the aggregate Net

Energy for Load within all Balancing Authority Areas in Northeastern North America. NPCC will directly assign Criteria Services division costs to a Balancing Authority Area or Full Member where significant costs are incurred by NPCC for such Balancing Authority Area or Full Member.

(e) No Full Member shall, without its consent, be responsible for expenses of NPCC in any one calendar year in excess of its assessed portion of the amount budgeted for the Criteria Services division for that year; provided, however, that special assessments may be separately budgeted and their cost allocated by the Board to the Full Members that perform the Balancing Authority function.

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

14.1 Termination. All General Members and Full Members, other than Full Members that perform the Balancing Authority function, may terminate their Membership in NPCC at any time upon fifteen (15) days' written or electronic notice to NPCC. A Full Member that performs the Balancing Authority function may terminate its rights and obligations under these Bylaws (other than its obligation to pay its proportionate share of the Criteria Services division expenses of NPCC, including special assessments, if applicable, for the full calendar year within which such termination is effective) at any time upon one (1) year's written notice to the President and CEO; whereupon, it shall cease to be a Full Member of NPCC as of the date such termination is effective. The President and CEO shall promptly inform all Members of receipt of any such notices.

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

ARTICLE XV - CONFLICTS OF INTEREST

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

ARTICLE XVI - GENERAL

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

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

ARTICLE XVII - CONTRACTS, CHECKS, DEPOSITS

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

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

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

ARTICLE XVIII - DISSOLUTION

18.1 Termination of NPCC. NPCC may be terminated by an affirmative vote of two-thirds (2/3) of the Members entitled to vote at a meeting at which quorum is present, or by electronic voting in accordance with Section 8.5. Written notice of the subject matter of the proposed termination shall be provided, as appropriate, to the Members no less than fourteen (14) nor more than sixty (60) days prior to the date of the meeting of the Members at which the vote is to be taken.

18.2 Distribution of Assets. Upon dissolution of NPCC, in accordance with the Certificate of Incorporation, the remaining assets of NPCC after payment of debts shall be distributed in the manner determined by the Board, provided that (i) no part of the assets shall be distributed to any Director, and (ii) the distribution of assets shall be consistent with the requirements of Section 501(c)(~~6~~3) of the United States Internal Revenue Code of 1986, as amended.

ARTICLE XIX - AMENDMENT OF BYLAWS

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

SCHEDULE A

RULES OF PROCEDURE (SELECTION OF NPCC DIRECTORS)

1. Selection of Director Candidates

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

2. Criteria for Board Service

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

(a) Stakeholder Directors must reflect the geographic diversity of the NPCC Region, which comprises the state of New York, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, and the Canadian provinces of Ontario, Québec, New Brunswick and Nova Scotia.

(b) Directors must possess corporate and business experience at the senior-executive level, or the equivalent thereof.

(c) Each Stakeholder Director must be an officer or senior executive-level employee of a Member of NPCC.

(d) Each Independent Director must be an individual who:

  (i) is not an officer or employee of NPCC;

  (ii) is not an officer, director or employee of a Member;

  (iii) is not an officer, director or employee of any entity that would reasonably be perceived as having a direct financial interest in the outcome of Board decisions; and

  (iv) does not have a relationship that would interfere with the exercise of independent judgment in performing the responsibilities of a director of NPCC.

(e) Directors must have no actual or potential conflicts of interests that would or could interfere with the diligent performance of the responsibilities of a Board member in the best interests of NPCC.

Personnel Certification Governance Committee (PCGC) Report

Action

Approve the PCGC 2025 Work Plan and the System Operator Certification (SOC) Program Manual as well as receive an update on PCGC activities.

2025 Work Plan

The PCGC presents to the Board of Trustees (Board) the enclosed 2025 Work Plan for consideration and approval. The focus of the PCGC, and its working groups, in 2025 will be the furtherance of the strategic enhancements to the credentialing and certification maintenance programs, including:

- **Exam Development and Delivery Vendor**:
  NERC will implement the cut-over to the new vendor for certification exam administration effective March 15, 2025. The PCGC and the EWG will work with the exam development consultants to develop the roadmap for completing the updated Job Task Analysis in support of the move to a single credential.
- **System Operator Certification and Continuing Education Database (SOCCED):**
  Throughout 2025 the groups will initiate the implementation of the new platform with the new vendor, developing business rules that are scalable to accommodate future changes to credential types and credential maintenance requirements.
- **Industry Engagement:**
  The PCGC plans to develop a SAR for the update of PER-003-2 to support the move to a single credential, working with NERC staff and appropriate groups to advance the initiative. Through the working groups, the PCGC will develop a communication and change management plan for key stakeholders, including industry participants and regulatory agencies.

SOC Program Manual

The PCGC presents to the Board an updated System Operator Certification Program Manual for consideration and approval. The mapping document provides a summary of revisions between Version 4.1, February 2024, and Version 4.2 February 2025can be found here.

Personnel Certification Governance Committee (PCGC) Role

The PCGC is the governing body that establishes policies, sets fees, and monitors the performance of the System Operator Certification Program and ensures that the program is financially independent. There are two working groups that report to the PCGC:

- The Credential Maintenance Working Group (CMWG), responsible for overseeing the development and implementation of the Credential Maintenance Program (CMP) requirements. This includes the requirements for approving credential maintenance providers and structured learning activities, as well as auditing those providers and learning activities.

- The Exam Working Group (EWG), responsible for developing and maintaining the NERC System Operator Certification Program exams under the general guidelines set by the PCGC and the Exam Delivery and Development Vendor Psychometricians.

The System Operator Certification Program was established to ensure System Operators demonstrate minimum knowledge and skills when seeking to perform real-time operations of the Bulk Electric System. The program provides the framework for operators to obtain initial certification and renew credentials via continuing education. Certification is only the first step in the path to becoming a qualified system operator. Company-specific training and task verification performed by an operator's employer are required prior to independent operation.

There are 7,678 active credential holders: Reliability Coordinator – 5,317, Transmission Operator – 1,466, Balancing, Interchange and Transmission Operator – 646, and Balancing and Interchange – 249. Credentials are renewed on a three-year basis and in 2024 2,043 credentials were renewed. There were 1,002 NERC exams administered in 2024 with a pass rate of 62 percent.

Currently, only those System Operators who perform reliability related tasks of the Reliability Coordinator, Transmission Operator and/or Balancing Authority are required to be certified per the *NERC Reliability Standard PER-003-2 Operating Personnel Credentials*.[1]

2024 Accomplishments

In 2024, the PCGC, together with its working groups, began to implement program changes that will lay the foundation for broader program enhancements targeted for 2025 and beyond. Much of the focus in 2024 was around infrastructure changes that will be necessary to support the strategic direction of the credentialing program into the future.

- **Exam Development and Delivery:**
  The PCGC, along with NERC Staff, selected a new Exam Development and Delivery vendor based on responses to a request for proposal (RFP) that was initiated in 2023. The driver was to partner with a vendor that could support the proposed move to a single credential, while still maintaining the Linear-on-the-Fly methodology[2] to protect exam integrity. The new vendor offers ancillary benefits including improved customer service and testing center site availability for candidates seeking to pursue a credential. The selected vendor has a broader network of testing centers, especially in Canada. The EWG has been working with the new vendor to ensure a smooth transition and to validate that the exam content remains relevant and valid.
- **System Operator Certification and Continuing Education Database (SOCCED):**
  The current SOCCED platform will not be able to support future program enhancements planned for 2025 and beyond. In 2024, NERC issued an RFP for a SOCCED replacement. A joint PCGC/CMWG taskforce was established to review the vendor responses and make a recommendation to the PCGC. The PCGC voted on their final selection at the February meeting this week.

[1] https://www.nerc.com/pa/Stand/Reliability%20Standards/PER-003-2.pdf

[2] LOFT or Linear-on-the-fly testing
This means that a bank of approved questions is set up at the start of the process, and every time a candidate sits the exam, the computer-based assessment system generates a new exam paper in real-time specifically for them.

- **Industry Engagement:** PCGC and CMWG Leadership, along with NERC Staff, held follow-up meetings with FERC in 2024 to address their previously raised concerns regarding proposed program changes, present the findings of the EPRI research project and discuss a path forward.

Attachments

PCGC 2025 Work Plan

System Operator Certification Program Manual V4.2 (Redline)

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Personnel Certification Governance Committee 2025 Work Plan

February 2025




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Introduction

The purpose of this *2025 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

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 administrating 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

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 three projects planned for 2025.

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

The Credential Maintence 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.

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

The PCGC and CMWG will continue the process for implementing the proposed changes, including revising PER-003-2 Operating Personnel Credentials, enhancements of the System Operated Certification and Credential Maintenance Database (SOCCED), and exam development.

Project 2: SOCCED Upgrades

The PCGC, CMWG, and NERC staff will continue to research enhancements to SOCCED for the provider, candidate, and NERC staff administration components identified in Project 1 above.

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.

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

A new exam development and delivery vendor will be implemented in March 2025.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

System Operator Certification Program Manual

Version 4.2

Approved by
NERC Board of Trustees
~~February 2024~~

RELIABILITY | RESILIENCE | SECURITY

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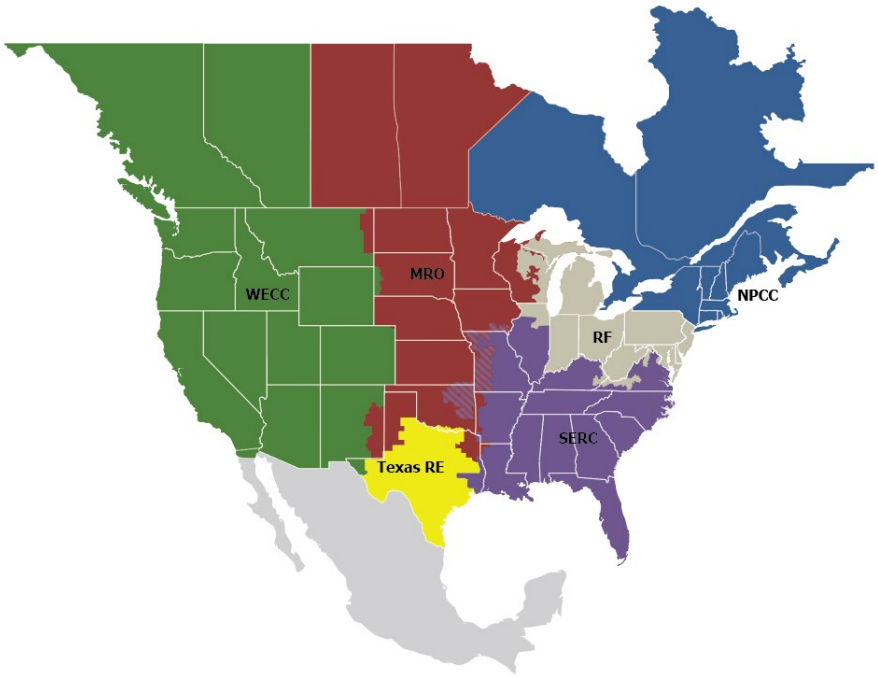
Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities, 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 (TO)/Operators (TOP) participate in another.



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

Introduction

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

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

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

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

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

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

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

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

[1] https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx
[2] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx

Chapter 1: Certification Examinations

Overview

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

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

Examinations

There are four examinations:

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

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

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

Table 1.1: System Operator Examinations

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

[3] http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx
[4] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx

Table 1.1: System Operator Examinations				
Examination Title	**Designation**	**Total Questions**	**Scored Questions**	**Cut Score***
Balancing and Interchange Operator	BI	120	100	76

*Effective June 1, 2020

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

Examination Process

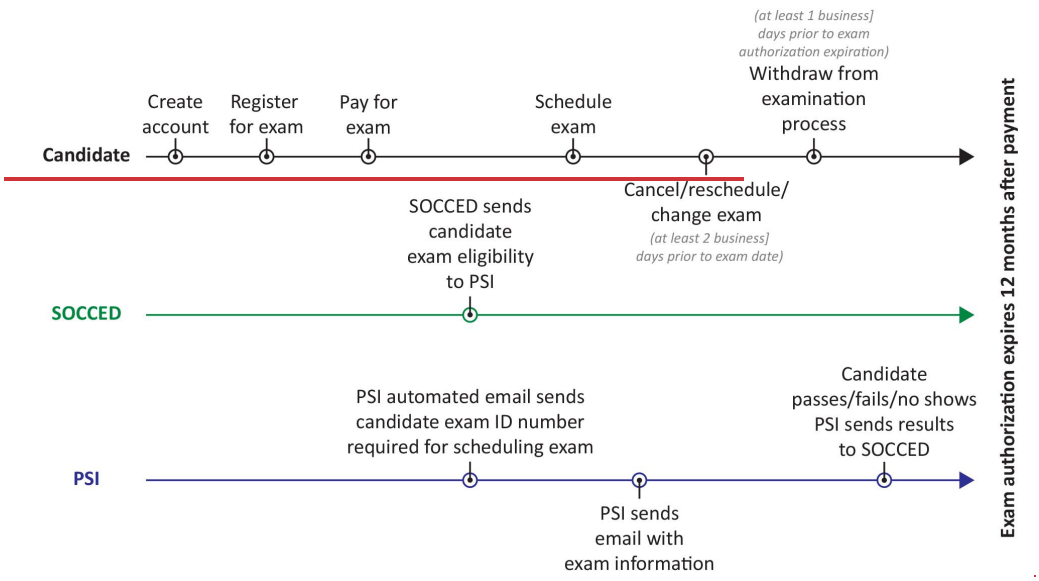
Examination Application Process

Candidates must create an account ~~(see **Figure 1.1)**~~ in the System Operator Certification and Continuing Education Database[5] (SOCCED) ~~in order~~ to register and pay for an exam. After the candidate has paid for the exam, SOCCED ~~will~~ send~~s~~ (via a secure channel) the candidate exam eligibility information to the exam delivery vendor, Pearson VUE. ~~, PSIPearson VUE. Pearson VUEPSI will send the candidate an email with the information needed to schedule their exam.~~

The candidate exam eligibility information includes full name, address, phone number, email address, exam type, exam eligibility start and end dates.

Once paid for, the exam application is valid for ~~one year~~365 ~~after~~days after the issuance date and can only be used once. If a candidate fails to schedule and sit for the exam within the ~~one year~~365-day eligibility period, the candidate shall forfeit the exam fee to NERC.

[5] https://nerc-socced.useclarus.com/



~~**Figure 1.1: NERC Certification Process Flowchart**~~

Scheduling an Examination Appointment

After candidates have selected and paid for the exam in SOCCED, a link to schedule with Pearson VUE will appear in their SOCCED account. The link will take candidates to Pearson VUE to schedule the exam.

Once candidates schedule the exam, Pearson VUE will send the exam appointment date and time to the candidates account in SOCCED. Candidates will receive an Authorization To Test (ATT) email from Pearson VUE with exam appointment instructions. Candidates should schedule no less than 24 hours in advance of the date/time they want to test. No same day scheduling is allowed.

~~After the candidates received the email notification from Pearson VUEPSI, the candidate can schedule an appointment for testing, using Pearson Vue's PSI's website.[6] Candidates should follow the instructions for scheduling an exam that are sent from PSIPearson VUE. Examination appointments are subject to the availability of each test center.~~

Note: When candidates schedule an exam appointment, Pearson VUE will issue the candidate an Order Confirmation email with details of the appointment date/time/location along with instructions of what to bring to the test center on the exam date. Candidates should retain this email if there is a conflict with the test center appointment. FAQs and the candidate information are on the Pearson VUE website[7].
~~When a candidate schedules a test date, PSI Pearson VUE will issue the candidate a confirmation number. Candidates should retain this number. It is required for check-in, for PSI's Pearson VUE's automated cancellation system, or if there is a conflict with the test center appointment. FAQs and the Candidate Information Bulletin are on the PSI Pearson VUE website.~~

~~[6] https://schedule.psiexams.com/ new link here.~~
[7] Test-taker home - Pearson VUE

Canceling and Rescheduling Examination Appointments

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

~~To cancel or reschedule exam appointments, visit PSI's~~ Pearson Vue's ~~website or call PSI~~ Pearson VUE ~~at 800-733-9267 and speak to a~~ Pearson VUE~~PSI customer service representative. A voice mail message is not an acceptable form of cancellation.~~

Candidates can reschedule or cancel examination appointments without forfeiting the examination fee if the rescheduling or cancellation is completed 48 hours prior to the scheduled appointment.

Candidates can reschedule or cancel the exam appointment via the Pearson VUE link in their SOCCED account or by calling the Pearson VUE Contact Center at Toll free number: 1-888-736-0563 or Toll number: 1-425-464-8871.

A voice mail message or chat is not an acceptable form of cancellation. Candidates will receive an email confirmation of a scheduled, rescheduled or cancelled appointment shortly after successfully submitting the request.

Examination Type Change Request

~~Candidates may change the examination type they previously registered for by using the SOCCED within the existing exam eligibility period. Candidates should also notify NERC by submitting a request[8] via the SOCCED Help Center. When~~ Pearson VUE ~~PSI receives the examination change, they will send the candidate an email with updated exam information. After candidates receive their new exam information from PSI~~Pearson VUE~~, they must schedule/reschedule an appointment with PSI~~ Pearson VUE ~~to take the exam. Notification must be received by~~ Pearson VUE ~~PSI no later than close of business time of that test center at least two business days prior to the scheduled exam appointment for making this change or for submitting any additional change.~~Candidates can change the exam type they previously registered for in SOCCED within the existing exam eligibility period. Once candidates change the exam type, SOCCED will send an exam cancellation to Pearson VUE.

When Pearson VUE receives the new exam type from SOCCED, they will send the candidate an Authorization To Test (ATT) email with updated exam information. After candidates receive the ATT from Pearson VUE, they can schedule an appointment for the new exam type using the Pearson Vue scheduling link in SOCCED.

Withdrawal from Examination Process

The eligibility period lasts ~~until one year~~for 365 days after the date the candidate pays for the exam. If a candidate wishes to withdraw from the process within the ~~one year~~365 days period for any reason, the candidate must request a withdrawal by close of business ~~the day before~~one day prior to the last eligibility day by submitting a request via the SOCCED Help Center. Candidates who submit the request within the time period will be reimbursed for the fees submitted to NERC except the withdrawal fee. The candidate will forfeit all submitted fees if the candidate fails to properly withdraw.

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

[8] ~~https://soccedsupport.zendesk.com/hc/en-us/requests/new~~

Special Accommodations Requests

Requests submitted for special accommodations covered by a recognized disability~~,~~ will be reviewed by the Personnel Certification Governance Committee (PCGC) and NERC Staff. Requests must be supported by the Special Accommodation Request Form[9] and a letter from a recognized health care provider, signed by a health professional. The PCGC and NERC will review each request and provide appropriate Special Accommodations, if warranted. The decision will be included in the email notice of eligibility approval/denial sent to the applicant.

