NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

NERC News

June 2022

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ERO Executive Spotlight – Mark Lauby, Senior Vice President and Chief Engineer, NERC

ERO Enterprise's Risk-based Approach – 3-D Grid Transformation

Realizing the vision of a net-zero carbon future is dependent on a reliable, resilient and secure bulk power system. As the electricity industry transitions toward a net-zero carbon future and the economy becomes more electrified, we are witnessing a sustained shift toward what is known as, "Three-Dimension (3-D) Grid Transformation." That is:

- **Decarbonized** – the interconnection of variable energy generation
- **Distributed** – energy resources, such as rooftop solar and other resources, connected to the distribution system
- **Digitized** – in load management and also in grid operations

While collectively the 3-Ds will deliver a grid with a lower carbon footprint, more localized control over resources and better operational data for efficiency and optimization with variable generation like wind and solar, there is increased risk associated with fuel availability. In addition, distributed resources — especially those residing behind the meter — mask true loads and operator visibility to them, and every digital device added to the grid can increase the attack surface for cybercrime.

The 3-Ds fall within the scope of our multi-pronged approach to the reliability, resilience and security of the North American bulk power system (BPS). The ERO is working with industry to mitigate the associated risks through our Reliability

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Standards program; annual seasonal and long-term reliability assessments; monitoring of the BPS through system awareness; and the Electricity Information Sharing and Analysis Center (E-ISAC).

Over the past two years by NERC's Reliability Issues Steering Committee (RISC) documented in their report: *2021 ERO Reliability Risk Priorities Report*, four significant evolving risks:

1. **Grid Transformation**: The generation resource mix continues to shift from conventional synchronous central-station generators toward a new mix of resources that includes natural gas-fired generation; unprecedented levels of non-synchronous resources, such as renewables and battery storage; demand response; smart- and micro-grids; and other emerging technologies.
2. **Security:** The transforming grid continues to become more dependent on digitized communications and advanced controls, consequently increasing the attack surface for bad actors — be they nation-states or organized cyber criminals.
3. **Extreme Events:** The new resource mix is more susceptible to long-term, widespread weather systems and inherently more weather dependent. Increasingly extreme temperatures have resulted in unprecedented loads, which are further exacerbated by wider geographic footprints. As neighboring systems are experiencing the same conditions, their ability to transfer power between affected systems is reduced. In addition, the increasing duration of weather events places strain on inventoried fuels and reduces the efficacy of demand response.
4. **Critical Infrastructure Interdependencies**: As the grid decarbonizes, the role of balancing resources — such as natural gas — becomes more vital. The irony is that the gas industry depends on electricity to support its ability to operate. This intersection was brought into sharp focus during Winter Storm Uri in 2021 when extraordinary failures in coordination between the Texas natural gas industry and the power sector led to operator-initiated rotating electricity outages and the failure of multiple water systems.

Clearly, the traditional assumptions made when studying, designing and building the BPS must be reconsidered. We need to be cognizant of our lifestyle needs, which are inherently different from previously, and of our economy, which is now knowledge- and technology-based with very different reliability, resiliency and security needs. The situation is further exacerbated by a number of trends, such as the frequency of extreme weather, inverter performance and cyber security — all of which need to be factored into the planning and operating of the BPS.

The challenges presented by the 3-Ds coupled with the speed at which transformation is occurring is breathtaking, driven by public policy, technology breakthroughs, customer preferences and economics. While the impacts to BPS reliability, resilience and security are known and measurable, the electricity industry generally takes action in a deliberate, collaborative fashion. A paradigm shift is needed in terms of methods, collaboration and coordination to expedite our response.

This shift must be undertaken in a manner that assures continued and enhanced reliability, resilience and security that are vital to meet the needs of the society of the future. There is little doubt that our dependence on electricity as the engine of our economy will intensify as the grid transforms to its clean energy future. ■■■

Headlines

ERO Enterprise Deploys Release 4.0 of Align

The ERO Enterprise recently announced the Release 4.0 launch of Align, which included enhancements to the Audit and Scheduling functionality that was deployed in December 2021, across industry as of June 22, 2022. Align is designed to process and track all compliance monitoring and enforcement activities with the goal of improving security and standardizing processes across the ERO Enterprise.

