

NERC News

June 2019

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ERO Executive Spotlight – Janet Sena

Reliability Conference Features ERO Enterprise Leadership

The ERO Enterprise played a prominent role at FERC's June 27 reliability technical conference. This annual conference focused on the status of reliability and key risks facing the bulk power system. Panel I, titled Status of the Electric Reliability Organization and Reliability, featured **Jim Robb**, NERC president and chief executive officer; **Mark Lauby**, NERC senior vice president and chief reliability officer; and **Tim Gallagher**, president and CEO of ReliabilityFirst.



"We should take pride in recognizing that the reliability and security of the grid is strong and continues to improve," said Jim Robb in his opening remarks. "This is even more remarkable given the rapid transformation in technology and fuel mix, more digitized and distributed resources as well as persistent security threats from determined adversaries."

Noting that the electricity sector is successfully navigating challenges, Robb updated commissioners on NERC's key risk areas, which include interdependencies with natural gas supply, the need for maintaining essential reliability services, inverter performance issues and planning for distributed resources. Another major priority is implementation of the long-term strategic plan for the Electricity Information Sharing and Analysis Center (E-ISAC). With Peak Reliability scheduled to cease operations on December 3, Robb also discussed efforts to ensure an orderly transition of reliability coordination in the Western Interconnection. [Continued on page 2](#)

Headlines

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Reliability Conference (cont'd)

Mark Lauby presented key findings in NERC's [2019 State of Reliability](#) report, which identified reliability and performance trends and actions needed to address risks. Lauby discussed some concerns for cold weather performance and summer reserve margins in Texas, but also observed, "Based on the metrics that the ERO Enterprise tracks, on average, 2018 was a good year for reliability, and North America's bulk power system remains highly reliable."

Lauby provided an update on the Electric Gas Working Group, which is developing an industry guideline on fuel assurance. He also discussed efforts of the Electromagnetic Pulse (EMP) Task Force to consider the EMP project conducted by the Electric Power Research Institute and future actions to mitigate EMP risk.

Tim Gallagher highlighted critical insights from the Regional Entity perspective, discussing reliability trends, risks and the benefits from consolidation of the Regions. "The Regions live on the front lines of reliability and are well equipped to identify threats from various inputs, including event analysis, compliance monitoring and enforcement activities, reliability assessments and data analytics," Gallagher noted.

The conference was led by all four FERC commissioners and featured a broad array of stakeholders from industry and government. The ERO Enterprise welcomes opportunities like the FERC reliability technical conference to highlight the efforts being undertaken across the ERO Enterprise to assure the reliability and security of the grid. *Janet Sena is senior vice president and director of Policy and External Affairs.* ■■■

Headlines

Robb Speaks on EIS Summit Panel

Jim Robb, NERC's president and chief executive officer, participated in a panel discussion at the [Electric Infrastructure Security \(EIS\) Council's Summit X](#) on June 25 in Washington, D.C. The panel, titled "Changing Role of Central/Federal Government in Confronting the Black

Sky Challenge," was moderated by Paul Stockton, managing director of Sonecon, LLC, and former U.S. Assistant Secretary of Defense. Other panelists included: Lord Toby Harris of Haringey, EIS coordinator for the United Kingdom; Koji Ina, deputy director of international affairs and cyber security at Japan's Ministry of Economy, Trade, and Industry; and Kobi Wimisberg, director of strategic cooperation for the National Emergency Management Authority at Israel's Ministry of Defense.

The EIS Summit X focuses on corporate and government collaboration to address Black Sky hazards, which EIS defines as natural or man-made events that severely disrupt the normal functioning of critical infrastructures in multiple regions for long durations.

Statement on FERC's June Open Meeting

FERC acted on two important items related to reliability at its open meeting on June 20.

