

# NERC News

December 2019

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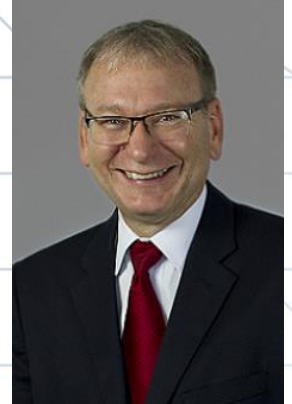
## ERO Executive Spotlight – Howard Gugel

### Effectiveness Review of Supply Chain Standards

The ERO Enterprise and industry have done a lot of work over the past few years to protect the grid from supply chain risk. NERC's Board of Trustees (Board) approved the suite of Supply Chain Standards in 2017, with implementation going into effect in July 2020.

The ERO Enterprise has developed a plan to measure how well these standards are working in their first two years of implementation. First, we plan to conduct surveys on supply chain awareness and compile statistics on identified key risk indicators. Indicators include software validation discrepancies, information on vendors that support supply chain frameworks, entities who performed vendor risk assessments in the prior 24 months, vendor vulnerability analyses and cyber security incident notifications. We will examine this information for trends and then report these trends to the Reliability and Security Technical Committee and post them on NERC.com.

Concurrently, we will solicit voluntary comparative contractual language from entities (pre- and post-Supply Chain Standards implementation) to determine whether entities have been able to negotiate contracts that include required supply chain controls successfully or whether other controls have been required to manage the risk. This will include entities not subject to the Supply Chain Standards to determine if the implementation of the standards led to any incidental benefits. [Continued on page 2](#)



## Headlines

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## Effectiveness Review (cont'd)

The ERO Enterprise will compile audit and compliance information to determine if the language of the standards is clear, entities understand what is expected and if there are any reliability gaps.

Finally, the ERO Enterprise will analyze supply chain communications, education, outreach and training to determine whether entities were able to identify and successfully communicate vulnerabilities. This will include inquires on supply chain issues and requests for training and outreach. NERC will periodically update the Board on the status of the effectiveness analysis and provide any actions deemed necessary.

The security landscape is dynamic and requires constant vigilance and agility. Supply chain security is an essential aspect of ensuring the reliability and security of the grid, which is NERC's primary mission. We look forward to furthering our knowledge and work toward mitigating supply chain risk in the coming years.

*Howard Gugel is vice president and director of Engineering and Standards at NERC.* ■■■

## Headlines

### **Resource Mix Changes Require Improved Coordination; Distributed Resources, Storage among Challenges**

In its recent long-term assessment, NERC found that there are adequate capacity resources projected to meet increasing peak demand over the next 10 years. The addition of large amounts of utility-scale wind, solar and natural gas generation combined with a major influx of energy storage technology requires continued enhancements to system planning and operations.

More than 330 GW of solar and wind capacity are planned for installation through 2029, according to the [2019 Long-Term Reliability Assessment](#). Meanwhile, the rate of transmission infrastructure development needed to support these variable resources and system expansion has declined from nearly 40,000 circuit miles

earlier this decade to less than 15,000 circuit miles over the next ten years, the assessment finds.

“The amount of variable, inverter-based and electricity storage resources identified in this year’s report serves as an early indicator of a transforming bulk power system,” said John Moura, director of Reliability Assessment and Performance Analysis. “As we navigate the complex and technical challenges facing the industry, the ERO Enterprise is committed to enhancing our reliability assessments, strengthening our guidance to industry and calibrating requirements that preserve bulk power system reliability.”

As a key element of the transformation, the assessment expects that approximately 35 GW of distributed solar photovoltaic and 8 GW of utility-scale electricity storage by 2024. While reserve margins are at or above recommended levels in all areas of North America over the 10-year outlook, Texas and Ontario both project some increased risk when compared to the reference margin level.

The assessment’s recommendations include specific actions that the ERO Enterprise and industry should take to address risks efficiently and effectively. These actions include increasing coordination with policymakers, ensuring accurate system models, assessing the reliability impacts of electric storage and identifying key resilience metrics.

NERC developed this assessment using data and narrative information from the six Regional Entities on an assessment area basis to assess independently the long-term reliability of the North American bulk power system while identifying trends, emerging issues and potential risks during the 10-year assessment period. NERC designs its independent reliability assessments for industry and policymakers to inform bulk power system planning, operations, performance and oversight.