The Align Release 4.0 improvements are highlighted below:

- Audit/Monitoring Engagement: Implemented several enhancements to improve how the Regions and entities perform and respond to audits.
- Scheduling: Implemented a new resource management dashboard that shows the status of engagements, providing more flexibility to who

can be assigned, and implemented a dashboard that provides the Regions will a full-year view.

In addition, the Align project team migrated Texas RE's open enforcement action items to the production environment earlier in June and plans to implement Align Release 4.5: Inherent Risk Assessment (IRA) and Compliance Oversight Planning (COP) into production in the third quarter.

The NERC Training Site contains all Align and ERO SEL training materials, including training videos and the Start, Stop, Continue Guide as well as Align and ERO SEL user guides.

Statement on FERC June Open Meeting Action

At its monthly open meeting, the Federal Energy Regulatory Commission (FERC) issued a Notice of Proposed Rulemaking (NOPR): "Transmission System Planning Performance Requirements for Extreme Weather," aimed at improving the reliability of the BPS to counter the risks presented by extreme weather. The NOPR proposes to direct NERC to develop reliability standard modifications to TPL-001-5.1 to account for the risks of extreme heat and cold conditions. The NOPR also seeks comment on whether to require studies and corrective action plans for drought conditions. Comments are due 60 days after the date of publication in the Federal Register.

FERC also unanimously approved modifications to the Compliance Section in Reliability Standard CIP-014-3 to allow for compliance oversight of the standard using the ERO Secure Evidence Locker or similar remote means in lieu of the onsite review required under the current language.

FERC also issued a NOPR aimed at addressing the backlog of new generation facilities, "Improvements to Generator Interconnection Procedures and Agreements," which is aimed at expediting and improving the connection process. NOPR comments are due 100 days after publication in the Federal Register.

The ERO Enterprise appreciates FERC's focus on reliability matters and will continue to work with FERC and stakeholders toward assuring the reliability of the North American BPS.

New Guides Make It Easier to Learn More about Inverter-Based and Distributed Energy Resource Activities

The North American grid is undergoing a rapid transformation to its resource mix, adding increasing amounts of renewable generation — wind, solar, battery storage and hybrid plants. While these inverter-based resources present new opportunities in terms of grid control, they also introduce instability and potential risks to the system, as documented by NERC in multiple disturbance reports since 2016.

Over the past seven years, the ERO Enterprise has taken action to support the reliable integration of inverter-based resources to the grid, addressing emerging reliability risks related to inverter-based resources and focusing on the impacts of distributed energy resources from a transmission planning and system analysis perspective. NERC's Inverter-Based Resource Performance Task Force (IRPTF) and System Planning Impacts of Distributed Energy Resources Working Group (SPIDERWG) have conducted workshops and other activities and produced a vast array of resources — including disturbance reports and reliability guidelines — to provide industry and stakeholders with information they need to reliably integrate these new technologies.

To better highlight the work being done surrounding these technological advancements and provide an easier way for industry to access the information, NERC has added two new resources to the Initiatives tab on NERC.com. The resources Inverter-Based Resource Activities and Distributed Energy Resource Activities — are quick reference guides that consolidate the work that the ERO Enterprise has done regarding these two topics. These documents are regularly updated by the subject matter experts to reflect new additions.

The ERO Enterprise remains committed to identifying and working toward solutions to manage the complex reliability problems facing industry during this time of unprecedented resource change better.

Compliance

Webinar Resources Posted

On June 2, 2022, the ERO Enterprise conducted a roundtable discussion on various CIP-012-1 planning and implementation topics. The informational discussion was intended to provide further clarity on several of the topics within the soon to be released CIP-012-1 Small Group Advisory Sessions frequently asked questions. The presentation and streaming webinar have been posted on the NERC website.

CMEP Consolidation of CIP FAQs

To facilitate easier navigation of various CIP frequently asked questions (FAQs), CMEP staff has consolidated the documents into a single searchable FAQ page under the Compliance Monitoring and Enforcement Program One-Stop Shop.

The searchable FAQ includes, or will include, previously released FAQs from the Supply Chain Small Group Advisory Sessions as well as the Supply Chain Risk Mitigation Program. The searchable FAQ is also in the process of being updated to include the soon to be released FAQ from the CIP-012-1 Communications between Control Centers Small Group Advisory Sessions. Future related FAQs will be added as developed.