FERC issued an [order](#) approving Reliability Standard CIP-008-6 – Cyber Security – Incident Reporting and Response Planning, noting that the approved standard enhances the security of the Bulk Electric System (BES). The approved standard expands mandatory reporting requirements to include Cyber Security Incidents that either compromise or attempt to compromise Electronic Security Perimeters and Electronic Access Control or Monitoring Systems associated with medium- and high-impact BES Cyber Systems. The revised standard also addresses the information to be included in Cyber Security Incident reports and any subsequent updates. Reports and updates will be sent to the Electricity Information and Sharing Analysis Center and the Department of Homeland Security's National Cybersecurity and Communications Integration Center for United States entities. The broadened reporting requirements help to enhance awareness of existing and future cyber security threats or vulnerabilities.

FERC also issued a [notice of proposed rulemaking](#) (NOPR) proposing to approve Reliability Standard TPL-001-5 – Transmission System Planning Performance Requirements. TPL-001-5 revises the current standard to address (1) reliability issues

concerning the study of single points of failure of protection systems; and (2) directives from Order No. 786 regarding planned maintenance outages and stability analysis for spare equipment strategy. In addition, the NOPR proposes to direct NERC to develop and submit modifications to require corrective action plans for protection system single points of failure in combination with a three-phase fault if planning studies indicate potential cascading.

NERC staff appreciates FERC's action and will continue to work with FERC and stakeholders toward assuring the reliability of the North American bulk power system. [FERC Press Release](#)

Grid Planners, Operators Manage Transformation, Security of Bulk Power System

The electricity industry is undergoing significant change, which presents both new challenges and opportunities for the reliability and security of the bulk power system. While ongoing performance measures show positive trends in generation, transmission, and protection and control performance, NERC's [2019 State of Reliability](#) encourages continued vigilance as the evolving resource mix and cyber and physical security threats continue to present critical challenges.

This year's assessment identified seven key findings, with extreme weather events being identified as the leading contributors to transmission, generation and load loss. Weather was responsible for the two category 3 bulk power system events across the Electric Reliability Organization Enterprise's footprint in 2018, the report finds.

"By nearly every measure we use to evaluate reliability, it is clear that the state of North America's bulk power system remains highly reliable," said John Moura, director of Reliability Assessment. "While year-over-year performance of the bulk power system shows positive trends, a strong reliability posture is needed to manage the emerging challenges as a result of the changing resource mix."

The report's key findings include:

- Extreme weather events continue to be leading contributors to load loss.
- There were no non-weather category 3, 4 or 5 events in 2018.
- Misoperations continue to decline.
- Frequency response continues to improve in all interconnections.
- In Texas, there is still reliability risk in 2019 due to the projected capacity deficit, but better than expected performance from the generation fleet helped meet 2018 summer peak demand.
- Despite continually evolving threats, no cyber or physical security incidents led to unauthorized operational control actions or a loss of load.
- As more inverter-based generation is added, solutions to emerging reliability challenges are being identified.

The report's recommendations include:

- The ERO Enterprise and industry should continue improving their ability to understand, model and plan for a system with a significantly different resource mix. Priority should be given to understanding the implications of the following: frequency response under lower inertia conditions; contributions of inverter-based resources to essential reliability services; increasing protection and restoration system complexities with increased inverter-based resources; and resource adequacy with increasing energy constraints.
- The ERO Enterprise and industry should develop comparative measurements and metrics to understand the different dimensions of resilience (e.g., withstanding the direct impact, managing through the event, recovering from events and preparing for the next event) during the most extreme events and how system performance changes over time.
- The ERO Enterprise and industry should continue to work closely together to understand and share information on cyber and physical security threats and mitigate the risks posed by these threats through a variety of approaches,

including resilient system design, consequence-informed planning and operation and practicing response and recovery processes.

Also new in this year's report is a chapter on emerging and known reliability issues highlighted by the Reliability Issues Steering Committee and recommendations made in their [February 2018 report](#). The RISC is an advisory committee to NERC's Board of Trustees that triages and provides front-end, high-level leadership and accountability for issues of strategic importance to bulk power system reliability. The 2018 RISC report provides a framework for prioritizing reliability issues and offers six recommendations to help NERC and industry effectively focus resources on the critical issues needed to best improve the reliability of the bulk power system.