When making requests for Special Accommodations, applicants must notify the NERC Manager of Personnel Certification and Credential Maintenance by submitting a ticket to the SOCCED Help Center. ~~at least four (4) weeks prior to the scheduled exam appointment.~~ The candidate should submit the request and wait for the decision prior to scheduling the exam.

Note: It ~~will~~ may take the exam vendor 7 – 10 business days to accommodate an approved request. If the candidate already has their exam schedule, they will need to take this into consideration. Special accommodations may impact the availability of testing locations.

Taking the Exam

Candidates should arrive and be inside the testing center at least 30 minutes prior to the examination start time for the Administration and Review of Candidate Identification and should allocate at least a total of ~~four~~ 3.25 hours to accommodate the testing process (**Table 1.2**).

Non-Disclosure Agreement

Prior to the start of your exam, you must read and accept the terms of the NERC Non-Disclosure Agreement onscreen before continuing to the exam. If you select Decline, the system will prompt you to verify that you want to accept Decline. If you select Decline a second time, your exam will end and show as Refused and you will not be able to continue to the exam. Your exam fee will be forfeited. This attempt in your records will show as Refused. If you want to take another exam you will need to register/pay for the exam in SOCCED. You will need to pay for a new exam with NERC.

Candidates can review the terms of the Non-Disclosure Agreement (NDA) on the NERC page on Pearson VUE's website prior to taking the exam.

Identification

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

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

[9]

If there is a discrepancy between the name on the schedule and the name on the ID, the Test Administrator will ask the candidate to explain the reason for the discrepancy.

The Pearson VUE ~~PSI~~ testing centers will not accept altered, expired, or damaged identifications. ~~If there is any discrepancy between the name on the candidate's identification and the NERC registration, the testing center will not allow that candidate to test.~~

Table 1.2: Examination Time Allocation

Examination Stages	Time Allocation
~~Administration and Review of Candidate Identification~~	~~30 minutes~~
Computer-Based Tutorial	15 minutes
Non-Disclosure Agreement	Mandatory and Untimed
Examination	3 hours
~~Post-Examination Survey~~	~~15 minutes~~
Total Time to be Allocated	**~~4~~ 3.25 hours**

Testing Center Regulations

- Depending on the established criteria at the testing center, candidates who arrive late (15 minutes past the appointment time) ~~-~~may not be allowed to sit for the examination. Late arrivals that are not permitted to take the examination will be considered no-shows and must reapply and pay the full test fee to take the examination.
- Candidates cannot bring reference materials, watches, calculators, cell phones, or recording equipment into the examination. Some testing centers may not have lockers to accommodate personal items. Do not bring personal items, besides your appropriate ID, into the test center.
- You will receive a noteboard and marker to use during the exam. If you require a clean noteboard, the TA will replace the full noteboard with a clean one. Only one noteboard is allowed at the workstation during testing. (Online basic and scientific calculators are provided).
- ~~No test materials, documents, notes, or scratch paper of any sort may be taken from the examination (pencils, paper, and an online calculator will be provided).~~
- Visitors are not permitted during the examination.
- Testing center staff can only answer questions about testing procedures; they cannot respond to inquiries regarding the examination's content.
- During the examination, candidates may use the restrooms; however, the examination clock will continue running during that time.
- Candidates may not leave the testing center until they have finished the exam.
- Any candidate giving assistance, receiving assistance, or making a disturbance will be required to turn in their examination materials, exit the examination room, and leave the testing center. The Disciplinary Action Procedure will be initiated upon notification to NERC that the incident occurred.

- Any instances of cheating or attempts to impersonate another candidate will be dealt with through the Disciplinary Action Procedure.
- If the testing center regulations differ from what is noted above, the testing center regulations should be followed.

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

~~Results of~~ Exam Results

A pass/fail score report will be ~~given~~ provided at the end of the exam and Pearson VUE will email a link to the score report after the candidate has completed the exam. ~~. The PSI testing center will provide a summary of the examination before a candidate leaves.~~

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

Confidentiality of Exam Questions

The exam questions are the sole property of NERC and are confidential. Candidates are prohibited from downloading, taking screens shot of, or otherwise copying the exam questions in any format. Distributing, transferring, selling or otherwise sharing or publicly posting exam questions is strictly prohibited. Candidates that engage in~~s~~ such activity will have their credentials revoked and may be subject to other consequences as the law permits.

Time between Examinations

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

Confirmation of Credential to Third Parties

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

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

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

Chapter 2: Credential Maintenance

Overview

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

Program Requirement Summary

1. System operators seeking to obtain a credential must pass an examination.
2. NERC will issue a certificate that is valid for three years to successful candidates.
3. To maintain a valid certification, a system operator must earn CEHs within the three-year period preceding the expiration date of their certificate as specified by their credential in **Table 2.1** and adhering to the timeline in **Figure 2.1**. The CEHs must include the following:

   a. A minimum of 30 CEHs that focus on content and/or implementation of NERC Reliability Standards.

      NERC Standard CEHs can be awarded for training on the contents or implementation of a NERC Reliability Standard, where the corresponding NERC Reliability Standard meets each of the following requirements:

      i.

         (1) Is subject to current or future enforcement.

         (2) Relates to one or more specific recognized operating training topics as they pertain to or support the BES reliability related responsibilities of the system operator.

         Lists an RC, BA, and/or TOP functional entity in the applicability section of the standard or contains requirements that directly impact RC, BA, and/or TOP System Operator functions.

         (3)

         (4) Is not exclusively related to personnel training and/or qualification requirements.

   ~~a.~~b. A minimum of 30 CEHs that utilize simulations (i.e., tabletop exercises, operator training simulators, emergency drills or practice of emergency procedures, restoration, Blackstart, or other reliability-based scenarios).

Note: Reference the *Credential Maintenance Program Administrative Manual*[10] for additional information.

Table 2.1: Credential Maintenance Requirements

Certification	Designation	Total CEH Requirement	NERC Standard CEH Requirement	Simulation CEH Requirement

[10] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx

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Reliability Coordinator Operator	RA, RC	200	30	30
Balancing, Interchange, and Transmission	BT	160	30	30
Transmission Operator	TO	140	30	30
Balancing and Interchange	BI	140	30	30

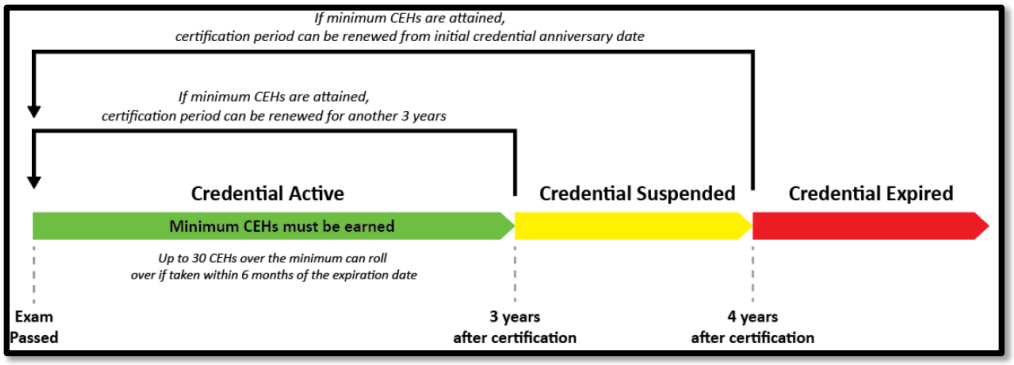

Figure 2.1: NERC Credential Maintenance Process ~~Flor~~Flow

~~4.~~1. System operators satisfying the credential maintenance requirements must submit a renewal request for their credential and pay the renewal fees through the SOCCED.

~~5.~~2. The NERC system operator credential can be maintained only by earning the appropriate number and type of CEHs.

~~6.~~3. Certified system operators that do not accumulate enough CEHs to maintain their current credential prior to the certificate expiration date will have their credential suspended for a maximum of one year.

~~7.~~4. If the appropriate number of CEHs have not been obtained at the end of the suspension period, the credential will expire**.**

~~8.~~5. Certified system operators can accumulate the proper number and type of CEHs during the suspension period and have their credential reinstated with the original expiration date (three years after the previous expiration date).

Note: See **Chapter 7: Glossary**.

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

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

~~9.~~6. System operators with expired credentials will have to pass an examination to become recertified.

Deficits of CEHs for Credential Holders

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

For example:

A system operator whose credential expires July 31, 2024, and who does not accumulate the required number of hours prior to that date, will have their credential suspended on July 31, 2024, 23:59.

If the system operator accumulates and submits the required number of hours on March 1, 2025, the credential will be reinstated and will be valid until July 31, 2027, which is three-years from the original expiration date of July 31, 2024.

The system operator will then have to accumulate the required number of hours prior to July 31, 2027, 23:59 or the credential will be suspended again.

CEHs previously used for credential maintenance cannot be reused.

SOCCED maintains the record of expiration in the Eastern Time Zone.

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

Rollover Hours

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

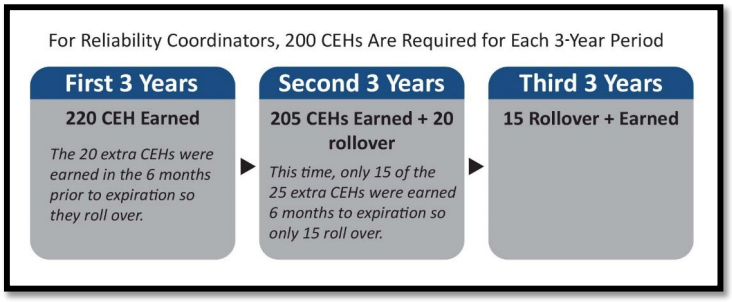

Figure 2.2: Certification Periods for Reliability Coordinator Credential (200 CEHs Required)

NERC Continuing Education Providers

NERC continuing education (CE) providers report the CEHs earned by each certified system operator to NERC electronically through the SOCCED. Providers are also required to provide the certified system operator with proof of having earned the CEHs.

System Operator

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

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

Changing Certification Levels

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

See the following to change a credential:

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

- **Balancing and Interchange Operator (BI) to any other NERC credential**: a system operator must pass the examination for that credential.
- **Transmission Operator (TO) to any other NERC credential**: a system operator must pass the examination for that credential.

Chapter 3: Hardship Clause (NERC Rules of Procedure)

Hardship is when unforeseen events and extenuating circumstances occur that place excessive burden on a system operator to earn or maintain a credential. To initiate the hardship clause process, the system operator must submit complete the Hardship Request Form[11] located on the One-Stop Shop (System Operators Certification and Credential Maintenance Program)[12] page.

The completed Hardship Request Form should be submitted via the SOCCED Help Center[13] Attention: Manager Personnel Certification and Credential Maintenance.

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

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

[11] https://www.nerc.com/pa/Train/SysOpCert/System%20Operator%20Certification%20DL/SOC_Hardship_Request_Form.pdf
[12] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx
[13] SOCCED HELP CENTER (zendesk.com)

Chapter 4: Program Rules

Overview

NERC will recognize CEHs for credential maintenance only from operator training topics and learning activities listed in **Appendix A** and if providers have complied with the Credential Maintenance Program[14] rules. See the One-Stop Shop (System Operators Certification and Credential Maintenance Program)[15] for the *Credential Maintenance Program Administrative Manual* and other references.

Learning Activities

- **Training Frequency**

  There is education value in time-spaced learning and learning through repetition especially for developing long term memory (Smolen, et al., 2016).[16] As such, NERC allows certified system operators (including students, instructors, facilitators, and/or course designers/developers) to receive CEHs for completing the same learning activity and associated assessment(s) more than once. Repeated exposure to the same learning content, particularly in short succession, without allowing time for the application of the material, may result in rote learning and limit the effectiveness of the repeated exposure.

  The intent of the credential maintenance requirements is to ensure credential holders receive continuing training on a diverse range of topics that pertain to or support the BES reliability responsibilities of the system operator. The expectation is that a credential holder has a transcript representing a variety of courses to qualifty for renewal. NERC reserves the right to review operator transcripts and address instances of misuse of this allowance.

- ~~**Emergency Operations Training Topics**~~

  ~~CEHs for emergency operations will be recognized for credential maintenance twice a year based on the credential anniversary (i.e., during the 12-month period preceding the system operator's credential anniversary). CE courses can count as emergency operations courses if the training is related to emergency preparedness, operational communications and situational awareness, analysis and troubleshooting, or the response to any emergency as defined by NERC: Any abnormal system condition that requires automatic or immediate manual action to prevent or limit the failure of transmission facilities or generation supply that could adversely affect the reliability of the BES.~~

- ~~**Other Training Topics**~~

  ~~NERC will recognize CEHs for a particular course or learning activity—other than emergency operations training—for credential maintenance once a year based on the credential anniversary (i.e., during the 12-month period preceding the system operator's credential anniversary).~~

- ~~**Instructor Training**~~

  ~~For instructors who are also certified system operators, NERC will recognize 1.0 CEH for each CEH of a learning activity delivered toward the instructor's system operator credential maintenance. Emergency operations topics can be counted twice per year based on the credential anniversary (i.e., during the 12-month period preceding the system operator's credential anniversary).~~

- **Proof of Course Completion**

[14] https://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx
[15] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx
[16] Smolen P, Zhang Y, Byrne JH. The right time to learn: mechanisms and optimization of spaced learning. Nat Rev Neurosci. 2016 Feb;17(2):77-88. doi: 10.1038/nrn.2015.18. PMID: 26806627; PMCID: PMC5126970.

A certified system operator is responsible for retaining appropriate documentation for proof of credential maintenance. Documentation includes the following:

- The learning activity's title and identification number
- The date(s) of the learning activity
- The number and type of CEHs
- The system operator's NERC certificate number

Training providers shall retain comparable documentation. Electronic forms of documentation are acceptable.

Learning Activity Status Changes

NERC will grant CEHs for a course or learning activity approved for credential maintenance. If a system operator attends an approved learning activity that is later revoked or expired, NERC will still recognize CEHs from that activity while it was approved.

Disputes between Certified System Operators and Providers

If there is a dispute between a provider and a certified system operator, the parties must resolve the dispute without involvement from NERC. Additionally, it is the obligation of certified system operators to periodically review their CEH records in the NERC SOCCED and maintain their own training records to provide proof of achieving CEH requirements.

Fees

NERC uses fees for the ongoing expense to develop and maintain the certification program. The fees also cover the expense of the management and administrative costs associated with the examination process and credential maintenance. The PCGC periodically reviews and adjusts these fees. NERC posts these fees on the One-Stop Shop (System Operators Certification and Credential Maintenance Program)[17] page.

Legal Name Changes

If a system operator changes their legal name, the system operator must submit a written request containing an explanation of the circumstance and copies of the legal documentation of the name change to the following:
~~NERC Personnel Certification and Credential Maintenance Manager~~
~~3353 Peachtree Road NE, Suite 600, North Tower~~
~~Atlanta, GA 30326~~

~~Or s~~Submit a request[18] via the SOCCED Help Center

[17] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx
[18] https://soccedsupport.zendesk.com/hc/en-us/requests/new

Chapter 5: Dispute Resolution (NERC Rules of Procedure)

Overview

Any dispute arising under the NERC agreement that established the NERC System Operator Certification Program or from the establishment of any NERC rules, policies, or procedures that deal with any segment of the certification process or as a result of disciplinary action shall be subject to the NERC System Operator Certification Dispute Resolution Process. The Dispute Resolution Process is for the use of individuals who hold a NERC system operator certification or individuals wishing to be certified to dispute the validity of the examination, the content of the test, the content outlines, or the registration process.

Dispute Resolution Process

1. **NERC System Operator Certification Program Staff**

   The first step in the process is for the person with a dispute to contact the NERC System Operator Certification Program staff. This can be done by Submit a Request[19] via the SOCCED Help Center. This first step can usually resolve the issue, and if it does, no further action is needed. If the issue is not resolved, the issue can be brought to the PCGC Dispute Resolution Task Force.

2. **Personnel Certification Governance Committee Dispute Resolution Task Force**

   If NERC staff did not resolve the issue to the satisfaction of the parties involved, a written request must be submitted to the chairperson of the PCGC through NERC staff within 45 days of the conversation with NERC staff explaining the issue(s) and requesting further action. Upon receipt of the letter, the PCGC chairperson will present the request to the PCGC Dispute Resolution Task Force for action. This task force consists of three current members of the PCGC. The PCGC Dispute Resolution Task Force will investigate and consider the issue presented and make a decision. This decision will then be communicated to the submitting party, the PCGC chairperson, and NERC staff within 45 calendar days of receipt of the request.

   If a French-Canadian or Mexican party raises a dispute, the PCGC shall appoint a French-Canadian interpreter, or a Spanish interpreter as requested.

3. **Personnel Certification Governance Committee**

   If the PCGC Dispute Resolution Task Force's decision did not resolve the issue(s) to the satisfaction of the parties involved, the final step in the process is for the issue(s) to be brought before the PCGC. Within 45 days of the date of the task force's decision, the disputing party shall submit a written request to the PCGC chairperson through NERC staff requesting that the issue(s) be brought before the PCGC for resolution. The chairperson shall see that the necessary documents and related data are provided to the PCGC members as soon as practical. The PCGC will then discuss the issue(s) and make their decision within 60 calendar days of the chairperson's receipt of the request. The decision will be provided to the person bringing the issue(s) and the NERC staff. The PCGC is the governing body of the certification program, and its decision on all disputes is final.

Process Expenses

All individual expenses associated with the process, including salaries, meetings, and consultant fees shall be the responsibility of the individual parties incurring the expense.

[19] https://soccedsupport.zendesk.com/hc/en-us/requests/new

Decision Process

Robert's Rules of Order shall be used as a standard of conduct for the process. A majority vote of the members present will decide all issues. The vote will be taken in a closed session. No member of the PCGC may participate in the dispute resolution process other than the party or a witness that has an interest in the particular matter.

A stipulation of invoking the appeals process is that the party requesting the appeal agrees that neither NERC (its members, Board of Trustees, committees, subcommittees, and staff), any person assisting in the appeals process, nor any company employing a person assisting in the appeals process, shall be liable, and they shall be held harmless against the consequences of any action or inaction as well as harmless against any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause[20] does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

[20] NERC Rules of Procedure; Section 5.1

Chapter 6: Disciplinary Actions (NERC Rules of Procedure)

Overview

This Disciplinary Action Procedure is necessary to protect the integrity of the system operator credentials. Should an individual act in a manner that is inconsistent with expectations, this procedure describes the process to investigate and take action necessary to protect the credential.

Grounds for Action

The following shall serve as grounds for disciplinary action:

- Willful violation and/or a gross violation of the NERC Reliability Standards as determined by a NERC investigation.
    - Both the organization and the certified system operator are bound by the NERC Reliability Standards. If a certified system operator, either in concert with the organization or on their own initiative, performs a willful violation and/or a gross violation of the NERC Reliability Standards, the organization and the certified system operator are both liable for those actions and disciplinary actions may be taken against them.
- Willful negligence and/or a gross negligence in performing the duties of a certified system operator as determined by a NERC investigation.
- Intentional misrepresentation of information provided to NERC for a system operator certification exam or to maintain a system operator credential using CEHs.
- Intentional misrepresentation of identification in the exam process, including an individual identifying as another person to obtain certification for the other person.
- Any form of cheating during a certification exam that includes, but is not limited to, bringing unauthorized reference material in the form of notes or other materials into the testing center.
- A certified system operator's admission to or conviction of any felony or misdemeanor directly related to their duties as a system operator.
- Creating a second account in SOCCED in order to register and pay for an exam under a different login and/or account name in order to bypass the 42-day wait period between examinations.