RSAW Errata Change

A Reliability Standards Audit Worksheet (RSAW) is a guide provided by the ERO Enterprise that describes types of evidence, registered entities may use to demonstrate compliance with a Reliability Standard. RSAWs also include information regarding how the ERO Enterprise may assess that evidence. RSAWs do not require specific evidence to be provided, and they are not intended to require a single, exclusive approach to assessing compliance with a Reliability Standard.

NERC posted a new revision of the TPL-007-4 RSAW correctly identifying that R1 is only applicable to Planning Coordinators and not Transmission Planners.

Newly Effective Standards

On June 16, 2022, FERC issued an order approving Reliability Standard CIP-014-3, which modifies the compliance section of Reliability Standard CIP-014-2 – Physical Security. The modification eliminates a provision requiring that all evidence demonstrating compliance with this Reliability Standard should be retained at the Transmission Owner's or Transmission Operator's facility. CIP-014-3 became effective June 16, 2022.

On July 1, 2022, the following standard and standard requirements became effective:

- CIP-012-1 – Cyber Security – Communications between Control Centers protects the confidentiality and integrity of Real-time Assessment and Real-time monitoring data transmitted between Control Centers.
- PRC-002-2 – Disturbance Monitoring and Reporting Requirements ensures there is adequate data available to facilitate analysis of Bulk Electric System (BES) Disturbances. On July 1, 100% compliance for Requirements R2–R4, R6–R11 will become effective.

Event Analysis, Reliability Assessment, and Performance Analysis

Save the Date for 2022 NERC–NATF–EPRI Annual Transmission Planning and Modeling Workshop

NERC, the North American Transmission Forum (NATF) and the Electric Power Research Institute (EPRI) will be holding their annual transmission planning and modeling workshop on November 2–3, 2022. This year's theme will be "Grid Transformation: The Change is Here," focusing on the future of power system studies, industry planning practices in the face of extreme weather events and leveraging emerging technologies such as cloud computing and machine learning for reliability studies. The event will be held virtually, and more details will be announced closer to the workshop.

Ballot Period Open for 2022 RSTC Election for Sector 6

The ballot period for the NERC Reliability and Security Technical Committee (RSTC) Sector 6 Election began on June 23 and ends at midnight on July 8, 2022. Sector 6 – Merchant Electricity Generator sector has one open position on the RSTC. The elected member will represent the Merchant Electricity Generator sector for a term

ending January 2023, filling the vacancy of a resigned member.

You must be either the primary or the alternate person designated in NERC's records for the NERC Member and you must be a NERC Member in Sector 6: Merchant Electricity Generator. Only **one** ballot per NERC Member may be cast.

Please complete the ballot and submit by midnight Eastern Time on **July 8, 2022**. If you have any questions about the RSTC nomination or election process, please contact Tina Buzzard.

Nomination Period Open for RSTC At-Large Membership

Due to a resignation from the RSTC, a vacancy has been created in the At-Large Membership. The period for nominating candidates began June 23 and ends July 8, 2022. The term will be fulfilling the resigning member's term, through January 31, 2024. As provided in the RSTC Charter, selection of At-Large members will allow for better balancing of representation on the RSTC of the following:

- Regional Entity and Interconnection diversity (i.e., goal of having at least one representative from each Interconnection and Regional Entity footprint);
- Subject matter expertise (Planning, Operating, or Security);
- Organizational types (Cooperatives, Investor-Owned Utilities, Public Power, Power Marketing Agencies, etc.); and,
- North American countries, consistent with the NERC Bylaws (Canada, Mexico, and U.S.).

By submitting a nomination form**,** you (or your Nominee) are indicating the willingness and agreement to attend and actively participate in all RSTC meetings if selected by the RSTC Nominating Subcommittee and approved by the NERC Board of Trustees.