Resources Sufficient to Meet Summer Peak Demand in Most Areas, NERC Finds

Projected resources are at or above the levels needed to satisfy summer peak demand under anticipated weather in most assessment areas, NERC's [2019 Summer Reliability Assessment](#) finds. However, resource adequacy challenges in Texas, potential limits on natural gas supplies in Southern California and wildfire risk in Northern California increase the likelihood of grid emergency procedures this summer.

The assessment concludes that planning reserve margins — a key metric that helps evaluate the potential for resource deficiencies — in most areas of North America indicate that bulk power system owners and operators can manage their reliability risk effectively. The risks to seasonal reliability include higher-than-expected generation or transmission outages and higher-than-expected electricity demand, though many areas have enough resources to serve even these extreme conditions.

"The landscape for summer 2019 looks similar to 2018 with more than enough anticipated resources and reserves to assure the reliable operation of the bulk power system in most assessment areas," said John Moura, director of Reliability Assessment and Technical Committees. "As the transformation of the resource mix continues, the real-time operation of the system in all

seasons presents opportunities and challenges in managing assets with a diverse set of operating characteristics.

The assessment's key findings include:

- ERCOT anticipates Energy Emergency Alerts may be needed to address resource shortfalls during periods of peak demand because its anticipated summer reserve margin remains low and has dropped from 10.9 percent in 2018 to 8.5 percent in 2019.
- All other areas exceed reference margin levels and have sufficient electricity supply resources for anticipated conditions.
- Natural gas supply from interstate natural gas supply pipelines alone is assessed to be insufficient to meet the needs of electric generators on summer peak load days in Southern California. As a result, withdrawals from the Aliso Canyon natural gas storage facility would be necessary to ensure adequate fuel for area generators.
- In the California Independent System Operator (CAISO) area, shortages in resources with upward ramping capability create the potential for operational risks during peak load periods. Electric supply transfers from neighboring areas may be needed to maintain reliability during late afternoon as solar generation output decreases while system demand is high.
- Elevated risk for wildfires in western United States and parts of Canada poses localized risk to bulk power system reliability. In some areas, pre-season planning includes expanded public safety power shut-off programs in addition to maintenance and operational preparations.

NERC develops its independent assessments to identify potential bulk power system reliability risks. NERC coordinates its independent assessments with the Regional Entities and industry to inform decision-makers so they can be better prepared to assure the reliability and security of the bulk power system across North America. ■■■

Compliance

Newly Effective Standards

On July 1, 2019, the following standards became effective:

[PER-003-2 – Operating Personnel Credentials](#) ensures that system operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a real-time operating position responsible for control of the Bulk Electric System (BES).

[Requirements R1 and R2 of TPL-007-3 – Transmission System Planned Performance for Geomagnetic Disturbance Events](#), which establishes requirements for transmission system planned performance during geomagnetic disturbance events.

Compliance Guidance Update

A key factor in the success of compliance monitoring and enforcement of mandatory standards rests on a common understanding among industry and ERO Enterprise CMEP staff of how compliance can be achieved and demonstrated. For many standards, this is straightforward. For others, a variety of approaches may achieve the same objective. Implementation Guidance is developed by industry, for industry and requires ERO-Enterprise endorsement. This guidance provides examples for implementing a standard.

There are three new Proposed Implementation Guidance documents posted on the [NERC Compliance Guidance web page](#), addressing:

- [CIP-012-1, R1 – Communications Between Control Centers \(2016-02 SDT\)](#)
- [TOP-010-1 and IRO-018-1 – Real-time Assessment Quality of Analysis \(OC\)](#)
- [CIP-008-6 – Incident Reporting and Response Planning \(2018-02 SDT\)](#)

There is one new ERO Enterprise-Endorsed Implementation Guidance document posted, addressing:

- [CIP-013-1, R1, R2 – Supply Chain Management \(NATF\)](#)

The [ERO Enterprise Non-Endorsed Implementation Guidance spreadsheet](#) was updated to include the following:

- **MOD-025-2 Implementation Guidance (MRO SC)** – The ERO Enterprise declined to endorse this document. It includes several statements that do not align with the language of the Reliability Standard and the previous request for information. These statements may cause entity confusion and could lead to possible non-compliance.
- **CIP-004-6 Implementation Guidance (EnergySec)** – The ERO Enterprise declined to endorse this document. It includes several statements that do not align with the language of the Reliability Standard and does not offer specific examples entities could use to meet compliance. These statements may cause entity confusion and could lead to possible non-compliance.
- **CIP-010-2 Implementation Guidance (MROSC)** – The ERO Enterprise declined to endorse this document. Due to the volume and complexity of the document, there are clarifications or enhancements needed to allow for a clear and comprehensible approach to meeting compliance with the standard without the document becoming unnecessarily large or attempting to be all encompassing. Without such clarifications or enhancements, it may cause entity confusion and could lead to possible non-compliance.

Reliability Standard Audit Worksheets Posted

Three Reliability Standard Audit Worksheets (RSAWs) are now available on the [RSAW page](#) of NERC's website under the heading "Current RSAWs for Use."

RSAs are guides provided by the ERO that describe types of evidence that registered entities may use to demonstrate compliance with a Reliability Standard. The worksheets, which include information regarding how the ERO may assess evidence, are drafted during the development of their corresponding Reliability Standards, which allows for enhanced transparency around compliance expectations.

[CIP-003-7 – Cyber Security – Security Management Controls](#) specifies consistent and sustainable security management controls that establish responsibility and accountability to protect BES Cyber Systems against compromise that could lead to misoperation or instability in the BES. The standard applies to Balancing Authorities, Distribution Providers, Generator Operators, Generator Owners, Interchange Coordinators or Interchange Authorities, Reliability Coordinators, Transmission Operators and Transmission Owners. [CIP-003-7](#) becomes effective on January 1, 2020.

[PRC-027-1 – Coordination of Protection Systems for Performance During Faults](#) maintains the coordination of protection systems installed to detect and isolate faults on BES Elements, such that those protection systems operate in the intended sequence during faults. The standard applies to Generator Owners, Transmission Owners and applicable Distribution Providers. [PRC-027-1](#) becomes effective October 1, 2020.

[EOP-006-3 – System Restoration Coordination](#) ensures plans are established and personnel are prepared to enable effective coordination of the system restoration process to ensure reliability is maintained during restoration and priority is placed on restoring the interconnection. The errata change to EOP-006-3 updates Part 8.1 to read “two calendar years” following the standard language. [EOP-006-3](#) applies to Reliability Coordinators and became effective April 1, 2019.

Update on the Centralized Organization Registration ERO System Technology Project

The Centralized Organization Registration ERO System ([CORES](#)) Technology Project orientation and training videos for the ERO Portal as well as an initial set of videos showing how to register for a portal account are

available on the [Registration page](#) of NERC.com. The ERO Portal will be the gateway to the CORES application and is required to access CORES. Additional CORES training videos will be posted as they become available and can be accessed [here](#).

To ensure appropriate training opportunities and a good user experience for registered entities, the ERO Enterprise will be executing the launch with additional outreach, training and engagements. As part of the CORES rollout, there will be additional outreach activities and other related applications and projects (ERO Portal Registration, Multiple Factor Authentication (MFA) and ERO Enterprise Help Desk) that will continue to be released and made available to registered entities through the end of September to coincide with the first release of the Align application.

On June 18, the ERO enhanced system security with the addition of MFA. This new requirement will be enabled on the ERO Portal, and entity contacts must access the system using the enhanced MFA security feature. MFA is an intuitive, feature-rich security enhancement that requires a second “factor” like a mobile device to authenticate into the ERO Portal.

What should entity contacts do first? [Register](#) your email address for ERO Portal Access. If you already have an ERO portal account, log in using your existing credentials and you will be prompted to begin the steps to activate MFA for your device. For more guidance, refer to the [Quick Start Guide](#) or the more detailed [User Guide](#).