Hearing Process

Upon the report to NERC of a candidate's or certified system operator's alleged misconduct, the PCGC Credential Review Task Force will convene for the determination of facts. An individual, government agency, or other investigating authority may file a report. Unless the task force initially determines that the report of alleged misconduct is without merit, the candidate or certified system operator will be given the right to receive notice of the allegation. A hearing will be held, and the charged candidate or certified system operator will be given an opportunity to be heard and present further relevant information. The task force may seek out information from other involved parties. The hearing will not be open to the public, but it will be open to the charged candidate or the certified system operator and their representative. The task force will deliberate in a closed session, but the task force cannot receive any evidence during the closed session that was not developed during the course of the hearing.

Task Force's Decision

The task force's decision will be unanimous and will be in writing with the inclusion of the facts and reasons for the decision. The task force's written decision will be delivered to the PCGC (via email) and to the charged candidate or the certified system operator. ~~In the event that~~If the task force is unable to reach a unanimous decision, the matter shall be brought to the full committee for one of the following decisions:

- **No Action:** The allegation of misconduct was determined to be unsubstantiated or inconsequential to the credential.
- **Probation:** NERC will send a letter to the offender specifying the length of probationary period (to be determined by the PCGC).
  - The Credential will remain valid during the probationary period.
  - The probationary period does not affect the expiration date of the current certificate.
  - During the probationary period, a subsequent offense of misconduct, as determined through the same process described above, may be cause for more serious consequences.
- **Revoke for Cause:** NERC will send a letter to the offender specifying the length of the revocation period (to be determined by the PCGC).
  - Credential is no longer valid.
  - The offender must successfully pass an exam to become recertified.
  - An exam will not be authorized until the revocation period expires.
- **Termination of Credential:** NERC will send a letter to the offender specifying permanent revocation of credential, and the offender will not be approved to sit for a future examination.

Credential Review Task Force

A Credential Review Task Force shall be comprised of three active members of the PCGC assigned by the chairperson of the PCGC on an ad hoc basis. No one on the credential review task force may have an interest in the particular matter. The task force will meet in a venue determined by the task force chairperson.

If a French-Canadian or Mexican party raises a dispute, the PCGC shall appoint a French-Canadian interpreter, or a Spanish interpreter as requested.

Appeal Process

The decision of the task force may be appealed using the NERC System Operator Certification Dispute Resolution process (see **Chapter ~~4~~5**:).

Chapter 7: Glossary

G01. **Continuing Education Hour (CEH):** Based on 60 clock minutes and includes at least 50 minutes of participation in a group or self-study learning activity that meets the criteria of the NERC Credential Maintenance Program.

G02. **Continuing Education (CE) Provider**: The individual or organization responsible for setting learning objectives, developing the curriculum to achieve such objectives, offering a learning activity to participants, and maintaining documentation required by these criteria. The term CE Provider may include NERC, REs, operating and marketing entities, technical and industry societies and associations (whether formal or informal), consultants, vendors, colleges, universities, and training companies as well as employers who offer in-house learning activities.

G03. **Certification:** An official recognition that indicates the recipient has passed a NERC exam or completed a specified number of CEHs.

G04. **Credential:** NERC designation that indicates the level of qualification achieved (i.e., Reliability Operator; Balancing, Interchange, and Transmission Operator; Balancing and Interchange Operator; and Transmission Operator).

G05. **Credential Maintenance:** Meet NERC CEH requirements to maintain a valid NERC-issued system operator credential.

G06. **Expired:** A NERC certificate that has been suspended for more than 12 months. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC certified. The certificate holder will be required to pass an exam to be certified again. Any CEHs accumulated prior to or during the expiration period will not be counted toward certificate maintenance.

G07. **NERC-Approved Learning Activity**: Training that maintains or improves professional competence and has been approved by NERC for use in its Credential Maintenance Program.

G08. **Probation:** A step in the disciplinary process during which the certificate is still valid. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.

G09. **Revoke for Cause:** A step in the disciplinary process during which the certificate is no longer valid and requires successfully passing an exam to become certified. However, an exam will not be authorized until the revocation period expires. CEHs earned before or during this revocation period will not be counted for maintaining a credential.

G10. **Suspended:** Certificate status due to an insufficient number of CEHs being submitted prior to the expiration of a certificate. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC certified.

G11. **Termination of Credential:** A step in the disciplinary process whereby a credential is permanently revoked.

G12. **Type of CEHs:** NERC-approved learning activity covering topics from **Appendix A,** NERC Reliability Standards, and/or simulations for which there is a minimum requirement for credential maintenance.

Appendix A: Recognized Operator Training Topics

Courses that provide CEHs for NERC Certification credential maintenance must relate to one or more specific recognized operator training topics, as they pertain to or support the BES reliability responsibilities of the system operator. Refer to the *NERC Credential Maintenance Program Administrative Manual* located on the One-Stop Shop[21] for more information about proper learning activity development.

1. **Basic Concepts**
   a. Basic ac/dc Electricity
      i. Capacitance
      ii. Inductance
      iii. Impedance
      iv. Real and reactive power
      v. Electrical circuits
      vi. Magnetism
   b. Basic Power System Mathematic Concepts
      i. Basic trigonometry
      ii. Ratios
      iii. Per unit values
      iv. Pythagorean Theorem
      v. Ohm's Law
      vi. Kirchhoff's Laws
   c. Characteristics of the BES
      i. Transmission lines
      ii. Transformers
      iii. Substations
      iv. Power plants
      v. Protection
      vi. Introduction to power system operations and interconnected operations
      vii. Frequency
      viii. Emerging technologies/equipment

[21] https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx

2. System Protection Principles

a. Transmission lines

b. Transformers

c. Busses

d. Generators

e. Relays and protection schemes

f. Power system faults

g. Synchronizing equipment

h. Under-frequency load shedding

i. Under-voltage load shedding

j. Communication systems utilized

3. Interconnected Power System Operations

a. Voltage control

b. Frequency control

c. Power system stability

d. Facility outage both planned and unplanned

e. Energy accounting

f. Inadvertent energy

g. Time error control

h. Balancing of load and resources

4. Emergency Operations

a. Loss of generation resource(s)

b. Loss of transmission element(s)

c. Operating reserves

d. Contingency reserves

e. Line loading relief

f. Load shedding

g. Voltage and reactive flows during emergencies

h. Loss of EMS

i. Loss of primary control center

5. **Power System Restoration**
   a. Restoration philosophies
   b. Facility restoration priorities
   c. Blackstart restoration
   d. Stability (angle and voltage)
   e. Islanding and synchronizing
6. **Market Operations**
   a. NAESB Standards
   b. Standards of conduct
   c. Tariffs
   d. OASIS applications (transmission reservations)
   e. E-Tag application
   f. Transaction scheduling
   g. Market applications
   h. Interchange
7. **Tools**
   a. Supervisory Control and Data Acquisition (SCADA)
   b. Automatic Generation Control (AGC) application
   c. Power flow application
   d. State estimator application
   e. Contingency analysis application
   f. P-V Curves
   g. Load forecasting application
   h. Energy accounting application
   i. Voice and data communication systems
   j. Demand-side management programs
8. **System Operator Situational Awareness**
   a. Identifying loss of facilities
   b. Recognizing loss of communication facilities
   c. Recognizing telemetry problems

d. Recognizing and identifying contingency problems

e. Proper communications (three-part)

f. Communication with appropriate entities, including the Reliability Coordinator

g. Cyber and physical security and threats

h. Reducing system operator errors through the use of human performance tools, such as self-checking, peer checking, place keeping, and procedure use

9. Policies and Procedures

a. ISO/RTO operational and emergency policies and procedures

b. Regional operational and emergency policies and procedures

c. Company-specific operational and emergency policies and procedures

10. NERC Reliability Standards

a. Application and/or implementation of NERC Reliability Standards

Appendix B: Program Manual Changes

Table B.1: Program Manual Changes				
Date	**Section**	**Page**	**Description**	**Version**
xx/2025			NERC Board of Trustee Approved	4.2
11/2024	Program Requirements	6	Original - 3.a. Added - 3.a.i., 3.a.i.1., 3.a.i.2., 3.a.i.3., 3.a.i.4. to provide more detailed information.	
	Learning Activities	12	Added – Training Frequency, Footnote 14. Removed - Emergency Operations Training Topics, Other Training Topics, Instructor Training.	
		13	Removed – NERC mailing address.	
2/15/2024		All	NERC Board of Trustees Approved	4.1
12/2023	Examination Process	2	Update link for PSI exam scheduling to: https://test-takers.psiexams.com/	4.0
	Deficits of CEHs for Credential Holders	9	Updated - Example and added SOCCED time zone.	
	Hardship Clause (NERC Rules of Procedure)	11	Updated - How Hardship Request Form should be submitted.	
	Appendix A Recognized Operator Training Topics	19	Updated - Appendix A Preamble, added Emerging Technologies/Equipment to Characteristics of the BES.	
2/2022	All	All	See the Mapping Document for a detailed list of changes between the current and previous manual version.	4.0
4/2020	Certification Exams	2	Exam cut scores updated effective June 1, 2020	3.2
10/2019	Preface	1	Updated NERC map and Regional Entities	3.1
09/2017	All Certification Examinations	All 1 All	Annual Review Added additional information to clarify how the EWG is involved in the exam development process. Added language to explain in more detail the exam development process. Matched language with test center vendor. Rearranged paragraphs for clarification.	3.0

Table B.1: Program Manual Changes				
Date	**Section**	**Page**	**Description**	**Version**
	Credential Maintenance	2 All 8	Added exam development process diagram. Updated language for clarification. Reorganized paragraphs for consistency. Added Certification Process Diagram.	
02/2017	Introduction Examinations **Appendix A**	v 1 16, 18	Added non-discriminatory statement. Updated Total Questions, Scored Questions, and Added Exam Cut Scores Added overview statement for **Appendix A** Topics and adjusted number 8 of the topics.	3.0
05/2016		All	Board Approved	3.0
03/2016	All	All 3 7	Document reviewed to confirm accurate information. Clarification of how 42-day wait period is calculated and 42-day wait period required regardless of exam failed. Reduction of renewal request timeframe to 6 months prior to expiration.	2.1
05/2014	All	All	Updated to reflect new exam vendor information. Also, corrected certificate expiration date example to reflect actual process.	2.1
02/2012	All		NERC address change Style and format changes throughout Eliminated detail instructions.	2.0
08/2010	Executive Summary, II and III	4, 16-23, 24, and 25	Review of content for consistency with current requirements	1.4
11/2009	All	All	Fee increase for exams and credential maintenance	1.3
10/2007	II	15	Category defined for carry-over CE hours.	1.3
08/2007	All	All	Updated instructions to include instructions for the new database	1.3
03/2007	IV	18	General housekeeping and added a 45-day limit to Step 3 of DRP. Added comment about waiting for official score when available before taking action on a dispute filed with the PCGC chair.	1.2

Table B.1: Program Manual Changes				
Date	**Section**	**Page**	**Description**	**Version**
03/2007	I	9	Remove certificate numbering convention	1.2
08/2006	III	16	Training providers retaining documentation	1
06/2006	All	All	CEH to CE Hours	1.1
06/2006	I and II	4, 17	Fees	1.1
02/2006	All	All	Program manual	1
05/2005	All	All	Initial white paper expanded SOC program to include CE hours	0

Standards Committee (SC) Report

Action

Approve the 2025-2027 SC Strategic Work Plan as well as receive an update on the SC activities.

2025-2027 Strategic Work Plan

At its December 10, 2025, meeting, the SC approved its 2025-2027 Strategic Work Plan and is seeking Board of Trustees (Board) consideration and approval at its February 2025 meeting.

SC Highlights

The SC is committed to effectively execute on the standards prioritization initiatives which has been demonstrated over the past several months. In August and September of 2024, Federal Energy Regulatory Commission (FERC) Order 901 Milestone 2 projects conducted a third draft of formal ballots. Project 2021-04 Modifications to PRC-002-2 and Project 2023-02 Analysis and Mitigation of BES Inverter-Based Resource Performance Issues passed their respective ballots. Project 2020-02 Modifications to PRC-024 (Generator Ride-through) did not achieve a passing rate with a 52.89% ballot result. Due to unsuccessful ballot of Generator Ride-through project, the Board invoked the special rule in Rules of Procedure Section 321.2 -321.4 which remanded the standard to the SC to work with NERC staff to conduct a technical conference, complete an additional ballot within 45 days of the remand, and seek a minimum 60 percent ballot body approval. After a successful technical conference that was held in Washington, DC, the project achieved a passing ballot body approval. All of the FERC Order 901 Milestone 2 projects were Board adopted on October 9, 2024. The Standards Committee Executive Committee also held a special call on September 6, 2024, to authorize standards revisions for Project 2024-03 Revisions to EOP-012-2.

During the October 2024 meeting, the SC approved an errata for the Generator Ride-through project that identified three non-substantive errors found in both the Reliability standard and its Implementation Plan. The SC appointed 15 members to Project 2024-02 Planning Energy Assurance. At that same meeting, the extreme cold weather project was granted authorization to post for an initial 20-day formal comment period.

The remainder of 2024 proved to be a busy time for the SC. At the November 2024 meeting, a waiver of the requisite five business-day notice to stakeholders of changes was approved. This waiver allowed Project 2022-03 Energy Assurance for Energy Constrained Resources (Operations)to seek approval for corrections that may qualify as non-substantive. The approval of this request to waive the five business-day requirement to notify stakeholders of changes allowed Project 2022-03 to move into a final 10-day ballot that was scheduled for November 25, 2024. This project was adopted by the Board on December 10, 2024. Also at the November meeting, the SC authorized drafting of Reliability Standard(s), respective to project objectives outlined in the FERC Order 901 Milestone 3 Standard Authorization Requests (SARs).

For the month of December 2024, in addition to Project 2022-03 Energy Assurance for Energy Constrained Resources (Operations), Project 2021-03 CIP-002, Project 2023-04 Modifications to CIP-003, and Project 2023-07 Transmission System Planning Performance Requirements for

Extreme Weather were completed and board adopted on December 10, 2024. At the December SC meeting, the SC authorized the drafting of Reliability Standards consistent with the third-party cloud services project SAR and approved the 2024 Committee accomplishments and 2025-2027 Strategic Work Plan. Additionally, there was a discussion on formalizing a process and criteria for ending all further work on standards projects that failed to achieve substantive progress between ballots; consistent with Standards Committee authority as detailed in the Standards Process Manual.

The extreme cold weather project (Project 2024-03 Revisions to EOP-012-2) conducted a technical conference on November 12, 2024, after its initial posting and completed their second ballot in December 2024. The approval rating of the second ballot increased by 2% from its initial posting. On January 10, 2025, the NERC Board of trustees invoked the special rule in Rules of Procedure Section 321.5 which remanded the standard to the SC to work with NERC staff in drafting a standard to post for 45-day comment period. The SC conducted closed and open calls with NERC staff and industry stakeholders that focused on the FERC directives and industry feedback from the additional ballot. EOP-012-3 is anticipated to be posted no later than January 29, 2025. FERC Order 901 Milestone 3 projects held a joint industry engagement workshop in mid-January 2025 to ensure consistency and transparency across the related projects.

In addition, the SC held term elections for the 2025-2026 terms along with a special election for segment 6 for the 2024-2025 seat. Nine members were elected to the 2025-2026 terms with segment 8 remaining vacant due to that segment not receiving a nomination during the nomination period. One member was elected to serve the remaining 2024-2025 seat for segment 6.

Collaboration Activities

The Standing Committees continue working to streamline risk framework and project prioritization efforts, largely through increased engagement and collaboration. The RSTC and the SC conducted a joint meeting in June 2024 to discuss an overview of each committee, the SAR development process, and future collaboration opportunities. This resulted in the development of the Modernize Standard Processes and Procedures (MSPP) Task Force that was charged with streamlining the approach each committee implements when posting SARs for comment. The work of MSPP Task Force has been placed on hold pending the results of the Board's review of the standards development process.

Upcoming Activities

- Project 2024-03 Modifications to EOP-012-2 Revision deadline for March 27, 2025
- FERC Order 901 Milestone 3 Standards deadlines for November 2025
- Completion of Remaining High Priority Projects
- SC Governance Self-Assessment Board submittal

For additional information regarding the Committee and more detail on actions taken over the last two quarters, please visit our webpage for agendas and minutes: SC Webpage

Attachment

2025 – 2027 SC Strategic Work Plan

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2025-2027 Standards Committee Strategic Work Plan

Introduction

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

- Supporting process improvements to enhance agility, efficiency, and effectiveness
- 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
- Addressing Federal Energy Regulatory Commission (FERC) directives
- Standards Quality

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 2024-2026 Reliability Standards Development Plan (RSDP), this Plan recognizes the transition of the Standard development process to primarily address an increasing number of FERC directives, emerging risks, and process improvements. The details of the goals and objectives for 2025-2027 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.

SC and RSTC Tiger Team

The SC and the RSTC formed a joint task force in late 2024 with the objective to enhance timely completion and approval of Standard Authorization Requests and to leverage RSTC expertise during the development process. The work of the task force is pending.

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. As first detailed in the 2025-2027 Reliability Standards Development Plan, a formalized and consistent approach is implemented in the prioritization of standards.

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.

FERC Directives

As detailed in the 2025-2027 Reliability Standards Development Plan, there are 82 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.

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:

Standards Grading

In 2023 the SC and the Compliance and Certification Committee convened a joint task force to evaluate the existing Standards Grading process, identify opportunities, and provide recommendations for improvement. This review occurred in lieu of the annual Standards Grading exercise. The work of the task force is still ongoing and will continue into 2025.

Periodic Reviews

Given the number of high priority projects in development this initiative will not be pursued in 2025; however, will be considered for workplan inclusion in 2026 or 2027.If included in future workplans 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 1st quarter 2026 or 2027 if applicable.

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.

Revision History	
Comments	**Approval Dates**
Approved by Standards Committee	12/10/2024
Approved by NERC Board	TBD (anticipated February 2025)

Compliance and Certification Committee (CCC) Board Report

Action

Approve the CCC 2025 Work Plan, as well as receive an update on CCC activities.

2025 CCC Work Plan

The CCC approved its 2025 Work Plan and presents it to the Board of Trustees (Board) for consideration and approval at its February 2025 meeting.