## Reliability Milestone Reached in Transition to Multiple Reliability Coordinators

The Western Interconnection reached a major reliability milestone on December 4, 2019 in its transition to multiple Reliability Coordinators (RCs) as SPP became the final new RC of record and Peak Reliability ceased to be an RC. The ERO Enterprise is dedicated to the reliability and security of the bulk power system, and this represents a significant accomplishment for all new RCs, their customers, Peak Reliability, and the grid. [WECC Announcement](#) ■■■

## Compliance

### Newly Effective Standards

The following standards and requirements became effective on January 1, 2020:

[CIP-003-7 – Cyber Security – Security Management Controls](#) specifies consistent and sustainable security management controls that establish responsibility and accountability to protect Bulk Electric System (BES) Cyber Systems against compromise that could lead to misoperations or instability in the BES.

[IRO-002-6 – Reliability Coordination – Monitoring and Analysis](#) provides system operators with the capabilities necessary to monitor and analyze data needed to perform their reliability functions.

[PRC-026-1 – Relay Performance during Stable Power Swings \(Requirements R2–R4\)](#) ensures that load-responsive protective relays will not trip in response to stable power swings during non-fault conditions. PRC-026-1 Requirement R1 became effective on January 1, 2018.

[TPL-007-3 – Transmission System Planned Performance for Geomagnetic Disturbance Events \(Requirements R5, 5.1, 5.2, R9, 9.1, and 9.2\)](#) establishes requirements for transmission system planned performance during geomagnetic disturbance (GMD) events. TPL-007-3 became effective on July 1, 2019, and supersedes TPL-007-2 in the United States.

## Supply Chain Small Group General Session Presentations Posted

NERC hosted small group advisory meetings with registered entities, standards developers and Regional Entities to assess the implementation of the CIP Supply Chain Standards (i.e., CIP-013-1 – Cyber Security – Supply Chain Risk Management, CIP-005-6 – Cyber Security – Electronic Security Perimeter(s), and CIP-010-3 – Cyber Security – Configuration Change Management and Vulnerability Assessments).

NERC held a general interest session and live webinar during which industry speakers and NERC staff discussed supply chain issues and solutions. Following that, ERO Enterprise staff held closed one-on-one discussions with registered entities' supply chain security experts to discuss concerns pertinent to each entity's implementation of the Supply Chain Standards. NERC has posted the [slides](#) from the speakers who presented during the general session and live webinar. For more information or assistance, please contact [Brian Allen](#).

## Update to Program Alignment Issues and Recommendations Tracking

The ERO Enterprise Program Alignment Process enhances efforts to identify, prioritize and resolve alignment issues across the ERO Enterprise. Using this process, NERC captures identified issues from the various resources in a [centralized repository](#). The Consistency Reporting Tool uses a third-party application, EthicsPoint, which allows stakeholders to submit consistency issues — anonymously, if desired.

NERC has resolved an alignment issue pertaining to effective date and phased-in implementation dates for Reliability Standards received in Q3 2019. NERC also updated [the Issues and Recommendations Tracking](#) document to resolve the issue regarding data requests.

## Reliability Standard Audit Worksheet Posted

One new Reliability Standard Audit Worksheet (RSAW) is available on the [RSAW page](#) of NERC's website under the heading "Current RSAWs for Use." RSAWs are guides provided by the ERO Enterprise that describe types of evidence that registered entities may use to demonstrate compliance with a Reliability Standard. The

ERO Enterprise drafts these worksheets, which include information regarding how the ERO Enterprise may assess evidence, during the development of their corresponding Reliability Standards, allowing for enhanced transparency around compliance expectations. [IRO-002-6 – Reliability Coordination – Monitoring and Analysis](#) applies to Reliability Coordinators and became effective January 1, 2020.

## ReliabilityFirst to Host Internal Control Workshop in 2020

On February 12, 2020, ReliabilityFirst will host an Internal Control Workshop at its headquarters in Cleveland, Ohio. This workshop, open to all interested participants, will be a working session that focuses on one CIP and O&P Standard, with the goal that each entity will leave with documented controls applicable to their organization, relative to the standard.

During this working session attendees will be:

- Introduced to the ReliabilityFirst Internal Controls Framework (based on COSO);
- Trained on Internal Controls and how to use the framework;
- Provided templates to capture Internal Controls based on the framework; and
- Given time and guidance to complete the templates relative to entity SME and PCC processes.

Registration closes January 31, 2020. Registration details are available [here](#) and under [Regional Entity Events](#).

## Reliability Risk Management

### Lesson Learned Posted

NERC posted one new Lesson Learned on the [Lessons Learned](#) page.

[The Moisture Intrusion in Hermetically Sealed Metering Current Transformers](#) Lesson Learned addresses an incident in which three hermetically sealed, oil-filled metering current transformers were placed in service after being in open storage for several years. One failed after five weeks of service; another failed after 10 weeks.