What should entities do next? The focus right now is on having registered entity contacts complete initial registrations in the ERO Portal and activate MFA for your device. Next steps will include posting additional CORES materials, webinars that will be conducted by the ERO Enterprise (NERC and Regional Entities), and additional details about the rollout plans will be communicated shortly.

Registration staff will be reaching out to registered entity contacts that have not registered in the ERO Portal over the next month to ensure a smooth transition. If you

would like more information about the project, please contact [Ryan Stewart](#), senior manager of Registration and Certification. In addition, each Region has a registration point of contact for the project that is listed below.

Regional Contacts	
Region	Email
ReliabilityFirst	compliance@rfirst.org
SERC	support@serc1.org
Texas RE	abby.fellinger@texasre.org
NPCC	mkozub@npcc.org
WECC	mdalebout@wecc.org
MRO	Registration@mro.net
NERC	NERC.Registration@NERC.net

Updated Compliance Oversight Plan Process

In support of the implementation of Align and the sustainable creation of Compliance Oversight Plans (COPs), the ERO Enterprise has harmonized how COPs are summarized and presented to registered entities.

Beginning in July 2019, registered entities should expect to see updated COPs; however, implementation of new COP processes will vary from Region to Region. Registered entities should contact their regional representative to gain a better understanding of the implementation timeline. ■■■

Reliability Risk Management

Resources Posted

The [presentation](#) and [streaming webinar](#) from the June 19, 2019 Substation Fires: Working with First Responders webinar have been posted on the NERC website. ■■■

Standards

Register for Electromagnetic Pulse Task Force Workshop

The Electromagnetic Pulse (EMP) Task Force is hosting a workshop on July 25, 2019, in Atlanta. During this workshop, the task force will request input from industry stakeholders on certain EMP topics. Following industry input received, the EMP Task Force will continue their work via conference calls and in-person meetings toward EMP recommendations.

This workshop has limited space for [in-person attendance](#); however, [webinar registration](#) is available for those interested. ■■■

Regional Entity Events

Midwest Reliability Organization (MRO)

- **A Tale of Two Phishing Programs Webinar**, July 11 | [Details](#)
- **MRO Security Advisory Council to Host Upcoming Webinar Leveraging Relationships Among Electric Utilities and Law Enforcement**, July 25 | [Details](#)
- **Reliability Advisory Council Meeting**, August 7 | [Details](#)
- **CMEP Advisory Meeting Council**, September 18 | [Details](#)
- **Organizational Group Oversight Committee Meeting**, September 18 | [Details](#)
- **MRO Board of Directors Meeting**, September 19 | [Details](#)
- **Security Conference**, September 25 | [Details](#)
- **Security Advisory Council Meeting**, September 26 | [Details](#)
- **CMEP Conference**, October 22 | [Details](#)
- **Reliability Advisory Council Meeting**, October 30 | [Details](#)

Northeast Power Coordinating Council (NPCC)

- **2019 Fall Compliance and Standards Workshop**, November 20–21, Newport, R.I.

ReliabilityFirst (RF)

- **Reliability and Compliance Open Forum Call Conference Call**, July 15 | [Details](#)
- **2019 Protection System Workshop**, August 13–14, Independence, Ohio | [Details](#)
- **2019 Human Performance Workshop**, August 14–15, Independence, Ohio | [Details](#)
- **Reliability and Compliance Open Forum Call Conference Call**, August 19 | [Details](#)
- **Reliability and Compliance Open Forum Call Conference Call**, September 16 | [Details](#)
- **2019 Fall Reliability and CIP Workshop**, October 1–3, Cleveland, Ohio | [Details](#)
- **Reliability and Compliance Open Forum Call Conference Call**, October 21 | [Details](#)
- **Reliability and Compliance Open Forum Call Conference Call**, November 18 | [Details](#)
- **Reliability and Compliance Open Forum Call Conference Call**, December 16 | [Details](#)

SERC Reliability Corporation

- **Open Forum Webinar**, July 29 | [Details](#)
- **Regional Entity Align Tool Training**, August 6–7 | [Details](#)
- **Registered Entity Align Tool Training #1**, August 13 | [Details](#)
- **Registered Entity Align Tool Training #2**, August 20 | [Details](#)
- **System Operator Conference**, August 27–29 | [Details](#)
- **CIP Compliance Seminar**, September 17–18 | [Details](#)
- **System Operator Conference**, September 24–26 | [Details](#)
- **Fall Compliance Seminar**, October 8–9 | [Details](#)

Texas RE

- **Compliance 101 Workshop**, July 25 | [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](#).