CCC Highlights

The start of 2025 has the CCC focused on two work plan priorities:

- **Strategic Planning Efforts**: CCC is focused on onboarding new members and identifying opportunities for broader education and outreach efforts that can best help the ERO and industry. On January 21, CCC leadership and NERC staff conducted its annual orientation session for three new members, with more than a dozen existing CCC members also joining the discussion.
- **Evaluating Stakeholder Perceptions**: The CCC held its first 2025 focused discussion, soliciting feedback about experiences associated with self-certifications used by the ERO Enterprise during the compliance monitoring process. Committee members offered a wide range of opinions from industry, which followed an overview of the use of self-certifications from the perspectives of the Regions. The CCC will aggregate these comments for ERO Enterprise consideration, another example of the strong partnership that exists between the CCC and the ERO Enterprise. The discussion was well received, with approximately 70-80 people attending the virtual session.

With approval of the 2025 CCC Work Plan on the Board agenda, the CCC has been working closely with NERC staff to finalize the topic areas for industry feedback during the year. Based on conversations between NERC staff, the CCC, and the CCC Executive Committee, the CCC expects to discuss the following topic areas in 2025:

- Self-Certifications
- Industry Perceptions Regarding the Value of NERC's Mid-Year and Annual Compliance and Enforcement Reports
- Internal Controls and the Compliance Monitoring and Enforcement Program
- Registration-Related Issue

Depending on the schedule of the next major Align release, the CCC may also seek additional industry feedback on the Align tool. The CCC welcomes any guidance from the Board in this regard.

Collaboration Activities

The CCC and other Standing Committees, continue to work with NERC and the Standing Committees Coordinating Group (SCCG) on revisions to the overall risk framework.

The CCC and the Standards Committee remain interested in collaborating on approaches that could best incorporate CMEP considerations most effectively into the standards development process. Given the accelerated standards development schedule, doing so has been a challenge in recent months. Conversations about this issue will hopefully resume during the year.

Additionally, CCC members continue to review and provide feedback for various pieces of draft practice guides and RSAWs, as requested.

Upcoming Activities

- Quarterly meeting, April 8-10, 2025 at Vistra Corporation's offices in Irving, Texas.
  - Focused Discussion - Industry Perceptions Regarding the Value of NERC's Mid-Year and Annual Compliance and Enforcement Reports
- Initial discussions regarding Nominations for 2026-2028, including CCC selection of CCC Chair and Vice Chair for 2026-2027
- Approval of the 2024 Stakeholders' Perception Feedback Report
- ERO Monitoring Subcommittee review of the following CCC Policies and Procedures:
  - CCCPP-008-3: Program for Monitoring Stakeholder Perceptions
  - CCCPP-010-7: Criteria for Annual Regional Entity Program Evaluation
  - CCCPP-011-3: Procedure to Become a Pre-Qualified Organization for Implementation Guidance

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NERC Compliance and Certification Committee 2025 Work Plan

NERC Board Approval: MM/DD/YYYY

Version Approved by CCC: 12/12/2024

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Introduction

The purpose of this Work Plan is to identify the anticipated activities and deliverables of the NERC Compliance and Certification Committee (Committee or CCC) for 2025. 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 the January 2007 FERC Compliance Order, upheld in the June 7, 2007 FERC Order's Key Provision 8, and enumerated in the NERC Rules of Procedure (ROP), regularly assesses NERC's adherence to the 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 the Reliability Standards development program. In 2025, 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 Compliance Monitoring and Enforcement Program (CMEP)'s Implementation Plan (IP) and the ERO Enterprise Long-term Strategy.

In addition, 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

Vision, Mission and Guiding Principles

Vision

Effective risk-based CMEP and ORCP implemented in a consistent manner that enable the ERO Enterprise to focus resources on risks to the reliability of the Bulk Power System (BPS) and risks specific to registered entities.

Mission

The CCC is a NERC 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 Board's Regulatory Oversight Committee (ROC) and the NERC Board of Trustees Enterprise-wide Risk Committee (EWRC) regarding all facets of the NERC CMEP and ORCP.

Guiding Principles

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 develops an annual work plan to identify the activities that the CCC intends to perform each year 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.

Committee members are expected to support the interests of the sector they represent, to the best of their ability and judgment.

Chapter 1: 2025 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. Further details on these projects are in the following table.

Project Name	Activities	Resource(s)
Industry Collaboration and Communication	1) Maintain direct involvement in the SCCG. 2) Enhance communications and participation with industry groups with a focused plan for coordination. 3) Ensure that materials developed for onboarding new CCC members and for industry stakeholders looking for background information about the CCC are current. a) Including by not limited to meeting minutes, actions taken, and use of NERC Extranet site for committee collaboration. 4) Create feedback loops with the Member Representatives Committee (MRC) and the Standards Committee (SC) and seek opportunities to create additional feedback loops with industry organizations as it relates to CMEP, ORCP, and Standards Development activities. 5) Build upon the successful deployment of the Program for Monitoring Stakeholders' Perceptions as noted under CCCPP-008.	CCC, NERC Management
Enhancing CCC Program Efficiencies	1) Continue evaluation of various activities and functions of subcommittees/working groups to determine ways to improve the effectiveness and efficiency of the CCC. 2) Periodically review EROMS, ORCS, and Nominating Subcommittee Scopes. 3) Explore opportunities to "cross train" across various CCC subcommittees. 4) Work with NERC to develop criteria to evaluate goals, tools, and procedures of each Regional Entity (RE)CMEP to determine the effectiveness of each RE CMEP and how they are harmonized across the ERO. 5) Conduct committee self-assessment to determine effectiveness of CCC and its leadership	CCC, NERC Standing Committees, NERC Management

Chapter 2: 2025 CCC Work Plan - Ongoing Responsibilities

The table below summarizes 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 chapter by project name identified below.

Project Name	Activities	Resource(s)
Review and Update of CMEP and CCC Programs and Procedures	1) Review and monitor changes to the CMEP and other NERC initiatives that could require updates or changes to CCC programs and procedures. a) Annual evaluation and, if needed, update of criteria for assessing effectiveness of RE CMEP activities, considering ERO input, to appropriately reflect program modification, improvements, and prior years' evaluations. b) Working with IA, assess impact of risk-based CMEP implementation on: (a) monitoring practices (as embodied in CCCPP-010); (b) enforcement; and (c) Reliability Standards development. c) 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. d) Per the terms of CCCPP-011, conduct an annual review of the criteria for approval to become an organization seeking to be pre-qualified to submit Implementation Guidance to the ERO Enterprise. 2) Evaluate and review CCC Charter, including functions and responsibilities, and any potential ROP changes impact. 3) Explore opportunities to "cross-train" among EROMS, ORCS and NS Work with NERC staff to continue to improve the CCC Webpage on the NERC website and communication with industry with additional outreach.	CCC, NERC Management
Program Support Efforts (CMEP, Standards Development)	1) Identify and participate in risk-based compliance assurance outreach, such as internal controls, and feedback discussions. 2) Support rollout of key activities and/or CMEP and ORCP revisions in accordance with ERO Enterprise goals as requested. 3) Partner with ERO Enterprise to provide feedback/comments as requested on a) Reliability Standards Audit Worksheet (RSAW) development, b) CMEP Practice Guides, 4) Review and respond to stakeholder requests to become a pre-qualified entity to submit compliance Implementation Guidance. 5) Evaluate results and input on stakeholder perceptions and work with NERC management on proposed resolutions. a) 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. b) Provide additional guidance, as needed, to NERC Staff regarding the Align tool	CCC, NERC Management

Project Name	Activities	Resource(s)
	c) Participate on Align Users Group (CCC Chair, CCC Vice Chair, CCCEC Representative)	
Assistance with Review of ERO documentation for ORCP	1) Support review of ERO documentation for ORCP to identify revisions and make recommendations as programs mature. a) Provide additional guidance, as needed, to NERC Staff regarding the entity registration tool: Centralized Organization Registration ERO System (CORES). b) ORCS participates in the Functional Mapping Focus Group. c) Support new IBR registration	ORCS
Monitor NERC's adherence to the ROP	1) In coordination with NERC Internal Audit under Sections 405/406/506/Various NERC Appendices of the NERC ROP, participate as observers in audits of NERC in the areas of CMEP, ORCP, and the Standards development program, including reviewing the final audit reports and reporting to the EWRC on industry observations and provide written report where necessary. Work with NERC to develop criteria to evaluate the goals, tools, and procedures of each RE CMEP to determine the effectiveness of each RE CMEP.	CCC, NERC Internal Audit
EWRC Collaboration	1) Participate and support EWRC activities and discussions, a) Provide an update of CCC activities at each quarterly EWRC meeting. i) This may include review of results of Stakeholder Perception Report, update of CCC key quarterly activities, annual work plan, any topic requested by the ERWC. b) Provide summary findings related to stakeholder perceptions conducted by CCC. 2) Participate in the annual ERO risk discussions with NERC Management and provide input into NERC's annual risk assessment, as requested.	CCC Leadership, EWRC and ERO Enterprise Management , NERC Director, Internal Audit
NERC Reliability Issues Steering Committee (RISC) Collaboration	1) Provide input to existing risks, mitigation strategies, and emerging risk identification. a) Perform outreach with stakeholders to gather input for emerging risks. 2) Participate and support RISC activities and discussions, including Reliability Risk Leadership Summit, provide updates to CCC members.	CCC Leadership, NERC Management
ERO Enterprise Program Alignment	1) As noted in the 2017 ERO Alignment Effort, the CCC collaborates with the NERC and the REs, on the ERO Enterprise's Program Alignment, to address alignment in the execution of both CMEP and the ORCP. To support the success of CMEP and ORCP, the CCC will a) At NERC's request, assist NERC with screening of information, support further review of reported items, and provide suggested resolutions if warranted. i) Gather information regarding potential alignment issues. ii) Evaluate nature and extent of the alignment issue.	CCC, NERC Management

Project Name	Activities	Resource(s)
	iii) Develop suggested resolution of the issue. iv) Present suggested resolution to the CCC for review and endorsement. v) Communicate suggested resolutions of alignment issue to the CCC to communicate to NERC.	
Support of ERO Effectiveness	1) Manage stakeholders' perception program a) Consistent with responsibilities outlined in CCCPP-008, lead efforts to solicit input from industry and the ERO Enterprise on objectives, content, and delivery of assessments of ERO effectiveness related to CMEP, ORCP, Standards Development Program and EO Enterprise Program Alignment. b) Evaluate results of assessments and provide recommendations for the ERO Enterprise and the Board c) Periodically solicit input from the industry, including the MRC 2) Support development efforts for assessments of ERO effectiveness a) 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. 3) 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. 4) Provide stakeholder expertise to support the development and maturation of Align, Secure Evidence Locker and CORES.	EROMS, NERC Management
Stakeholder Collaboration	1) Identify industry stakeholder groups where CCC collaboration will strengthen ERO process and approach. a) Lead CCC task forces, such as the Consistency Tool Task Force, 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. 2) Participate in industry outreach as requested with ERO personnel on designated ERO topics. a) 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.).	CCC, Stakeholder Committees

Chapter 3: 2025 CCC Work Plan - Deliverables

Project Name	Activities/Deliverables	Resource	Date
CMEP and CCC Programs and Procedures	Review CCC procedures and update as needed per EROMS schedule.	EROMS	Q4
	Update Extranet site to document CCC processes, meeting minutes and actions taken.	CCC	Q4
	Provide training on Extranet use to all CCC members	NERC Staff	Q1
	CCC members (5-6) participate as observers in NERC Internal Audit's CMEP and ORCP audits.	CCC	Q4
	As part of consistency and predictability on RE audit engagements, collaborate with ERO on path forward of RSAWs & Internal controls reviews to clearly communicate to industry any shift in expectations.	CCC/NERC Staff	Q2
	Implement any enhancements or changes based on feedback from the 2024 CCC Self-Assessment Survey	CCCEC	Ongoing
Registration Input	ORCS continue to support NERC, through the ORCG with the NERC IBR Work Plans 2nd year efforts in identifying candidates for Category 2 GO and/or GOP functional registration. ORCS maybe requested to provide feedback and assistance during the identification activities.	ORCS	Q4
	Participate in CORES Functional Mapping project and provide feedback, as requested	ORCS	Ongoing
Compliance Input	Review and comment on CMEP Practice Guides, as requested, work with ERO staff on intended use across REs and understand how the CCC feedback provided has been incorporated or not.	CCCEC	Ongoing
	Provide input on the Evidence Request Tool and RSAWs and have mechanism to understand how CCC input provided has been incorporated or not	EROMS	Ongoing
Enterprise-wide Risk Collaboration	Provide 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. Share Annual Work Plan and key deliverables, provide findings of prior year Stakeholder Perceptions report (Q2)	CCC Chair	Quarterly
	Provide the RISC input on CMEP, ORCP, and ERO Alignment activities and associated risks.	CCC Chair and Vice Chair	Ongoing
	Support ERO risk assessment framework and provide input on residual risk evaluation as requested	CCC	Ongoing

Project Name	Activities/Deliverables	Resource	Date
ERO Program Alignment	As requested by NERC, analyze issues and determine the scope and material impact.	CCC, NERC Staff	Ongoing
	Review Consistency Report Tool submittals and resolutions	CCCEC, NERC Staff	Quarterly
Support of ERO Program Effectiveness	Hold "focused discussions", as outlined in CCCPP-008 to solicit input from industry and the ERO Enterprise on objectives, content, and delivery of assessments of CMEP, ORCP and Standards Development Program effectiveness.	EROMS	Quarterly
	Support ERO development of any additional metrics to measure risk mitigation (leverage CMEP biennial reports)	CCC	Ongoing
	Working with Internal Audit, use CCCPP-010 criteria to evaluate effectiveness during CMEP, ORCP and SDP audits.	CCC, NERC Internal Audit	Q2
	Develop 2024 Stakeholder Perception Feedback Report, review with NERC staff their activities underway or planned to address the feedback.	EROMS	Q1
	Consistent with the SC/SCCG recommendations, support activities to implement recommendations from 2022 Standards Process Engagement Stakeholder Group (SPESG) proposal.	CCCEC	Ongoing
Stakeholder Collaboration	Participate in and provide feedback to Align Users Group (AUG)	CCC Reps	Quarterly
	Collaborate with ERO on further outreach on Align and SEL functionality, including development of communication plan and training.	CCC reps	Q1
	Consistent with the SC/SCCG recommendations, collaborate with SCCG and ERO leadership to facilitate solutions, enhance program efficiency, effectiveness, and agility.	CCC	Quarterly
	Review new or upcoming SARs to help prioritize emerging issues, as needed and work with SCCG to help prioritize workload for the Standards Committee.	CCC Chair and Vice Chair	Ongoing

Chapter 4: Logistics and NERC Budget Requirements for CCC Activities

As part of the ongoing effort to improve effectiveness and efficiency, and to ensure that all CCC members can fully participate, for 2025, the CCC's first quarter meeting will be fully virtual, and the remaining meetings will have a hybrid option.

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

Assumptions: Four CCC meetings per year, via WebEx and 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

In 2025, no audits are planned and no related expenses expected.

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

Assumptions: Conference calls, including CCC/Subcommittees conducted via NERC Webex.

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 5: Revision History

Revision History

Date	Version Number	Comments
November 12, 2024	1	CCC Executive Committee Review
December 12, 2024	2	CCC Review and Approval

Agenda Item 7d
Board of Trustees Meeting
February 13, 2025

Reliability and Security Technical Committee (RSTC) Report

Action

Approve the RSTC 2025 Strategic Plan and the elevation of the Supply Chain Working Group (SCWG) to a subcommittee as well as receive an update on recent RSTC activities.

RSTC 2025 Strategic Plan

The RSTC is responsible for developing a two-year outlook Strategic Plan to guide its deliverables and ensure appropriate prioritization of activities. The RSTC updates its Strategic Plan each year based on comparison to NERC priorities, reports, and analyses, including the NERC Business Plan and Budget, ERO Enterprise long-term strategy, assessments, and the biennial Reliability Issues Steering Committee (RISC) Reliability Risk Priorities report. Each year, the RSTC must present its Strategic Plan to the NERC Board of Trustees (Board) and request approval.

In June 2024, the RSTC established a review team to conduct its annual review of the RSTC Strategic Plan. The review team updated the RSTC Strategic Plan based on its review of NERC priorities and risks identified in 2024. These additional areas of focus included work undertaken by the Large Loads Task Force and the Electric Vehicle Task Force. Enhancements were added to the Grid Transformation risk priority area, and mode-specific information was added to the tables contained in chapters two and three. In addition, over the last year the RSTC conducted a self-assessment of its operations. The RSTC is evaluating how it can use the helpful feedback exchanged to improve committee efficiency and effectiveness.

Elevation of Supply Chain Working Group (SCWG) to a Subcommittee

Under the RSTC Charter, the committee is also responsible for approving the scope document for each subgroup and overseeing its activities. There are three types of subgroups: (i) task forces with a finite duration of normally less than one year; (ii) working groups to perform specific functions over a term of generally two years; and (iii) more permanent subcommittees. The formation of a subcommittee, due to its permanency, is subject to approval by the Board.

The RSTC Charter also specifies that each year the committee shall complete a sunset review of its working groups and task forces, and "should consider promoting to a subcommittee any working group that is required to work longer than one term." RSTC Charter, Section 6.

The SCWG is a subordinate group of the RSTC. The SCWG was formed to help the RSTC enhance Bulk Electric System reliability by implementing the goals and objectives of the RSTC Strategic Plan with respect to supply chain risk management (SCRM).

The RSTC 2024 sunset review recommended elevating the SCWG to a subcommittee on the basis that while the SCWG has been successful as a working group the threat landscape posed by SCRM has continuously evolved and warrants sustained focus. For example, in September 2024 the Federal Energy Regulatory Commission issued a notice of proposed rulemaking (NOPR) directing

NERC to develop new or modified Reliability Standards to address risks to reliability and security related to SCRM.[1]

As a subcommittee, the subgroup is anticipated to use its technical expertise to:

- Serve as a resource for NERC-led drafting teams working on Reliability Standards, in accordance with the RSTC Standard Authorization Request Development Process[2].
- Liaise with groups such as the Electricity Information Sharing and Analysis Center and national laboratories to explore information sharing and supply chain risk assessments as appropriate.
- Develop guidance to assist entities in identifying, assessing, and responding to supply chain risks, as well as recommending updates to SCRM practices.
- Manage cyclical deliverables, including quarterly supply chain disruption reports that summarize grid-related risk events.

Based on this recommendation, the RSTC voted on December 11, 2024, to elevate the SCWG to a subcommittee, subject to Board approval. The team is currently revising the SCWG scope document for review by the RSTC in anticipation of this elevation.

RSTC Highlights

Recent activities of the Committee will be highlighted as part of the presentation to the Board at its February 2025 meeting.

Attachments

2025 Strategic Plan

[1] Supply Chain Risk Management Reliability Standards Revisions, 188 FERC ¶ 61,174 (2024).