Standards

2022 Registered Ballot Body Self-select Attestation Process Initiated

Appendix 3D Registered Ballot Body (RBB) Criteria of the NERC Rules of Procedure states:

> "Each participant, when initially registering to join the Registered Ballot Body, and annually thereafter, shall self-select to belong to one of the Segments…"

Therefore, NERC Standards staff initiated the **2022 Annual RBB Self-select Process**. Each RBB voting member should log into Standards Balloting and Commenting System (SBS) and **ensure the role listed is "Voter."** Then proceed to the attestation page and complete the steps to confirm there have been no material changes in the last 12 months that affect the entity's current Segment selection(s), thus the entity continues to meet the Segment qualifications (as outlined in the qualifications in Appendix 3D: *RBB Criteria* referenced above). Proxy Voters **are not** required to attest.

NERC must receive a response for all segments represented in the RBB by 8:00 p.m. Eastern on Monday, **August 8, 2022**. Entities with segment(s) not attested for will be removed from the system. Anyone removed (un-vetted) can re-apply at any time.

Supplemental Drafting Team Nomination Period Open for Project 2021-02

NERC is seeking additional nominations for Project 2021-02 Modifications to VAR-002 drafting team members through 8:00 p.m. Eastern, Friday, **July 15, 2022**.

Drafting team activities include participation in technical conferences, stakeholder communications and outreach events, periodic drafting team meetings and conference calls. Approximately one face-to-face meeting per quarter can be expected (on average three full working days each meeting) with conference calls scheduled as needed to meet the agreed-upon timeline the drafting team sets forth. NERC is seeking individuals who possess experience in the following area: Transmission Operators who receive and apply information to its respective Real-time assessment and Real-Time monitoring activities.

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in face-to-face meetings and conference calls. Previous drafting team experience is beneficial but not required. Use the electronic form to submit a nomination. Contact Cindy Jackson regarding issues using the electronic form. An unofficial Word version of the nomination form is posted on the Standard Drafting Team Vacancies page and the project page. The Standards Committee is expected to appoint members to the drafting team in August 2022. Nominees will be notified shortly after they have been appointed.

Nomination Period Open for Project 2022-03 – Energy Assurance with Energy-Constrained Resources SAR Drafting Team Members

NERC is seeking nominations for Standard Authorization Request (SAR) drafting team members for Project 2022-03 – Energy Assurance with Energy-Constrained Resources through 8:00 p.m. Eastern, Thursday, **July 21, 2022.** This drafting team will address both SARs either concurrently or simultaneously; therefore, NERC is seeking individuals who possess experience in the following areas:

- Developing and implementing corrective action plans in relation to energy availability;
- Developing or implementing Balancing Authority operating plans;
- Planning and Reliability Coordination;
- Near-Term and Long-Term Transmission Planning;
- Transmission and Generation Operations;
- Familiarity with NERC Standard TPL-001-5;
- Other tasks for the planning and operation of energy reliability assessments.

The time commitment for these projects is expected to be up to two face-to-face meetings per quarter (on average two full working days each meeting) with conference calls scheduled as needed to meet the agreed-upon timeline the review or drafting team sets forth. Team members may also have side projects, either individually or by subgroup, to present to the larger team for discussion and review. Lastly, an important component of the review and drafting team effort is outreach. Members of the team will be expected to conduct industry outreach during the development process to support a successful project outcome.

By submitting a nomination form, you are indicating your willingness and agreement to actively participate in face-to-face meetings and conference calls. Previous drafting or review team experience is beneficial, but not required. Use the electronic form to submit a nomination. Contact Cindy Jackson regarding issues using the electronic form. An unofficial Word version of the nomination form is posted on the Standard Drafting Team Vacancies page and the project page.

Nomination Period Open for Standards Committee Special Election Segment 9

Standards Committee (SC) Chair, Amy Casuscelli, notified NERC that the Segment 9 – Federal, State, and Provincial Regulatory or other Government Entities, currently has a vacancy for the remainder of the 2021–2022 term. Nominations are being accepted through **July 11, 2022** in preparation for a special election for Segment 9.

RBB members and others interested in NERC Reliability Standards are encouraged to submit nominations for industry segment representatives on the SC. Reliability Standards are mandatory for all bulk power system owners, operators, and users in North America, and the SC's oversight role is therefore increasingly important. The SC consists of two members from each of the ten Industry Segments that make up the RBB. In addition, Appendix 3B of the Rules of Procedure contains special provisions to be used to achieve a balance of representation between the United States and Canada. The SC is elected by industry stakeholders and reports directly to the NERC Board of Trustees. The SC meets up to twelve times each year with meetings usually being held virtually. The Standards Committee Charter provides a description of the SC's responsibilities.