- **2019 Industry Standards and Compliance Workshop** – July 23–24, 2019, Minneapolis | [In-person Registration](#) | [Webinar Registration](#) | [Hotel Registration](#)
- **Electromagnetic Pulse Task Force Workshop** – 8:30 a.m.–5:00 p.m. Eastern, July 25, 2019, Atlanta | [In-person Registration](#) | [Webinar Registration](#)
- **Monitoring and Situational Awareness Technical Conference** – September 24–25, 2019, Little Rock, Ark. | [Register](#) | [Hotel and Travel Information](#) | [Presentations from Previous Conferences](#)
- **GridSecCon 2019** – October 22–25, 2019, Atlanta | [Register](#)
- **Board of Trustees Committees, Member Representatives Committee, and Board of Trustees Meetings** – August 14–15, 2019, Québec, Q.C. | [Meeting Registration and Hotel Information](#) ■■■

Filings

NERC Filings to FERC

June 7, 2019

[Petition for Approval of Reliability Standards IRO-002-7, TOP-001-5, and VAR-001-6](#) | NERC submits a petition for the approval of Reliability Standards IRO-002-7, TOP-001-5 and VAR-001-6 developed under the NERC [Standards Efficiency Review initiative](#).

[Petition for Approval of SER Retirements \(INT, FAC, PRC, and MOD\)](#) | NERC submits a petition for the approval of Reliability Standards requirement retirements in the INT, FAC, PRC and MOD Reliability Standards families, developed under the NERC [Standards Efficiency Review initiative](#).

[Notice of Withdrawal of NERC for Proposed Reliability Standard MOD-001-2](#) | NERC submits a notice of withdrawal for its petition proposing Reliability Standard MOD-001-2 in Docket No. RM14-7-000. This proposed Reliability Standard was suggested for retirement by the [Standards Efficiency Review initiative](#).

June 24, 2019

[Comments of NERC in Response to Notice of Proposed Rulemaking on CIP-012-1](#) | NERC provides comments on the FERC notice of proposed rulemaking proposing to approve Reliability Standard CIP-012-1 – Cyber Security – Communications between Control Centers. NERC supports FERC’s proposal to approve the proposed Reliability Standard. However, NERC does not support FERC’s proposal to direct modifications to the CIP Reliability Standards to: (1) require protections regarding the availability of communication links and data

between BES Control Centers; and (2) provide additional specificity on the types of data that must be protected. NERC proposes to conduct a study of the risks to availability of data and communication links between Control Centers to determine an appropriate course of action.

NERC Filings in Canada

June 7, 2019

[Notice of Filing of the North American Electric Reliability Corporation of Proposed Reliability Standard IRO-002-6 \(Alberta\) | Attachments to IRO-002-6 Filing](#)

June 20, 2019

[Notice of Filing of the North American Electric Reliability Corporation of SER Retirements \(INT/FAC/MOD/PRC\) | Attachments to SER \(INT/FAC/MOD/PRC\) Filing](#)

[Notice of Filing of the North American Electric Reliability Corporation of SER Retirements \(TOP/IRO/VAR\) | Attachments to SER \(TOP/IRO/VAR\) Filing](#)

[Notice of Withdrawal by the North American Electric Reliability Corporation of MOD-001-2](#) ■ ■ ■

Careers at NERC

Cyber Analyst – Network Analyst

Location: Washington, D.C.

[Details](#)

Manager North American Relations

Location: Washington, D.C.

[Details](#)

Associate Counsel (Enforcement)

Location: Washington, D.C.

[Details](#)

Data Analyst – Performance Analysis

Location: Atlanta

[Details](#) ■ ■ ■