[2] *RSTC SAR Development Process* (2023), *available at* https://www.nerc.com/comm/RSTC/Documents/RSTC%20SAR%20Development%20Process%20clean%20Sept%2020%202023.pdf

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Reliability and Security Technical Committee

20254-20265 Strategic Plan

January 20254

RELIABILITY | RESILIENCE | SECURITY




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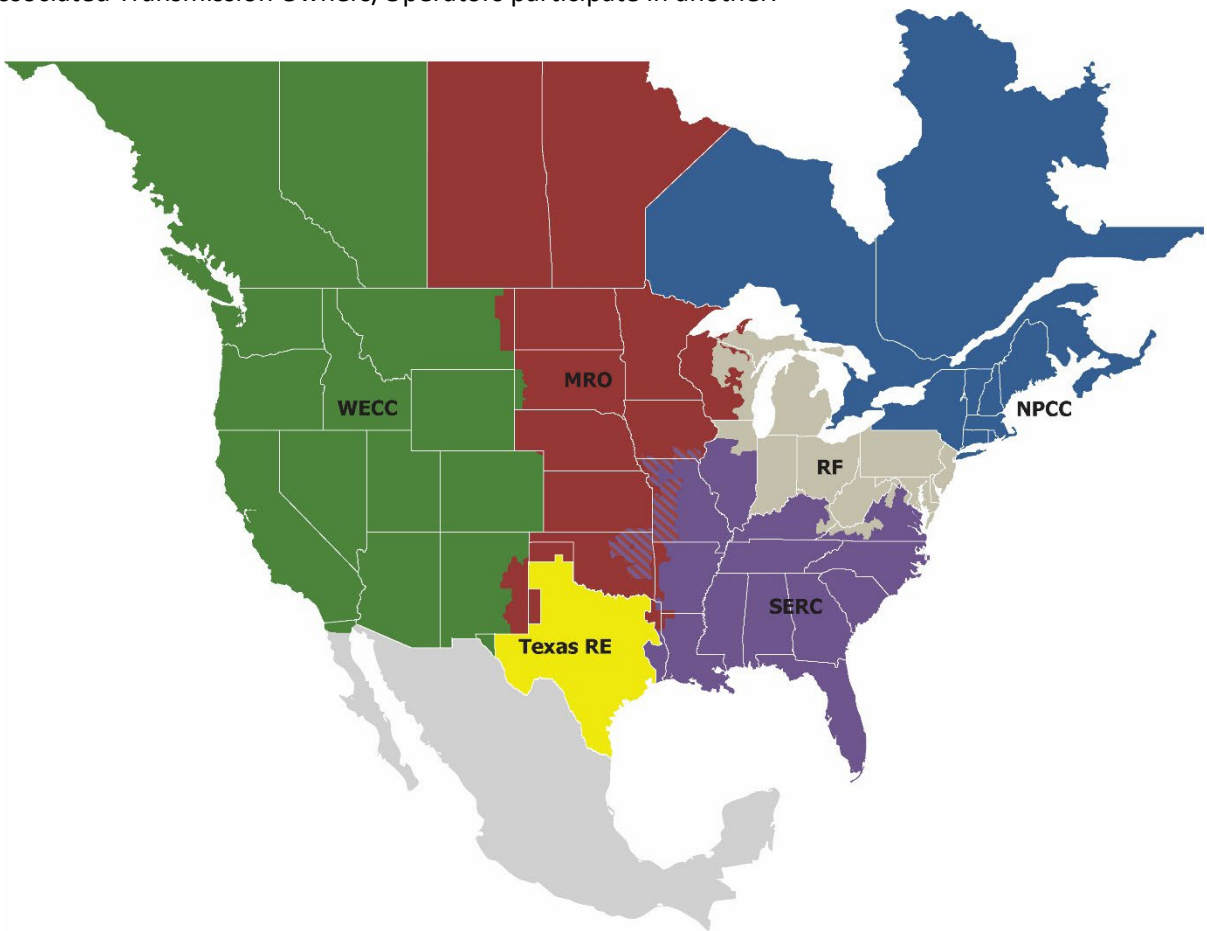
Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities, 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 Entities as shown on the map and in the 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.



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

Introduction and Objectives

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.
- Leverage industry technical expertise to provide insights, considerations and educational materials regarding reliability impacts of policy and regulatory decisions.
- Coordinate the objectives in the strategic work plan with the Standing Committees Coordinating Group.
- Support response to mandates related to BPS reliability (e.g. FERC Order 901[1], ITCS[2]).

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 retains the flexibility to address emerging issues.

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.

[1] https://www.ferc.gov/media/e-1-rm22-12-000
[2] https://www.nerc.com/pa/RAPA/Pages/ITCS.aspx

Executive Summary

The 2025 update to the RSTC strategic plan ~~Shortly after the Board approved the 2023 ERO Reliability Risk Priorities Report ("2023 ERO Risk Report") the RSTC convened a small group to~~was ~~conduct~~conducted by a small group of RSTC members per the two-year Strategic Planning Process, which is detailed in Appendix A. The group identified four strategic priorities, with the recognition of the need to increase awareness of reliability implications, and closer collaboration and coordination with policy makers on emerging energy policy issues:

1. Grid Transformation,
2. Inverter Based Resources (IBR),
3. Resilience and Extreme Events, and
4. Security.

Trends in several areas of the electric industry are the primary drivers of these priorities. Policy and economic drivers are shifting the resource mix from large, centralized fossil-fired power stations towards variable energy resources (VER) spread over large geographic areas. Concurrent with this shift, the capacity to provide essential reliability attributes that are inherent in large synchronous generators and critical to managing the reliability of the BPS are decreasing. The inverter-based devices that are expected to mimic and replace these Essential Reliability Services are still being evaluated for their applicability and functionality. Amid this transition, natural gas use for electric generation appears to increase in peak periods but for fewer hours. This is testing both the physical and regulatory interfaces between the electric and gas industries in novel ways. In addition, electric demand is growing in extraordinary ways and with uncertain load profiles such as data centers, crypto mining and electric vehicle loads. Compounding the risks, the impact of extreme weather events during this transition is challenging system operators in unprecedented ways. Finally, security risks appear to be increasing, and all industry stakeholders must remain vigilant to physical and cyber-attacks and ~~disruption~~ vulnerabilities of globally interconnected supply chains.

With respect to the four emerging strategic risks, the RSTC identified specific focus areas and desired outcomes. Potential risk mitigation steps are left for further investigation by the subcommittees, working groups, and task forces (collectively "subgroups"). A complete list of the focus areas follows:

Grid Transformation

1. Energy Assurance: As the grid relies on more just-in-time fueled resources – i.e., natural-gas fired generators and VERs – and traditional, slower starting resources have become less economic to operate, ensuring energy is available and delivered at the right time to serve load is essential.
2. Gas-Electric Coordination: The gas infrastructure and regulatory framework were not originally designed to support the needs of the electric industry. As the generation fleet transitions to less carbon-intense resources, the use of gas fired resources for base load and peaking needs is increasing especially during critical times and under certain conditions, and the limitations of this historical framework are becoming more apparent.
3. Demand Growth: Electrification policies are adding to traditional macroeconomic-driven load growth. Moreover, the characteristics of newly connected loads are not well understood and may present unique reliability challenges. These demands compound the challenges of an evolving generation mix and manifestly increase reliability risk. To address specific reliability risks, the RSTC formed two task forces in 2024. The Large Loads Task Force (LLTF) was formed to better understand the reliability impact(s) of emerging large loads such as Data Centers (including crypto and AI), Hydrogen Fuel Plants, etc. and their impact on the bulk power system (BPS). The Electric Vehicle Task Force (EVTF) was also formed to promote collaboration between electric utilities and the EV automotive representatives such that the two can build a common language and develop recommended utility interconnection requirements (e.g., ride-through),

procedures, and approaches to handle the growing adoption of EVs ~~seen by the ERO Enterprise~~ in a manner supportive to the reliability of the BPS.

4. Distributed Energy Resources (DER): As ~~the grid shifts toward~~ more decentralized, distribution-connected generation come on to the grid, the reliability attributes also shift to where the generation is connected. This step towards major decentralization could be accompanied with unintended risks. Current Reliability Standard requirements are centrally focused to require performance on the generation side to serve load. There are no existing requirements that distribution-connected resources perform to maintain the reliability of the bulk power system.
5. Demand and DER Aggregators: For many years, utilities have implemented demand side programs to manage demand on their systems in an aggregated manner. Policy decisions, such as FERC Order 2222 along with technology advances, have ~~also~~ increasingly opened the door to market participation by aggregators of distribution-connected resources and for "third party" aggregators to manage and control their operation. The current and forecasted state of aggregation needs to be fully assessed to ensure ~~we~~ appropriately prioritized and coordinated efforts regarding aggregators of distribution-connected resources and performance, modeling, and visibility of these resources.

Inverter-Based Resources

1. IBR Performance: As the first generations of IBRs were deployed and reached a critical mass, issues with their ability to ride through system faults and disturbances became apparent. This has resulted in concerns for grid operators, and there are efforts underway to address the performance of in-service IBRs.
2. IBR Modeling versus Performance: In addition to the aforementioned operating concerns, the nascent industry has lacked standard models used for power flow and grid stability analysis. Additionally, interconnecting utilities have found many device settings of installed IBRs deviate from the models provided.
3. IBR Interconnection Requirements and Evaluation: IBR numbers are expected to grow over the next decade and exceed the megawatts of synchronous generation in many regions. RSTC and its subgroups are examining the viability of codifying interconnection requirements to address the concerns with ride-through and actual versus modelled performance, plus potentially adding certain reliability services, on a prospective basis.

Resilience and Extreme Events

1. Planning for High-Impact Events: Generation performance is correlated with weather, and demand may exhibit nonlinear behaviors under extreme conditions. This necessitates an assessment of risk in planning models including low frequency but highly impactful conditions.
2. Wide-area Energy Assessments: Short- and long-duration low-frequency, high-impact weather events sometimes extend beyond the boundaries of individual balancing authority areas and can lead to an increase in ~~propagating~~ risks across a wide area. Resource planning and reliability assessments would benefit from joint-regional coordinated action.

Security

1. Physical and Cyber Security: External threats have caused damage and disruption to the Bulk Electric System (BES). Unfortunately, threats from lone wolf actors to state-sponsored hackers are expected to increase. DERs and Distribution-Side Aggregators are expanding the current attack surface. Raising awareness of these threat vectors and the extent to which DER aggregators may be following cybersecurity protocols encourages protective actions that mitigate the risk and strengthen the grid.

2. Supply Chain Assurance and Protection: Today's supply chain is highly globalized to the extent the BPS may not be able to function if supply of certain components is disrupted or weaponized. The risks from globalization are coming into sharp focus with recent geopolitical events. Attention is required to ensure the grid continues to function in the event global supply chains are disrupted.

While the small group of RSTC members developing this plan debated and identified the strategic risks, it became apparent that the full RSTC should undertake a thorough examination of the indicators and metrics used to measure risk. The consensus among the group is that existing metrics sufficiently measure the current state of reliability and may be used to extrapolate trajectories with historical data, but these indicators do not sufficiently measure emerging, novel risks. Early each calendar year~~In early 2024 2025~~ the RSTC will discuss action to:

- Review current reliability metrics,
- Identify the risks that those metrics are attempting to address,
- Identify risks areas that could materialize in the future and are unique or peculiar to the strategic risks,
- Define leading indicators that may better forecast future risk areas and allow the ERO and stakeholders to proactively mitigate those risks, and
- Identify appropriate pathways to communicate risks and new leading indicators to energy policymakers.

Following Board approval, the RSTC will communicate these strategic risks and focus areas to the subgroup leads. Through an iterative process, these groups will propose to the RSTC specific work plan items intended to address~~mitigate~~ these identified risks. The RSTC will review the work plan items against this strategic plan for alignment and prioritization and approve the work plan items as appropriate. The rest of this document describes the details of the processes used to develop the strategic plan and describes those risks in more detail.

Chapter 1: Mission, Vision, and Guiding Principles

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 who 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 the ERO's strategic plan.
- Maintain a focus on identification, analyses, and mitigation of existing and emerging reliability, resilience, and security risks.
- 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.
- 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 subcommittees, working groups and task forces are focused on the highest priorities for reliability, resilience, and security within the ERO enterprise.

Chapter 2: 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 strategic priorities and the expected work products may change, as needed. The strategic objectives of the RSTC are:

1. Drive effective mitigation actions against emerging and established reliability and security risks, specifically targeting the strategic 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.
6. Provide general information to a wide audience that highlights reliability and security risks on the bulk power system from significant changes to energy resources and electric loads.

To achieve these objectives, the RSTC uses its subgroups to develop its work products. The subgroups are organized under three categories: Performance Monitoring, Risk Mitigation, and Reliability and Security Assessment.

There are two types of key projects included in the RSTC work plan to support the 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. **Prioritized Risk:** Targeted and focused actions to identify and develop specific reliability risk mitigations. The RSTC's **Risk Mitigation** subgroups primarily serve to support the strategic risk 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 risks, the RSTC is able to craft risk-informed recommendations, provide the basis for actionable risk mitigations, and provide education to industry stakeholders and policymakers. The RSTC supports this process primarily through the Reliability Assessment Subcommittee (RAS), Performance Analysis Subcommittee (PAS), and Resources Subcommittee (RS). Primary deliverables include:

   a. **Long-Term Reliability Assessment (annually):** 10-year outlook of resource adequacy and transmission projections. Emerging reliability and security integration issues are identified.

   b. **Seasonal Reliability Assessments (annually):** Summer and winter season operational outlook, projection, and leading indicators.

c. **Special Reliability Assessments (ad-hoc):** topical technical evaluation of a specified reliability risk.

d. **State of Reliability Report (annually):** Historical performance, evaluating 5-year (or longer) trends, indicators, and lagging metrics.

e. **Frequency Response Annual Analysis (annually):** Historical performance of frequency response per a Federal Energy Regulatory Commission (FERC) 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:

a. **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.

b. **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.

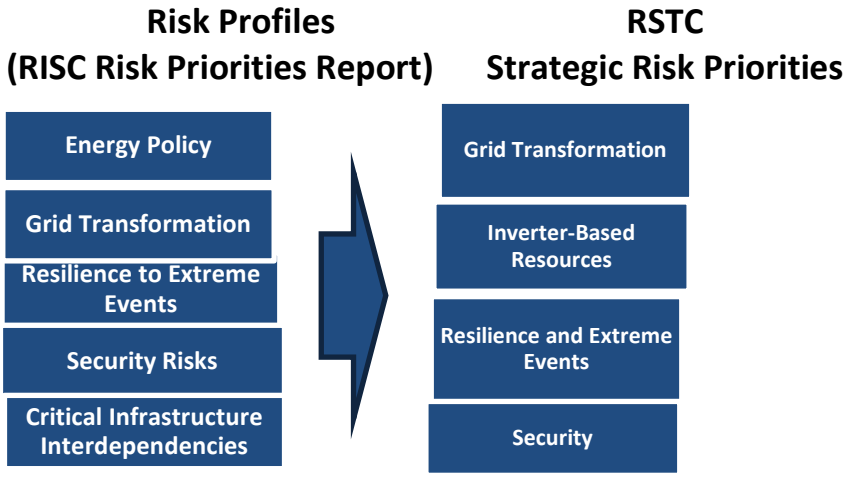
3. **Promote and increase stakeholder engagement and awareness of reliability risks.**
The RSTC will continue to promote outreach to stakeholder and policymaking organizations on reliability, resilience, and security matters through webinars and in-person conferences, workshops, and other mediums to deliver content and reliability messages. The RSTC will leverage strong relationships with industry groups such as NATF, NAGF, IEEE, EPRI etc. as well as regulatory and governmental authorities to target specific technical areas of concern and work together on industry outreach. Primary engagements include:

a. **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."

b. **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 Profiles identified by the RISC, the RSTC has identified four strategic priorities: 1) Grid Transformation, 2) Inverter-Based Resources, 3) Resilience and Extreme Events, and 4) Security.



Future actions by the RSTC on its Strategic Risk Priorities are focused on the risk mitigation and deployment parts of the Framework for Risk Mitigation as explained in Appendix A. Through this strategic plan, subgroups are identified and tasked with identifying risk mitigation solutions (e.g., Reliability Standard, Reliability/Security Guideline) and working with the RSTC Executive Committee (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 that are not aligned with the prioritized risks, or refers matter(s) to the RSTC for further discussion. For each RSTC Strategic Risk Priority, a 2-Year plan is detailed below indicating specific risks, desired outcome and measures of success.

1. **Grid Transformation**

   Unassured fuel supplies, including the timing and inconsistent output from VERs, pipeline deliveries, and uncertainty 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.[3] The RSTC and its subgroups will develop methods, processes, tools, and/or SARs that are needed to address energy security – factoring in modelling requirements, extreme events and critical infrastructure interdependencies.

   A part of the grid transformation creates a higher reliance on natural gas resources as a prime flexible resource to ensure reliable operation of the Grid. Coordination between the gas and electric systems will become even more important over the transition. Differences in scheduling requirements, physical capacity constraints, and adequate ramping capability must be addressed to ensure a reliable transition.

   Public policy and economics continue to drive the retirement of traditional resources at a time when load growth is beginning to quickly increase in portions of NERC. Technologies, such as electric vehicles, as well as new computing techniques, are driving substantial portions of this load growth. Some of the loads may have unique characteristics or interactions with other grid loads and resources that need to be fully understood to maintain reliability.

[3] https://www.nerc.com/comm/RSTC/ERATF/ERATF%20Energy%20Adequacy%20White%20Paper.pdf

In addition, across the industry there has been significant discussion regarding the impact of Distributed Energy Resources and aggregation of demand-side resources. The potential BES reliability impacts need to be assessed to ensure appropriate prioritization of industry resources around this topic.