Anyone may submit a nomination. To be eligible for nomination, a nominee shall be an employee or agent of an entity belonging in the applicable Segment. To allow verification of affiliation, a nominee must be a registered user in the NERC RBB. It is not required that the nominee

be the same person as the entity's RBB representative for the applicable Segment. Instructions are provided in the Election of Members of the NERC Standards Committee Procedure and nomination forms are posted on the Standards Committee Election web page. To submit a nomination, complete the nomination form and submit to Katrina Blackley no later than **July 11, 2022.** Once received, nominations will be posted on the SC's Nominations and Election web page. The special election will be conducted on **July 20–July 29, 2022.** Election results will be announced shortly after the election closes.

Upcoming Events

For a full schedule of NERC events, such as meetings and conference calls for standard drafting teams, other standing committees, subcommittees, task forces and working groups, please refer to the NERC calendar.

- Standards Committee Meeting – 10:00 a.m.–1:00 p.m. Mountain, July 20, 2022, Denver | Register
- Member Representatives Committee Pre-Meeting Conference Call and Informational Webinar – 3:00–4:00 p.m. Eastern, July 20, 2022 | Register
- Joint Compliance and Certification Committee/Standards Committee Meeting – 1:00–4:00 p.m. Mountain, July 20, 2022, Denver | Virtual Attendance Registration | In-Person Attendance Registration
- Compliance and Certification Committee Meeting – 8:00 a.m.–12:00 p.m. Mountain, July 21, 2022, Denver | Virtual Attendance Registration | In-Person Attendance Registration
- Board of Trustees Committees, Member Representatives Committee, and Board of Trustees Meetings – August 17–18, 2022, Vancouver, Canada | Register
- GridSecCon 2022 – October 18–19, 2022 | Register
- 2022 NERC–NATF–EPRI Annual Transmission Planning and Modeling Workshop – November 2–3, 2022 | Registration Details Coming Soon

Regional Entity Events

Midwest Reliability Organization (MRO)

- 2022 Regional Summer Assessment Webinar, June 30
- MRO Protective Relay Subgroup Webinar on Protection System Commissioning, July 14
- 2022 MRO CMEP Conference, July 26
- MRO Performance Analysis Webinar, August 9
- MRO Protective Relay Subgroup Q3 Meeting, August 16
- MRO Reliability Advisory Council 3Q Meeting, August 17

ReliabilityFirst Corporation

- Technical Talk with RF, July 18
- 8th Annual Protection System Workshop, August 3
- 5th Annual Human Performance Workshop, August 4
- Technical Talk with RF, August 15

SERC Reliability Corporation

- The Scoop on Supply Chain, July 19
- Summer Regional Meetings, July 26–28
- Technical Webinar: Transmission and Generation Modeling for the Evolving Power Grid, July 27
- System Operator Conference #3, September 20–22

Texas RE

- Talk with Texas RE: Cybersecurity Update and Privacy Concerns, July 21
- Talk with Texas RE: Supply Chain, July 28
- Talk with Texas RE: Cold Weather Project Update, August 4

WECC

- Joint Guidance Committee, July 8
- Member Advisory Committee, July 13
- Compliance Open Webinar, July 21
- Reliability Assessment Committee, July 28

Filings

NERC Filings to FERC in June
2021 Budget Trueup Report | June 1
Petition for CRISP Operating Reserves | June 9
Petition for FAC-001-4 and FAC-002-4 | June 14
CIP SDT Schedule June Update Informational Filing | June 15

NERC Canadian Filings to FERC in June
FAC-001-4 and FAC-002-4 Filing | June 24

Careers at NERC

Enforcement Analyst
Location: Washington, D.C.
Details

E-ISAC Exercise and Resilience Specialist
Location: Washington, D.C.
Details

E-ISAC Policy and Partnerships Advisor
Location: Washington, D.C.
Details

CIP Assurance Advisor
Location: Atlanta
Details

Data Science Advisor
Location: Atlanta
Details

Procurement Manager
Location: Atlanta
Details