This Lesson Learned is of primary interest to Transmission Owners and Generation Owners.

A successful Lesson Learned document clearly identifies the lesson, contains sufficient information to understand the issues, visibly identifies the difference between the actual outcome and the desired outcome and includes an accurate sequence of events, when it provides clarity.

## Regional Entity Events

### Midwest Reliability Organization (MRO)

- **Security Advisory Council Meeting**, February 27
- **CMEP Advisory Council Meeting**, March 4
- **Reliability Advisory Council Meeting**, April 1 [Details](#)
- **Organizational Group Oversight Meeting**, April 1 [Details](#)
- **Board of Directors Meeting**, April 2 | [Details](#)

### Northeast Power Coordinating Council (NPCC)

- **NPCC Evidence Request Tool Training Webinar**, January 22 | [Details](#)

### ReliabilityFirst (RF)

- **Internal Control Workshop**, February 12 [Details](#)
- **Spring Reliability Workshop**, April 21–23 [Details](#)

### SERC Reliability Corporation

- **Q1 2020 Open Forum Webinar**, January 27 [Details](#)
- **SERC 101 Webinar**, February 10 | [Details](#)
- **Spring Compliance Seminar**, March 10–11 [Details](#)
- **Small Entity Seminar**, March 11 | [Details](#)

### Texas RE

- **Talk with Texas RE**, January 23 | [Details](#)
- **Texas RE Board and MRC Meetings**, February 19 [Details](#)
- **Talk with Texas RE**, February 20 | [Details](#)
- **Spring Standards and Compliance Workshop**, April 8–9 | [Details](#)

## Upcoming Events

For a full accounting 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](#).

- **Approved Version 4.0 of the ERO Event Analysis Process and Appendices Webinar** – 2:00–3:00 p.m. Eastern, January 9 | [Register](#)
- **Member Representatives Committee Pre-Meeting Conference Call and Informational Webinar** – 1:00–2:30 p.m. Eastern, January 9 | [Register](#)
- **Project 2019-03 – Cyber Security Supply Chain Risks Webinar** – 1:00–2:30 p.m. Eastern, February 4 | [Register](#)
- **Board of Trustees Committees, Member Representatives Committee, and Board of Trustees Meetings** – February 5–6 | [Register](#)



## Filings

### NERC Filings to FERC in December

*December 13, 2019*

[2020-2022 Reliability Standards Development Plan](#) | NERC submits its Reliability Standards Development Plan (RSDP) for 2020–2022. This informational filing provides a status update on active development projects and a forecast of future work NERC and its stakeholders will undertake throughout the upcoming year.

*December 19, 2019*

[Petition of NERC for Approval of Proposed Reliability Standard BAL-003-2](#) | NERC submits a petition for approval of Proposed Reliability Standard BAL-003-2 – Frequency Response and Frequency Bias Setting.

*December 20, 2019*

[Joint Petition of NERC and SERC for Approval of Amendments to SERC's Bylaws](#) | NERC and SERC submit a joint petition for approval of amendments to SERC Reliability Corporation's Bylaws.

*December 23, 2019*

[Joint Petition of NERC and NPCC for Approval of Proposed Regional Reliability Standard PRC-006-NPCC-2](#) | NERC and NPCC submit a joint petition requesting approval of proposed Regional Reliability Standard PRC-006-NPCC-2 – Automatic Underfrequency Load Shedding. Proposed Regional Reliability Standard PRC-006-NPCC-2 establishes consistent and coordinated requirements for the design,

implementation and analysis of automatic UFLS programs among all NPCC applicable entities.

### NERC Canadian filings to FERC in December

*December 20, 2019*

[Alberta 2020 RSDP Informational Filing](#) | NERC submitted its informational filing of the Reliability Standards Development Plan 2020–2022.

*December 30, 2019*

[Notice of Filing of NERC of Proposed Reliability Standard BAL-003-2](#) | [Exhibits A–C](#) | [Exhibits E–H](#) | [Exhibit I](#) ■ ■ ■

## Careers at NERC

### Assistant General Counsel and Director of Enforcement

Locations: Washington, D.C.

[Details](#)

### E-ISAC Security Operations Analyst

Locations: Washington, D.C.

[Details](#)

### Enforcement Analyst

Location: Washington, D.C.

[Details](#)

### Facilities Manager

Locations: Atlanta

[Details](#)

### Senior CIP Technical Advisor – Advanced System Analytics Modeling and Security

Location: Atlanta

[Details](#)

### Senior Auditor – Internal Audit and Corporate Risk Management

Location: Atlanta

[Details](#)

### Senior Standards Developer

Location: Washington, D.C.

[Details](#) ■ ■ ■