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
Energy Assurance: Insufficient assessment of energy supplies to ensure operational awareness and energy availability.	• Modeling and data sharing requirements • System Operations • Resource planning	• SAR for Reliability Standards (submitted in 2022) • Supplemental materials developed and disseminated for industry use in performing energy assessments	• Standards Committee approval of new Reliability Standards • RSTC approval / endorsement of Considerations for Performing an Energy Reliability Assessment, Volume 2 • EEA3 trends • Performance during extreme weather conditions • CPS1 trends
Energy Assurance: Insufficient assessment of energy supplies to evaluate resource requirements in the long-term planning horizon.	• Modeling and data sharing requirements • Resource planning	• SAR for Reliability Standards (submitted in 2022) • Work on Long-Term Planning Horizon Standards expected to begin in 2024 • Supplemental materials developed & disseminated for industry use in performing energy assessments	• Standards Committee approval of new Reliability Standards (separate effort and SAR from Operations Planning Standards) • RSTC approval / endorsement of Considerations for Performing an Energy Reliability Assessment, Volume 2 • EEA3 trends • CPS1 trends
Gas-Electric Coordination: Increased dependence on natural gas as fuel for flexible and dispatchable resources	• Resource Planning • Modeling and data sharing requirements • System Operations	• Support WSE Joint Inquiry Report recommendations • Support DOE/NERC balancing study • Proactively identify regions and scenarios of elevated risk	• Reduce risk and actual occurrences of fuel-related generation outages due to lack of pipeline gas
Demand Growth: Accelerated demand growth	• Reliability Assessment • Resource Planning	• Methods to educate Policy Makers are effectively communicating reliability risks associated with the	• SRA/WRA • LTRA • State of Reliability

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
		evolving resource mix • Methods / standards in place to ensure an adequate level of essential reliability services are maintained throughout the transition	
Demand Growth: New loads may have unique characteristics which could present reliability concerns	• Load Modeling • System Operations • Transmission Planning	• Unique characteristics of new loads are identified & understood. • Viable solutions to address reliability concerns of new load characteristics are identified and documented. • Models of the new load facilities are developed for power system studies that sufficiently captures their unique characteristics.	• State of Reliability • Event Analysis
Distributed Energy Resources: High penetration of DER may pose a reliability risk	• Identify specific reliability risks • Load forecasts • Ride-through • Data sharing protocol	• Complete assessment of existing and expected penetration of Distributed Energy Resources and identification of associated reliability risks	• LTRA • Event Analysis
Demand and DER Aggregation: Increasing aggregation of demand side resources may pose reliability and security risks	• Identify specific aggregation operating modes • Data sharing protocol	• Complete assessment of existing and expected activity of demand side aggregation of distribution-connected resources and identification of associated reliability risks • Evaluate cybersecurity, back-up control, essential reliability service, dispatchability, and reliable integration of DER aggregators. • Identify performance, modeling and data sharing requirements for planning and operating the BES	• LTRA • Event Analysis

2. Inverter-Based Resources

The bulk power system 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 IBRs 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.

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.[4] The RSTC will drive improvements in the performance of IBRs by focusing on the improvement of IBR interconnection, planning studies, and operations, as well as staying abreast of new inverter technologies and risks. Communicating risk and mitigation measures across the industry will be a critical component of this strategy to enhance IBR performance.

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
IBR Performance	• System Operations • Event Analysis	• IBR ride-through of faults • IBR performance standard	• Event Analysis Process • State of Reliability Report • Summer and Winter Reliability Assessments • Long-Term Reliability Assessment
IBR Performance: Monitoring	• Event analysis	• Identify and study Events involving IBR performance	• Event Analysis Process • State of Reliability Report • Summer and Winter Reliability Assessments • Long-Term Reliability Assessment
IBR Modelling versus Performance	• Modeling and Data Sharing • Long-term planning studies • Event Analysis	• IBRs perform as modeled, or actual IBR performance is modeled in planning. • Modelling standards are approved that ensure IBRs perform as modelled.	• Event Analysis Process • State of Reliability Report • Summer and Winter Reliability Assessments • Long-Term Reliability Assessment

[4] https://www.nerc.com/comm/Documents/NERC_IBR_Strategy.pdf

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
IBR Interconnection Requirement and Evaluation	• Modeling and Data Sharing	• Impact of IBR Interconnection is fully understood and modelled before operating • Standards are approved that specify what assessments and model validation must be carried out as part of the interconnection process.	• Event Analysis Process • State of Reliability Report • Summer and Winter Reliability Assessments • Long-Term Reliability Assessment

3. Resilience and Extreme Events

Recent cold weather events (e.g. Polar Vortices, Winter Storms Elliot, and Uri), heat events (e.g. 2020 California event and British Columbia's heat dome), and localized natural events (e.g. hurricanes, derechos and ice storms) represent an increase in extreme natural events that have an impact on the resilience and reliability of the BPS. The RSTC and its subgroups will ensure modeling requirements include new approaches to adequately assess risks from low-frequency, high-impact events, including wide-area impacts to enable reliable operations of the BPS, and improve resource and energy planning.

The RSTC will develop methods, processes, tools, and/or SARs that are needed to address system resiliency and reliability during extreme events.

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
Planning for High-Impact Events: Assess expected performance of the bulk power system during extreme events	• Load Forecasting • Probabilistic Assessment • Energy Assessment • Model Verification • Transmission Planning	• Develop new approaches in ERO reliability assessments to adequately assess impacts of extreme events. • Leverage existing GridEx events to assess readiness from a confluence of extreme weather and cyber events.	• Event Analysis Process • State of Reliability Report • Summer and Winter Reliability Assessments • Long-Term Reliability Assessment • Special Assessment

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
Wide-Area Energy Assessment: Assess expected performance of the bulk power system during extreme events involving neighboring regions	• Energy Assessment • Probabilistic Assessment • Model Verification • Transmission Planning	• Enhancement to Reliability Assessment Process to include Wide-Area Energy Assessment Capabilities • Develop new approaches in ERO reliability assessments to adequately assess wide-area energy risks. • Conduct special assessments of wide-area extreme event impacts. • Sponsor joint regional reliability assessments that could occur from extreme weather events.	• Summer and Winter Reliability Assessments • Long-Term Reliability Assessment • Special Assessment

4. **Security**

Exploitation of 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.

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success

Identified Specific Risks	Technical Areas of Focus	Desired Outcome	Measure of Success
Physical & Cyber Security:	• Distributed Energy Resources • Demand Side Aggregators • Integration of new technology	• Improved awareness of and resistance to potential attacks	▪ State of Reliability ▪ Event Analysis
Supply Chain Assurance & Protection: Inadequate supply chain security can disrupt, infiltrate, and expose OT systems to unauthorized control.	• Open-Source Software • Provenance • Risk Management Lifecycle • Secure Equipment Delivery • Vendor Risk Management • Cloud Computing • Vendor Incident Response • Supply Chain Procurement	• Whitepaper: NERC Standards Gap Assessment • Coordinate with NATF and NAGF for supply chain evaluation activities	▪ SAR for Supply Chain Standards ▪ Evaluation of the security of the global supply chain and identification of critical components with limited availability

Chapter 3: 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	Focus	Related Strategic Prioritized Risk
Event Analysis Subcommittee (EAS)	Identification Monitoring	• Grid Transformation • Inverter-Based Resources • Resilience and Extreme Events
Performance Analysis Subcommittee (PAS)	Identification Monitoring	• Grid Transformation • Inverter-Based Resources • Resilience and Extreme Events
Real Time Operating Subcommittee (RTOS)	Identification Monitoring	• Grid Transformation • Inverter-Based Resources • Resilience and Extreme Events
Synchronized Measurement Working Group (SMWG)	Monitoring	• Grid Transformation • Inverter-Based Resources
Resources Subcommittee (RS)	Identification Monitoring	• Grid Transformation • Inverter-Based Resources
Energy Reliability Assessment Working Group (ERAWG)	Determining Deploying Measuring	• Grid Transformation • Inverter-Based Resources • Resilience and Extreme Events
Reliability Assessment Subcommittee (RAS)	Identification Monitoring	• Grid Transformation • Inverter-Based Resources • Resilience and Extreme Events
Security Integration and Technology Enablement Subcommittee (SITES)	Determining Deploying Measuring	• Grid Transformation • Security
6 GHz Task Force (6GTF)	Determining Deploying Measuring	• Grid Transformation
Electric-Gas Working Group (EGWG)	Determining Deploying Measuring	• Grid Transformation • Resilience and Extreme Events

Subgroup	Focus	Related Strategic Prioritized Risk
Electric Vehicle Task Force	Determining Deploying	• Grid Transformation • Security
Facility Ratings Task Force (FRTF)	Determining Deploying Measuring	• Resilience and Extreme Events
Inverter-Based Resource Performance Subcommittee (IRPS)	Determining Deploying Measuring	• Inverter-Based Resources
Large Loads Task Force	Determining Deploying	• Grid Transformation • Security
Load Modeling Working Group (LMWG)	Determining Deploying Measuring	• Grid Transformation
Security Working Group (SWG)	Determining Deploying Measuring	• Security
Supply Chain Working Group (SCWG)	Determining Deploying Measuring	• Security
System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG)	Determining Deploying Measuring	• Grid Transformation • DER
System Protection and Control Working Group (SPCWG)	Determining Deploying Measuring	• Inverter-Based Resources

Appendix A: 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 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.

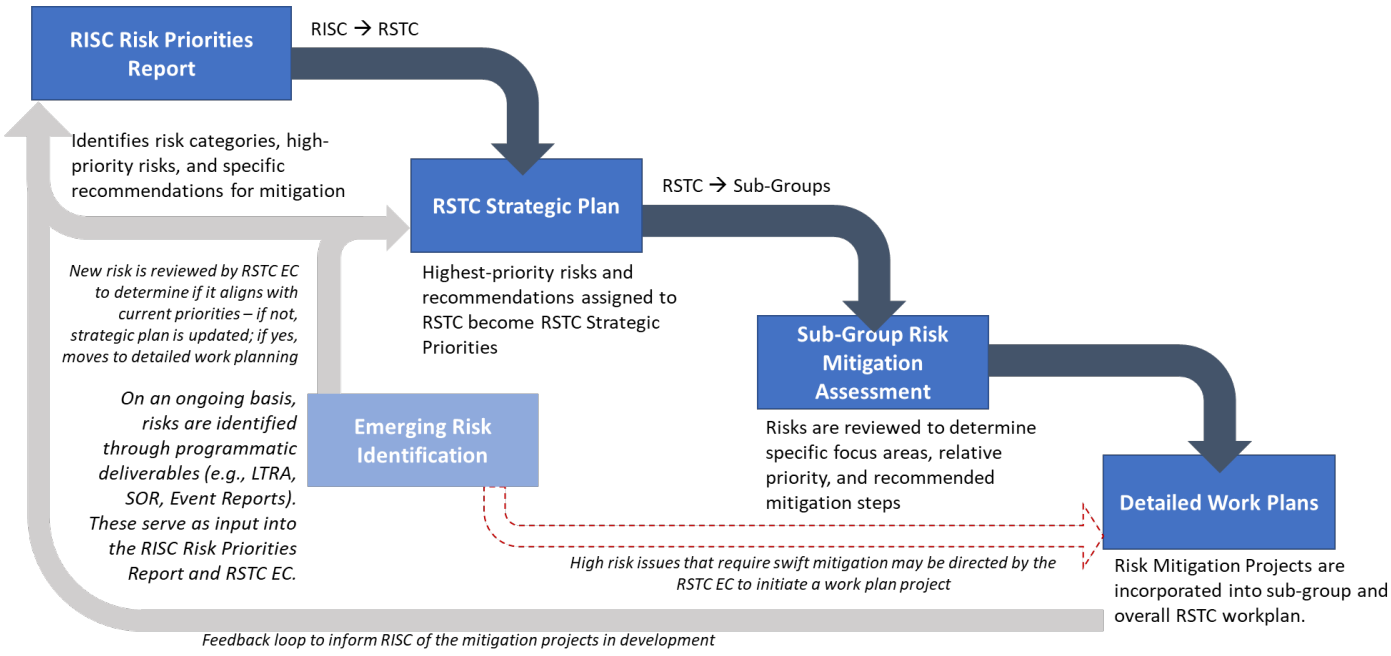


Figure 1: RSTC Strategic Planning Process Flow Chart

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[5] 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.

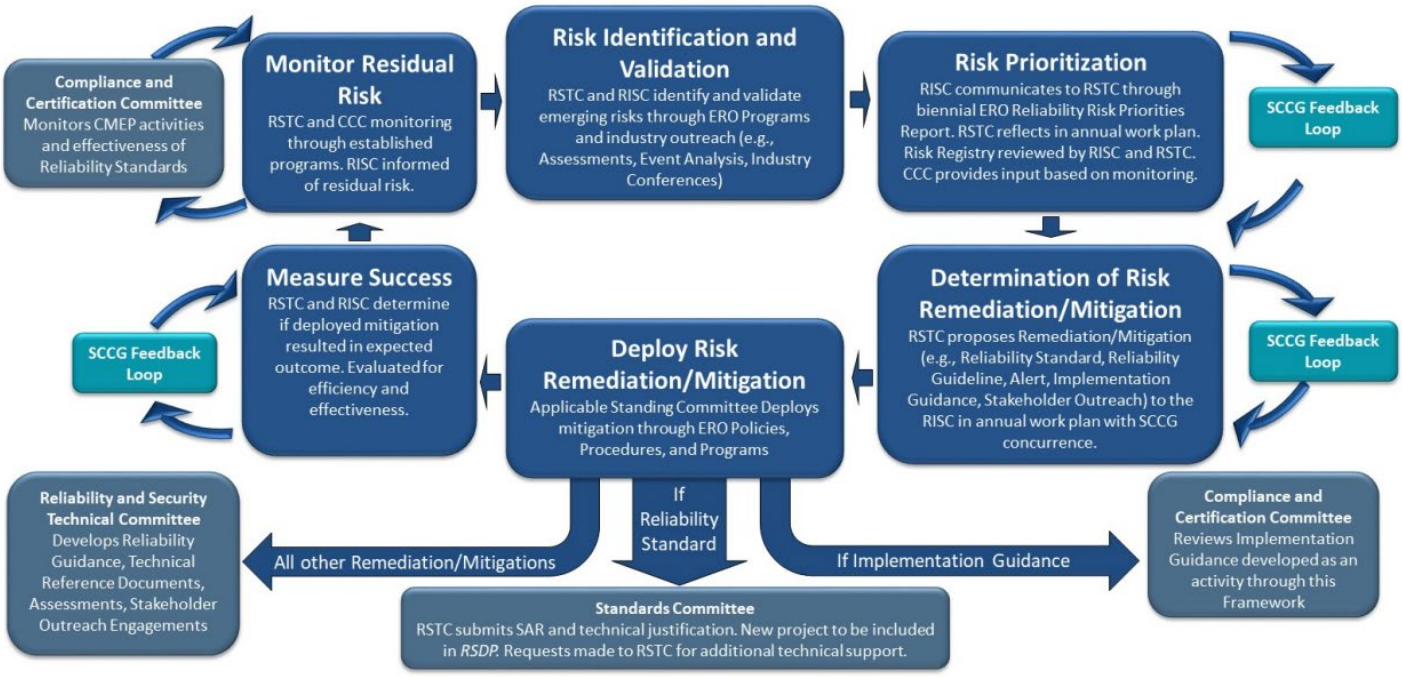


Figure 2: ERO Mitigation Framework for Known and Emerging Reliability Risks

The RSTC's Notional Work Plan Process[6] 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:

Risk Mitigation Framework Steps	RSTC Role	RSTC Deliverable Type

[5] https://www.nerc.com/comm/RISC/Related%20Files%20DL/Framework-Address%20Known-Emerging%20Reliabilit-Securit%20%20Risks_ERRATTA_V1.pdf
[6] 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
1. Risk Identification and Validation	RSTC identifies and validates risks through its performance, event, and future technical analysis and assessments	• Identification and Monitoring ▪ Long-Term and Seasonal Reliability Assessments ▪ Special Assessments ▪ Event and Disturbance Reports ▪ State of Reliability Report ▪ Other reliability/security indicators, whitepapers, gap assessments
2. Risk Prioritization	RSTC provides support and consulting to the RISC prioritization and risk ranking actions.	
3. Determination of Risk Remediation/Mitigation	RSTC proposes remediation/mitigation	• RSTC Biennial Strategic Plan
4. Deploying Risk Remediation/Mitigation	RSTC develops and deploys remediation/mitigation	• RSTC Work Plan ▪ Standard Authorization Requests – SAR ▪ Reliability/Security Guidelines ▪ Compliance Guidance ▪ Reliability and Security Assessments ▪ Stakeholder Outreach ▪ Technical Reference Document ▪ NERC Alert
5. Measure Success	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.	• Identification and Monitoring ▪ State of Reliability Report ▪ Event and Disturbance Reports ▪ Special/Specific Reliability and Security Indicators
6. Monitor Residual Risk	RSTC monitors residual risk through established programs.	• Identification and Monitoring ▪ Long-Term, Seasonal, and Special Reliability and Security Assessments ▪ Event and Disturbance Reports ▪ State of Reliability Report ▪ Other reliability and security indicators and whitepapers

Determination of Risk Remediation/Mitigation

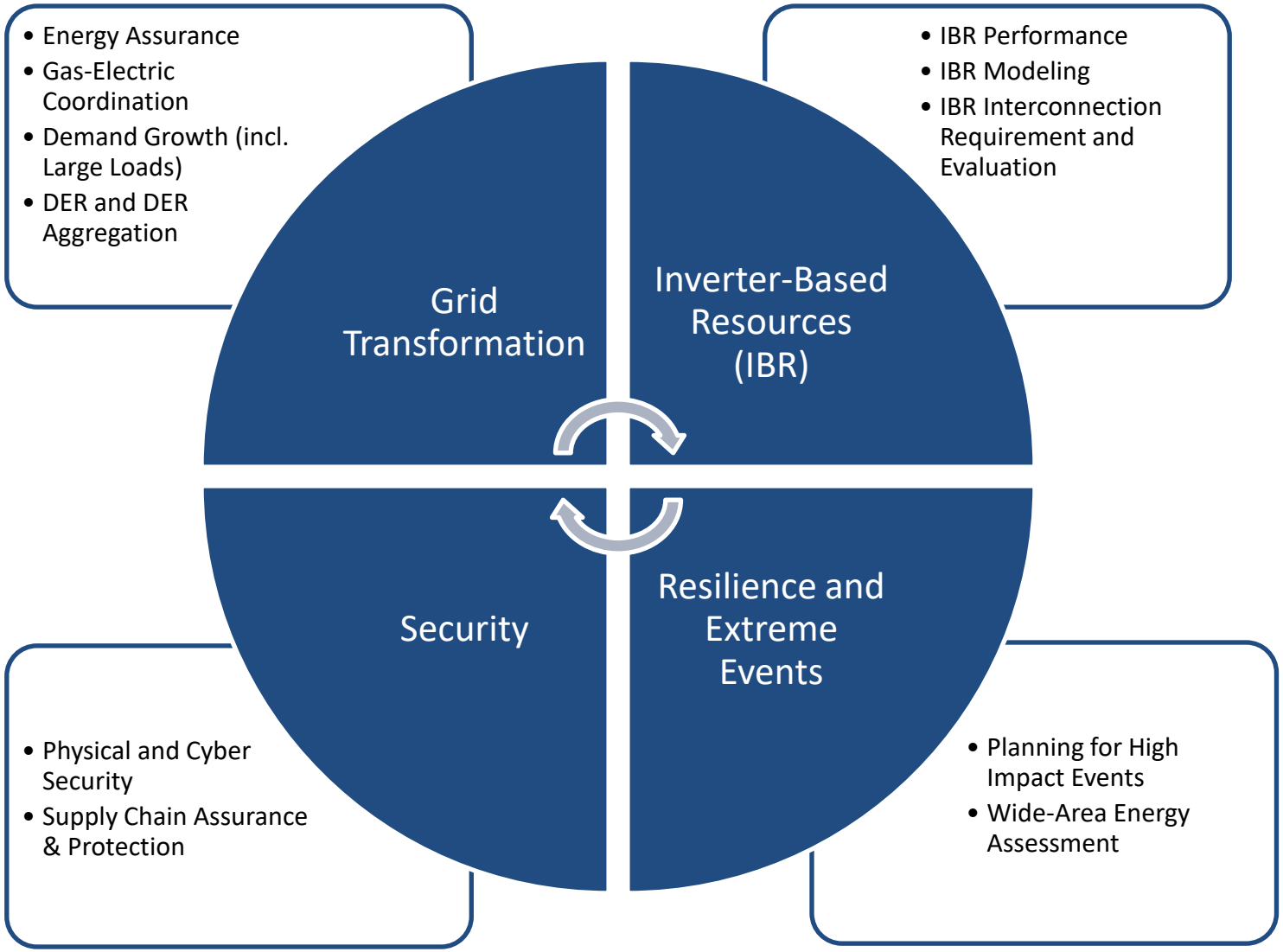
Technical group, RSTC EC, and Sponsors discuss the reliability/resilience issues, technical justification, and consider possible solutions. Potential outcomes or solutions include deliverables in the RSTC Charter such as white papers, reference documents, technical reports, reliability guidelines, SARs, 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.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Reliability and Security Technical Committee Report

Rich Hydzik – Chair, RSTC
Board of Trustees Meeting
February 13, 2025

2025 Strategic Plan Risk Priorities



Highlighted Activities

January 2025

- RSTC Work Plan Summit January 21-23, 2025
- Work Plan items reviewed as part of Work Plan Notional Process

March

- Prioritization of high priority items to address Strategic Plan priorities reviewed at RSTC Meeting

June 2025

RSTC/RISC/SC Joint Meeting

Fall 2025

- Review the 2025 Risk Priorities Report to inform the 2026 RSTC Strategic Plan

Ongoing

- Assess and evaluate how the 2024 self-assessment results can improve Committee priorities, efficiency and effectiveness

Increasing Coordination and Collaboration Across the Standing Committees

Reliability & Security Technical Committee

Broader Stakeholder Input on SARs

Prioritization of Work Products

Increasing Support to Standard Drafting Teams

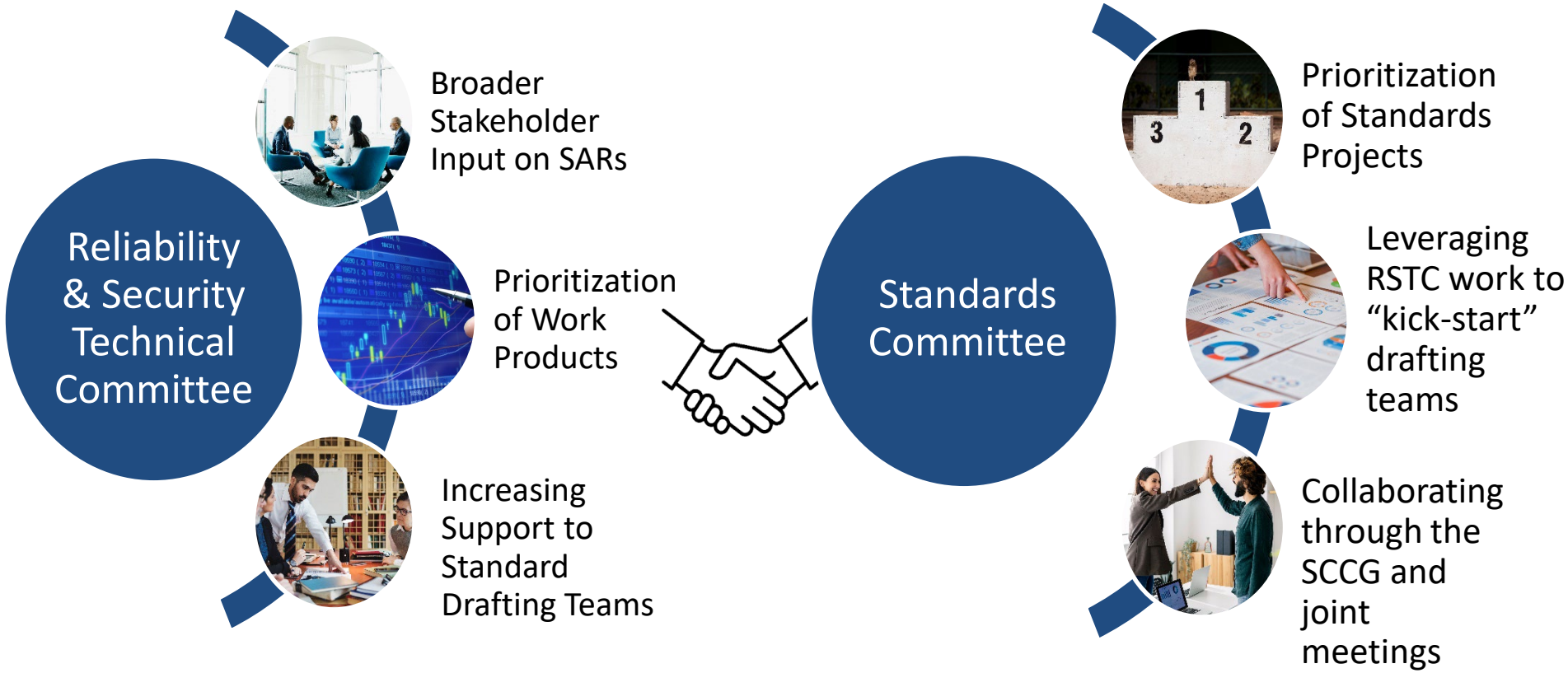
Reliability Issues Steering Committee

Prioritization of Risks identified in the 2025 Risk Report

RSTC providing input into Report through surveys

Collaborating through the SCCG and joint meetings

Increasing Coordination and Collaboration Across the Standing Committees



Questions and Answers

Reliability Issues Steering Committee (RISC) Report

Action
Update

RISC Purpose
The RISC is an advisory committee that reports directly to the Board of Trustees (Board) and triages and provides front-end, high-level leadership and accountability for nominated issues of strategic importance to bulk power system reliability. The RISC assists the Board, NERC standing committees, NERC staff, regulators, Regional Entities, and industry stakeholders in establishing a common understanding of the scope, priority, and goals for the development of solutions to address these issues. In doing so, the RISC provides a framework for steering, developing, formalizing, and organizing recommendations to help NERC and industry effectively focus their resources on the critical issues needed to best improve the reliability of the bulk power system.

Summary
Under its purpose one of the critical work plan priorities for the RISC is the ***ERO Reliability Risk Priorities Report*** (Risk Report). The Committee has began the development of the 2025 Risk Report with the establishment of five subteams:

- Energy Policy
- Grid Transformation
- Resilience to Extreme Events
- Security
- Critical Infrastructure

Each subteam has designated a lead or co-leads who are starting to conduct an in-depth review of various risk areas. Their goal is to identify which risks should be included in the upcoming report. To facilitate this process, the RISC has launched a Phase 1 survey that targets the identification of reliability risks impacting the bulk power system (BPS). This survey is designed to gather insights and recommendations regarding specific activities that can effectively mitigate these identified risks.

The Phase 1 survey serves two crucial purposes. First, it prioritizes the risks that are currently acknowledged by industry experts. Second, it aims to uncover potential new and emerging risks that may pose threats to the reliability of the BPS in the future. The feedback and responses collected through this survey will play a foundational role in shaping the 2025 ERO Reliability Risk Priorities Report, which will outline the most pressing issues facing the electric grid.

Currently, the RISC is also conducting Phase 2 of the survey. This phase is aimed at verifying the top reliability risks identified in Phase 1 and will focus on pinpointing possible mitigation strategies that can be implemented by the ERO and other stakeholders in the industry. The findings from both phases of the survey will be integral in guiding future initiatives and ensuring the stability of the BPS.

In addition, the 2025 Reliability Leadership Summit is scheduled to be held on February 27, 2025. This important event will take place at the Westin DC Downtown, located at 999 9th Street, Washington, DC. The Summit represents a key opportunity for industry stakeholders, as it gathers more than 100 influential leaders from the electric reliability community every two years. Participants will include industry executives, officials from Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs), state utility regulators, significant federal officials, and senior leadership from NERC and Regional Entities.

This year's Summit will concentrate on the following key areas relevant to the future of electric reliability:

- Grid Resiliency;
- Security; and
- Energy Policy.

The results and observations from the Summit will be used to identify, assess, and manage reliability priorities across the Electric Reliability Organization (ERO). These findings will be documented in the Reliability Issues Steering Committee's (RISC) biennial report for 2025. The RISC will continue to develop the report throughout the first half of 2025, with a draft scheduled for review in June. The final report is set to be presented to the Board of Trustees for approval at its August 2025 meeting.

Additional RSTC Highlighted Activities

- **Newly Impactful Topics** – In assessing the work of the RISC and how to improve earlier identification of emerging risks, Chair Mogensen worked with Committee members to identify a list of Newly Impactful Topics that allows the RISC to articulate and bound the next evolution of RISC emerging risks. The Committee reviews and selects topics to be addressed at its meetings, for example the June meeting reviewed and addressed Large Loads and Data Centers and Electrification. The identification of topics and thorough discussions has proved valuable in the RISC objectives.
- **2024 RISC Self-Assessment** – The RISC completed its 2024 self-assessment, of which the results are included in the February 12, 2025 Corporate Governance and Human Resources Committee agenda package. The results will be reviewed and considered as part of the RISC's annual review of its operations and priorities.

Regional Reliability Standard BAL-004-WECC-4 Automatic Time Error Correction

Action

Adopt the following WECC Regional Reliability Standard documents and authorize staff to file with the applicable regulatory authorities:

- Regional Reliability Standard BAL-004-WECC-4 – Automatic Time Error Correction

  [BAL-004-WECC-4] | [Redline to Last Approved]

- Implementation Plan

  [Implementation Plan]

- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs)

  [See Standard]

- Retirement

  [BAL-004-WECC-3]

Background

Proposed Regional Reliability Standard BAL-004-WECC-4 – Automatic Time Error Correction modifies the currently effective regional standard BAL-004-WECC-3 by:

- Expanding the existing Background section;
- Creating a Standard-specific definition (Interchange Software);
- Creating a requirement to use the Interchange Software;
- Addressing treatment of Balancing Authorities that do not have a full year of operating data;
- Consolidating and clarifying requirements;
- Updating the documents to NERC's newest templates;
- Adding a Standard-specific definition, applicable only to this WECC Regional Reliability Standard; and
- Clarifying that when used, the term "ATEC" is as defined in the WECC Regional Definitions section of the NERC Glossary of Terms Used in Reliability Standards (Glossary).

The WECC Board of Directors approved the proposed Regional Reliability Standard on March 13, 2024.

On November 23, 2021, WECC received WECC-0147 Standard Authorization Request (SAR) with a specific request to address a defect in BAL-004-WECC-3, Requirement R1, addressing the "previous calendar year" for generating units that had not been in operation for a full calendar year.

On December 7, 2021, the WECC Standards Committee (WSC) approved the SAR, approving/assigning the drafting team on March 22, 2022.

Between August 22, 2022, and July 21, 2023, the project was posted four times for comment. The drafting team considered and addressed each comment before the project was balloted, closing on September 29, 2023, with a 100% affirmative ballot. The WECC Board of Directors (Board) approved the project on March 13, 2024.

Subsequent to WECC Board approval, based on recommendations from NERC staff, the WSC approved of non-substantive changes to the proposed redlines of BAL-004-WECC-4 on September 6, 2024.[1] The non-substantive changes removed the proposed compliance waiver because it could cause confusion regarding responsibilities of standard drafting teams to develop standards and the circumstances under which NERC Compliance Monitoring and Enforcement Staff may grant a compliance waiver excusing compliance with those standards. As such, it would be improper to provide compliance waivers through a stakeholder balloting process. This change meets the criteria for a non-substantive change under the WECC Reliability Standards Development Procedures because it did not alter the scope, applicability, required actions, or intent of the document.[2]

Summary

NERC staff supports the proposed Regional Reliability Standard, which continues to meet the criteria for a Regional Reliability Standard. NERC posted the proposed BAL- 004-WECC-4 standard for a 45-day comment period from April 10 – May 28, 2024. This version did not reflect the non-substantive changes approved by the WSC on September 6, 2024. Most of the comments received were favorable to the proposed regional Reliability Standard; however, one corporate entity responded, without accompanying comment, that the proposed standard did not meet the criteria for a regional standard.

Minority Issues

None.

Pertinent FERC Directives

None.

Cost Effectiveness

NERC is not aware of any cost concerns.

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[1] *See WECC Reliability Standards Development Procedures*, Treatment of Non-Substantive Changes, Regional Reliability Standards P 12 ("If a Non-Substantive Change to an RRS is re uired at any time after a ECC ballot window opens, the proposed change shall be presented to the WSC with a request for approval. If the WSC agrees that the correction of the error does not change the scope or intent of the associated RRS and agrees that the correction has no material impact on the applicable entities, then the correction shall be filed for approval with NERC and applicable governmental authorities as appropriate.").

[2] *See Id.*, Definitions, (Non-Substantive Change: Revisions that do not change the scope, applicability, or intent of any re uirement, including correcting the numbering of a re uirement, correcting references, changes to document styles and templates, correcting the spelling of a word, adding an obviously missing word, or rephrasing a requirement for improved clarity.)

Additional Information

A link to the project history and files is included here for reference:
[WECC Standards Under Development]

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Reliability Standard BAL-004-WECC-4

Soo Jin Kim, Vice President, Engineering, Standards, and PRISM
Board of Trustees Meeting
February 12, 2025

Reliability Standard BAL-004-WECC-4

- Revisions
  - Expands the existing Background section
  - Creates a Standard-specific definition (Interchange Software)
  - Creates a requirement to use the Interchange Software
  - Addresses treatment of Balancing Authorities that do not have a full year of operating data
  - Consolidates and clarifies requirements
  - Updates the document to NERC's newest templates
- Action
  - Adopt
    - Reliability Standard BAL-004-WECC-4 – Automatic Time Error Correction

Questions and Answers

Project 2024-03 Revisions to EOP-012-2

Action
Update

Summary
NERC Staff will inform the Board of Trustees (Board) of updates relative to the status of Project 2024-03 Revisions to EOP-012-2 and the actions taken during the January 10, 2025 Board open meeting.

Modernize Standard Processes and Procedures (MSPP) Task Force

Action

Update

Summary

NERC Management will provide an update on the Modernize Standard Processes and Procedures (MSPP) Task Force, as reviewed during the MRC Meeting – November 13, 2024 meeting. The Modernize Standard Processes and Procedures (MSPP) Task Force will be stood up to recommend a modernized standard development process that continues to have the earmarks of industry engagement but also ensures that time for from risk identification and prioritization to Reliability Standards development can be completed on a much more efficient and effective manner. The task force will focus on transforming and strengthening the current set of procedures and processes to those that will serve industry in a world that has a great deal of uncertainty and poses fast moving risks to the reliability, security, and resiliency of the bulk power system. The task force will consist of ERO staff, NERC Board members, industry leaders, committee chairs, and contracted process experts, and will report back in twelve months (with regular updates).

Transmission Availability Data System (TADS) 1600 Data Request

Action

Approve the TADS Section 1600 Data Request in the form presented to become effective January 1, 2026.

The TADS data collection would be expanded to include:

1. Geographical (longitude/latitude coordinates) data for TADS elements, to improve the accuracy of evaluating the extent of system outages.
2. Load loss data resulting from a transmission system outage, to identify when there is an operational break in continuously transmitted electrical energy to planned in-service points.
3. The addition of equipment sub-cause codes to enhance the existing initiating and sustained equipment cause codes and increase NERC's ability to track and trend equipment failures with greater detail about transmission outages.

Background

NERC's mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid. With that responsibility, NERC and its stakeholders require high quality, accurate data provided in a timely fashion to assess projected bulk power system (BPS) reliability and analyze its ongoing performance for individual, regional and interconnection-wide planning.

NERC has required reporting of transmission data under Section 1600 of the NERC Rules of Procedure (ROP) through the TADS since 2008. However, there are gaps in NERC's ability to comprehensively measure critical aspects that support reliability of the North American BPS. NERC is proposing to modify the TADS Section 1600 data request to collect geographical data, load loss data, and equipment sub-cause codes.

The proposed expansion of NERC's TADS Section 1600 request would address those gaps and support NERC assessments under Section 215(g) of the Federal Power Act by improving NERC's ability to adequately assess bulk power system reliability in the short and long-term horizon.

Geographical Data

The requested geographical data would enable NERC to identify TADS elements that may be involved in geographically localized events such as hurricanes, polar vortices, wildfires, etc. to better categorize the actual size and impact of the event. The request would be consistent with geographical data collected in the Generation Availability Data System for Wind and Solar. Similar data is also utilized and collected by other groups, but does not align with TADS, is voluntary, or provided via third parties.

Load Loss Data

The data proposed to be collected on load loss would improve NERC's ability to assess and improve performance analysis of outages where there is an operational break in continuously transmitted electrical energy. NERC is currently limited to data voluntarily collected by the IEEE

Distribution Reliability Working Group. Better understanding of whether load loss occurred during the transmission outage would allow NERC to incorporate more complete load loss information in NERC's annual State of Reliability report for the load loss component of the Severity Risk Index, as well as other transmission outage analyses.

Equipment Sub-Level Cause Codes

The equipment sub-level cause codes would provide NERC with more detailed and specific data about higher failure rates of specific equipment types to assist in the overall reliability performance monitoring and improvement. These sub-cause codes will be collected for both initiating and sustained equipment causes for automatic outages.

Proposed Section 1600 Data Request

The proposed Section 1600 data request would revise NERC's transmission data collection as outlined above. The materials were posted for comment and included in the proposed Section 1600 data request under Section 1602.2.1 of the NERC ROP. This includes the following:

(i) a description of the data or information to be requested, how the data or information will be used, and how the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements,

(ii) a description of how the data or information will be collected,

(iii) the schedule or due date for the data or information.

The revisions were prepared in coordination with the NERC TADS user group. The proposal was then discussed at the Reliability and Security Technical Committee (RSTC) meeting as an informational item on September 12, 2024. In accordance with the NERC ROP, NERC also provided Federal Energy Regulatory Commission staff with notice of the intended request and subsequently posted the TADS Data Request for a 45-day stakeholder comment period (October 10, 2024 – November 25, 2024). After a review of public comments, NERC posted responses to comments and reiterated therein NERC's commitment to safeguard Critical Energy Infrastructure Information (CEII) in accordance with Section 1500 of the ROP. NERC staff also presented an overview of the comments and responses to the RSTC on December 12, 2024.

Additional Materials

The associated materials can be found on the NERC website, Section 1600 Data Requests

- Data Request Letter
- TADS Data Reporting Instructions excerpt showing proposed changes
- Public Comments and Responses

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TADS Section 1600

Data Request

John Moura, Director Reliability Assessments Performance Analysis
Donna Pratt, Manager Performance Analysis
Board of Trustees Meeting
February 13, 2025

TADS Section 1600 Data Request

- NERC is requesting an update to the TADS Section 1600 data to include:
  - Geographical (longitude/latitude coordinates) data for TADS elements
  - Load loss data resulting from a transmission system outage
  - Equipment sub-cause codes
- Collecting this data will improve NERC's ability to measure the performance of the transmission system and meet NERC's reliability assessment obligations

Process

- Data request developed with industry input:
  - FERC review in August 2024
  - RSTC Review in September 2024
  - Public Comment period: October 10 – November 25, 2024
    - 24 Entities responded and 90 comments received
- Final materials are available for review at: https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx
- Approve TADS Section 1600 Data Request as presented effective January 1, 2026

Questions and Answers

Regional Delegation Agreement Renewal

Action
Update

Background
The currently effective Regional Delegation Agreements, or RDAs, between NERC and the Regional Entities expire on December 31, 2025. To continue delegating certain of its statutory functions to the Regional Entities, NERC and the Regional Entities will need to renew their RDAs by January 1, 2026. The NERC Board of Trustees, Regional Entity governing bodies, and the Federal Energy Regulatory Commission (FERC) must approve the renewed RDAs prior to them becoming effective. Management expects to present revised RDAs for Board approval at its May 2025 meeting. Once approved by the Board and the governing bodies of each Regional Entity, management will file the revised RDAs with FERC, requesting an order approving the RDAs in advance of January 1, 2026.

Management will provide the Board (1) background information on the purpose and scope of the RDAs and (2) an outline of the RDA renewal process and timeline.

Summary
RDA Background
The RDAs set forth the terms and conditions under which NERC, as the FERC-certified Electric Reliability Organization (ERO) under Section 215 of the Federal Power Act (FPA), delegates certain of its statutory responsibilities to the Regional Entities. Under FPA Section 215 and FERC's implementing regulations, NERC may delegate certain of its statutory ERO functions to Regional Entities, provided that it does so pursuant to a FERC-approved Pro Forma RDA and Region Entity-specific RDAs.

A Regional Entity's authority to conduct FPA Section 215 activities – e.g., propose Reliability Standards to the ERO, conduct compliance monitoring and enforcement activities, perform reliability assessments, and engage in other activities supporting NERC's ERO functions (registration, certification, etc.) – thus derives from NERC's delegation of its FPA authorities pursuant to the RDAs.

The Regional Entity RDAs are comprised of the Pro Forma RDA, incorporating any Regional Entity-specific deviations, and Regional Entity-specific exhibits that outline the boundaries of each Regional Entity and account for any differences between the Regions as it relates to, for instance, the Compliance Monitoring and Enforcement Program (CMEP) or assessment collection.

The RDAs only govern NERC's delegation of functions to Regional Entities within the United States. NERC and Regional Entity activity in Canada is governed by the Memoranda of Understanding NERC has with each Canadian provincial authorities and the relevant Regional Entity.

The RDAs have 5-year terms. Since FERC's approval of the first Pro Forma RDA in 2006, NERC has made three sets of revisions to the RDAs in 2010, 2015, and 2020.

Renewal Process and Timeline

As noted above, to continue delegating certain of its ERO functions to the Regional Entities, NERC and the Regional Entities must agree to renewed RDAs by January 1, 2026. Although the December 31, 2025 expiration date is more than 10 months from now, because the renewed RDAs need to be approved by each Regional Entity governing body, the Board, and FERC before the current RDAs expire, NERC has already begun working with the Regional Entities on revisions to the RDAs.

To provide FERC with sufficient time to approve the revised Pro Forma RDA and Regional Entity-specific RDAs before expiration of the current RDAs, management is targeting a filing to FERC in late spring/early summer. To facilitate that filing, NERC and the Regional Entities expect to bring the revised RDAs to their respective governing bodies over the next three to four months, depending on when the language is finalized.

Management anticipates bringing the revised RDAs to the NERC Board for approval at their May 2025 meeting. If more time is needed to finalize the RDAs, management may request that the Board approve the revised RDAs via an action without meeting. Prior to any request for Board approval, management will post the revised RDA for a two-week public comment period, consistent with prior practice.

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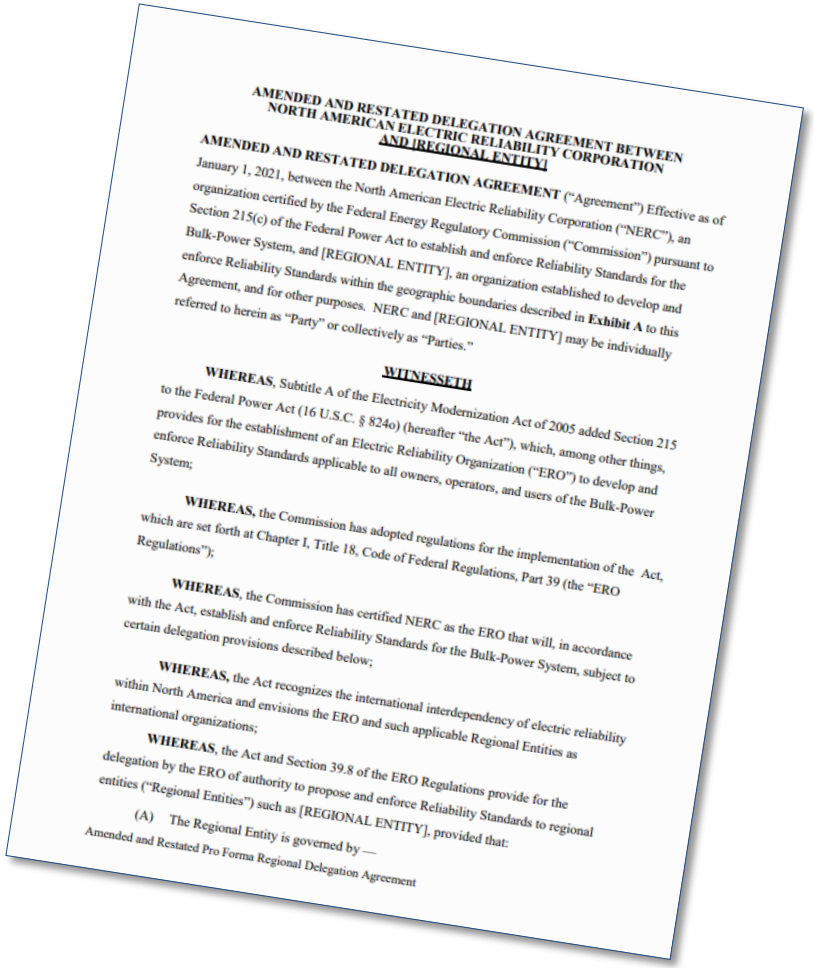
Regional Delegation Agreements Renewal Timeline

Shamai Elstein, Associate General Counsel
Board of Trustees Meeting
February 13, 2025

Regional Delegation Agreement

- The RDAs set forth the terms and conditions under which NERC, as the certified ERO, delegates certain of its responsibilities under the Federal Power Act (FPA) to the Regional Entities.
- A Region's authority to conduct FPA activities (and to collect assessments to fund those activities) derives from NERC's delegation of its authorities under the RDAs.
- The FPA and FERC regulations require NERC to obtain FERC approval of any agreement delegating its authority to Regional Entities.
- The RDAs are comprised of the pro forma RDA and Region-specific exhibits that outline, for instance, the boundaries of each Region and account for any differences between the Regions as it relates to CMEP or assessment collection.
- The current RDAs expire on December 31, 2025, and will need to be renewed by January 1, 2026.



AMENDED AND RESTATED DELEGATION AGREEMENT BETWEEN
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
AND [REGIONAL ENTITY]

AMENDED AND RESTATED DELEGATION AGREEMENT ("Agreement") Effective as of January 1, 2021, between the North American Electric Reliability Corporation ("NERC"), an organization certified by the Federal Energy Regulatory Commission ("Commission") pursuant to Section 215(c) of the Federal Power Act to establish and enforce Reliability Standards for the Bulk-Power System, and [REGIONAL ENTITY], an organization established to develop and enforce Reliability Standards within the geographic boundaries described in **Exhibit A** to this Agreement, and for other purposes. NERC and [REGIONAL ENTITY] may be individually referred to herein as "Party" or collectively as "Parties."

WITNESSETH

WHEREAS, Subtitle A of the Electricity Modernization Act of 2005 added Section 215 to the Federal Power Act (16 U.S.C. § 824o) (hereafter "the Act"), which, among other things, provides for the establishment of an Electric Reliability Organization ("ERO") to develop and enforce Reliability Standards applicable to all owners, operators, and users of the Bulk-Power System;

WHEREAS, the Commission has adopted regulations for the implementation of the Act, which are set forth at Chapter I, Title 18, Code of Federal Regulations, Part 39 (the "ERO Regulations");

WHEREAS, the Commission has certified NERC as the ERO that will, in accordance with the Act, establish and enforce Reliability Standards for the Bulk-Power System, subject to certain delegation provisions described below;

WHEREAS, the Act recognizes the international interdependency of electric reliability within North America and envisions the ERO and such applicable Regional Entities as international organizations;

WHEREAS, the Act and Section 39.8 of the ERO Regulations provide for the delegation by the ERO of authority to propose and enforce Reliability Standards to regional entities ("Regional Entities") such as [REGIONAL ENTITY], provided that:

(A) The Regional Entity is governed by —

Amended and Restated Pro Forma Regional Delegation Agreement

Regional Delegation Agreement Timeline

Identify Areas for Modification

Provide clarity, promote consistency, and highlight progress made.

Approval by Regional Board

Before or after NERC Board of Trustees approval; Spring 2025

Public Comment

Public comment for two weeks, directly precedes Board of Trustees meeting to approve

Approval by NERC Board

May NERC Board of Trustees meeting

FERC Filing/Approval

Late spring or early summer, to provide FERC sufficient time before current RDAs expire on December 31, 3025

Renewal Complete (Five-Year Term)

Before January 1, 2026

Questions and Answers

Agenda Item 9d
Board of Trustees Meeting
February 13, 2025

NERC.com Modernization Project

Action
Update

Background
NERC's Work Plan Priority No. 6 challenges NERC to "*Deliver innovative platforms to enhance the user experience and elevate outreach and engagement".*

Just as our industry is undergoing a transformation, NERC's new website is also being transformed. The new website places a high priority on the user experience by featuring a robust search feature, more intuitive navigation, the ability to post more visual materials to attract more users – all built upon meaningful analytics and a content strategy that better reflects who NERC is as an organization.

Our goal is to develop a website that improves the user experience and helps meet our outreach and engagement work plan priorities – not just for our needs now but for our needs in the future.

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NERC.com Modernization Project

Kimberly Mielcarek, Vice President, Corporate and External Communications
Board of Trustees Open Meeting
February 13, 2025

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Dreaming Big, Planning for the Future

Stakeholder Engagement, Feedback

Discovery Sessions

- NERC departments
- MRC chair
- Standing Committee chairs

Stakeholder Survey

- Targeted emails
- Posted to NERC.com
- Shared via NERC social media
- Video reminder

Functionality Phases

2025 WPP in Action

Crawl

Improving the User Experience

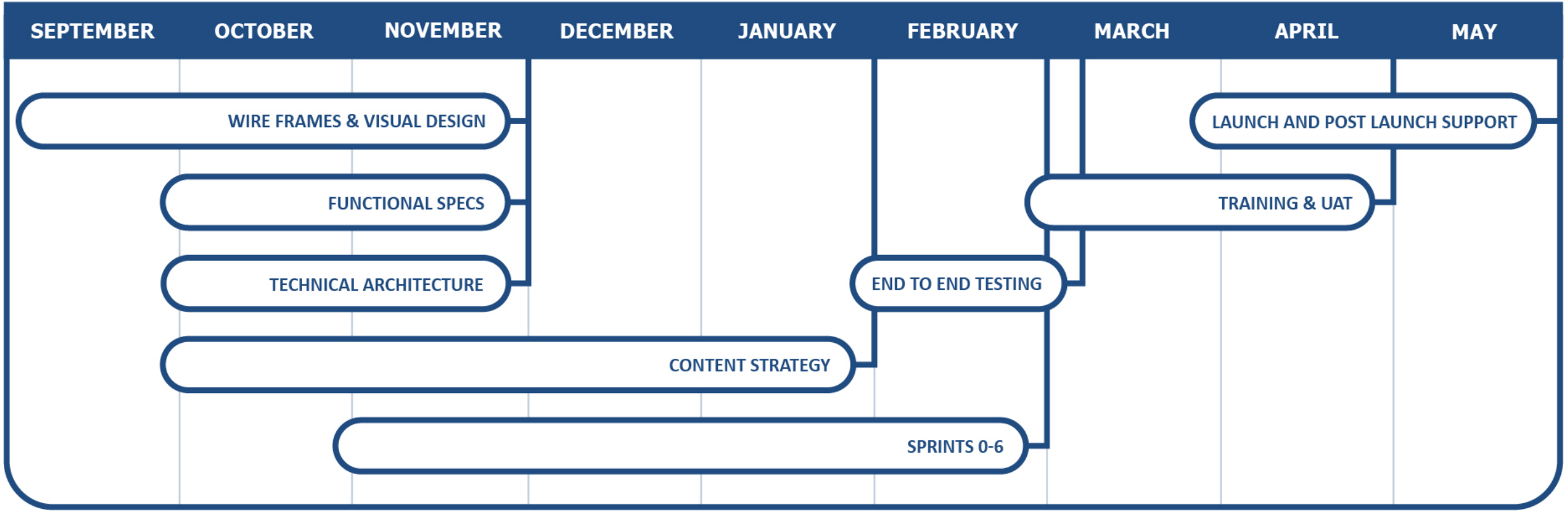
Walk

More Meaningful Analytics

Run

Integrating New Technology (i.e., artificial intelligence, logins, fuzzy search, etc.)

PROJECT TIMELINE



Discussion

To: NERC Board of Trustees (BOT)

From: Thomas J. Galloway, NATF President and CEO

Date: January 13, 2025

Subject: NATF Periodic Report to the NERC BOT (February 2025)

Attachments: NATF External Newsletter (January 2025)

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.

NATF-ERO Leadership Meetings

To promote effective coordination, NATF and ERO leadership meet periodically to discuss topics and activities and synchronize coordination efforts. The group convened several times in 2024 (April, August, and October) to identify top-priority areas for coordination between the two organizations. Those topics are discussed in this report.

Leadership from both organizations will meet face-to-face in April to continue these important discussions.

Inverter-Based Resources Integration / Interconnection Lifecycle

Transmission owners and providers are dealing with a high volume of inverter-based resource (IBR) interconnections as a product of local, state, and federal initiatives. The NATF and its members recognize the challenges of managing the volume of interconnection requests, developing performance requirements for each facility, establishing interconnection agreements, overseeing construction and commissioning of these facilities, monitoring facility performance, and managing ongoing change. In response, the NATF Planning and Modeling Practice Group has started the IBR Interconnection Life Cycle Program, a series of projects to develop practice documents for each of these stages of the life of an IBR facility. The first product of this program, a practice document focused on managing IBR interconnection requests and studies, will be available to NATF members in the next few weeks. We anticipate that the second product, a practice document on interconnection agreements, will be released in the second quarter of 2025.

Supply Chain Security

Following the NERC BOT resolution in 2017 requesting industry support for supply chain security, the NATF began extensive work in this area. The NATF maintains multiple practice groups (physical, cyber, and supply chain) to support members and advance knowledge. We share information internally and externally, support a broad-reaching industry effort for supply chain cyber security, coordinate with the E-ISAC, and participate in industry events, such as GridSecCon and technical conferences. To date, our work has primarily focused on developing a comprehensive criteria and questionnaire set mapped to NERC standards and existing security frameworks (see the attached newsletter and final documents posted on the Supply Chain Industry Coordination page of the NATF public website for more information).

The Supply Chain Criteria and Risk Questionnaire are tools for use in the "Collect Information" step of the five-step *NATF Supply Chain Security Assessment Model*. While continuing to maintain the criteria and questionnaire, the NATF is now shifting its focus to other steps in the model to help transmission organizations and suppliers conduct risk assessments and address identified risks. For example, the NATF has prepared guidance for performing supplier risk assessments and documenting the results. This *NATF Supply Chain Risk Assessment Guidance* document supports implementation of the "Conduct the Risk Assessment" step of the *NATF Supply Chain Security Assessment Model.*

GridEx Recommendations

During the April 2024 coordination meeting, NATF and NERC leadership discussed recommendations from GridEx VII, held in November 2023. The group concluded that E-ISAC will primarily manage activities needed to address the recommendations, with NATF support on selected initiatives. In response, the NATF has launched a project to expand existing supplemental operating strategy guidance with additional practices for operating through significant impairment or loss of ICCP connections to neighboring Control Centers, in addition to impairment or loss of normal voice communication channels.

Tiering of Physical Assets

Discussions in the August 2023 Joint FERC/NERC Physical Security Technical Conference highlighted aspects of physical security implementation that required further consideration, including tiering of physical assets. In response to the conference discussions, the NATF created *its Substation Physical Security Tiering Practice* document. This document contains practices for assigning each substation to a security tier; the tier classification and station-specific security risk assessments can be used to specify physical security protections for each station. The document emphasizes the need for tier designations and risk assessments to be reviewed periodically and in response to system changes. The process can be applied to all substations.

North American Transmission Forum External Newsletter

January 2025

NATF Welcomes New Member

We are pleased to announce Pedernales Electric Cooperative (PEC) has joined the NATF. Click here to learn more about NATF membership.

***

NERC-NATF-EPRI Annual Transmission Planning and Modeling Seminar

The NATF, North American Electric Reliability Corporation (NERC), and Electric Power Research Institute (EPRI) conducted an annual transmission planning and modeling seminar on November 19–20, 2024. This virtual event focused on transmission planning and resilience, planning with power electronics, regulatory updates, inverter-based resource modeling, and large loads. The event was well attended, with 585 participants on day 1 and 544 participants on day 2. Materials (for day 1 and day 2) are posted on NERC's website.

***

NATF Criteria and Questionnaire Revision Process Underway

As a reminder, the annual revision process for the *NATF Supply Chain Security Criteria* and the *Energy Sector Supply Chain Risk Questionnaire* is underway. The revision process, the criteria, and the questionnaire are posted on the NATF's public Supply Chain Industry Coordination site. The process is open to industry, suppliers, regulators, and other stakeholders to provide the opportunity for input.

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

- *NATF CIP-013 Implementation Guidance: Using Independent Assessments of Vendors*
- *NATF CIP-013 Implementation Guidance: Supply Chain Risk Management Plans*

Input on the criteria and questionnaire can be submitted to supplychain@natf.net **until close of business on January 31** for consideration in the 2025 review cycle. Revisions will be posted in redline format on March 7 for a 30-day comment period.

***

Tom Galloway Participates on UTC Podcast

Tom Galloway (NATF CEO) and was a recent guest on the Utilities Technology Council (UTC) podcast, *The Intersection*. Tom and Rusty Williams (UTC CEO) discussed the critical role of collaboration in addressing challenges faced by the electric transmission sector and the growing need for resilient communication systems. The episode highlights the value of joint initiatives, cross-industry partnerships, and proactive learning. You can listen to the episode here.

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