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ERO Executive Spotlight – Jim Robb President and CEO, NERC

A Year of Challenges, Highlights, Collaboration and Accomplishment

We have come to the end of an unprecedented year in which we faced a pandemic, civil unrest, a record-setting storm and wildfire season and a presidential election. Now we are dealing with a major cyber event unfolding across government and the private sector. However, the ERO Enterprise, along with industry, rose to the occasion, continuing to assure the reliability and security of the bulk power system. It is a privilege to lead the ERO!



The ERO Enterprise industry, our government partners and others such as the North American Transmission Forum (NATF) and the Electric Power Research Institute (EPRI) came together to assure the reliability and security of the North American bulk power system during this extraordinary year. While 2020 was tough, we should be pleased with our collaboration and the magnitude of what we accomplished together. [Continued on page 2](#)

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Collaboration and Accomplishment (cont'd)

I am proud of how we responded as a company to the COVID-19 pandemic. In February, we issued the first All-Points Bulletin of 2020 from the Electricity Information Sharing and Analysis Center (E-ISAC) warning of the potential impacts to supply chains workforce limitations. Working closely with the Federal Energy Regulatory Commission (FERC), we were able to provide regulatory relief to industry so they could focus on protecting their workers and retooling operating protocols with a remote workforce. We continued our reliability work with the Regional Entities' initiating processes to perform their usual onsite work virtually. We continued to advance important efforts, such as the Compliance Monitoring and Enforcement Program systems initiatives—Align and the Secure Evidence Locker (SEL)—and found ways to fund the SEL without requiring a special assessment. The E-ISAC refocused its strategy, strengthened its partnerships with government stakeholders, increased its membership and initiated two operational technology (OT) pilots to expand the Cybersecurity Risk Information Sharing Program (CRISP) into the OT realm.

Now that we are heading into the New Year, we need to remain focused on the future. We have launched several teams across NERC to help take the lessons we have learned about remote work and collaboration and think through how we can leverage collaboration technology and remote working tools to evolve our business model to be more effective and efficient in 2021 and beyond.

We are paying close attention to the transformation of the grid and its increasing levels of decarbonized and distributed resources and the expansion of digital controls and devices. With our stakeholders' leadership, we restructured our technical committees into the new Reliability and Security Technical Committee to address these issues in a more integrated manner. Our [2020 Long-Term Reliability Assessment](#) brings to light the challenges presented by the changing resource mix and the need to continue strengthening engagement with our stakeholders so this transformation occurs in a reliable and secure way. These themes will continue to be our focus in the coming years.

There is a lot to be proud of this past year—the North American grid remains highly reliable and secure. The ERO Enterprise remains committed to keeping our eye on reliability and security of the grid. It takes a complex fabric of utilities, generators, regulators and public-private partnerships to deliver the reliable and secure grid customers rely on. Though NERC and the Regional Entities do not have our hands on any controls, our work strengthens that fabric and nearly 400 million North Americans depend on us to do our part. See you all in 2021! ■■■

Headlines

Statement on DOE Order

The Department of Energy (DOE) prohibition order issued on December 17 is an important next step to protect further defense critical electric infrastructure from persistent threats posed by sophisticated nation-states. NERC and the E-ISAC continue to take numerous proactive initiatives to address supply chain cyber security risk, including issuing alerts to determine the amount of foreign-manufactured equipment installed on the grid, conducting risk assessments, and sharing other pertinent information with industry. NERC will continue to work with industry, DOE and other government partners across North America to protect grid security.

Statement on FERC's December Open Meeting Action

At its monthly open meeting, FERC took action on a key reliability item, directing an informational filing regarding virtualization and cloud computing services. The order addresses comments received in response to FERC's [February 20, 2020 Notice of Inquiry](#) regarding the potential benefits and risks associated with the use of virtualization and cloud computing services in association with Bulk Electric System (BES) operations. The order directs NERC to submit an informational filing that evaluates possible modifications to the Critical Infrastructure Protection (CIP) Reliability Standards to facilitate the voluntary use of cloud computing to perform BES operations by the end of 2021.

NERC previously provided comments in this proceeding in a [July 2020 filing](#). Work is currently underway, through NERC's standard development process and through ERO Enterprise outreach to industry groups, to continue to identify the potential risks and effective mitigation strategies, taking into account all relevant considerations. NERC appreciates FERC's action and will continue its efforts to support a strong cyber security posture among stakeholders, including evaluating methods to facilitate the voluntary use of cloud computing where feasible.

Evolving Resource Mix is Changing Reliability, Security and Resilience Landscape, Assessment Finds

The [2020 Long-Term Reliability Assessment](#) finds sufficient resource adequacy across most of North America and highlights reliability, security and resilience risk associated with the changing generation resource mix. In all but two areas, there is sufficient capacity to meet the electricity demand over the next 10 years. However, the addition of variable energy resources, primarily wind and solar, the continued growth of distributed energy resources (DER) and the retirement of conventional generation are fundamentally changing how the grid is planned and operated.

Even where system capacity is shown as sufficient, some areas demonstrate potential for inadequate energy to serve demand. Specifically, nearly all parts of the Western Interconnection, ERCOT and MISO show levels of increased risk over the next five years. The 2020 LTRA highlights the need for increased attention to planning and operating the grid in a more complex environment.

"As the system becomes more reliant on wind and solar generation, resource and energy adequacy must be assured," said Mark Olson, manager of Reliability Assessments. "The changing resource mix introduces greater variability, making long-term planning more complex. To meet this challenge, we need to create the necessary models, technology, and strategies to properly support future grid operators."

In response, NERC developed several key recommendations for the ERO and industry, which include:

- Enhancing the reliability assessment process by evaluating energy adequacy risks in seasonal reliability assessments.
- Developing design-basis fuel supply scenarios of normal and extreme events for use by planners and adopted as a component of the Reliability Standards.
- Increasing communication and outreach of resource adequacy risks with state and provincial policymakers.
- Modifying existing Reliability Standards to account for inverter-based resource performance and characteristics.
- Ensuring accurate and valid power flow and dynamics base case models, specifically addressing any model deficiencies associated with existing and newly interconnecting bulk power system connected inverter-based resources.
- Addressing aggregate DER data needs for transmission planning and operational studies

Throughout the assessment period (2021–2030) and particularly between the years of 2021–2025, there is heightened uncertainty in demand projections stemming from the ongoing pandemic. While the pandemic does not present a specific threat to the reliability of the grid, it does lead to uncertainty in future electricity demand projections and presents cyber security and operating risks. This could exacerbate planning reserve shortfalls in areas that are below or near Reference Margin Levels.

This independent assessment focuses on the adequacy of planned bulk power system resources to meet electricity demand across North America over the next 10 years. The electricity sector is undergoing significant changes that are unprecedented in both transformational nature and rapid pace. While this extraordinary evolution presents new challenges, it also provides new opportunities for the ERO Enterprise to assure the reliability, resilience and security of the grid. [2020 LTRA Infographic](#)

Gugel Participates on Supply Chain Security Panel in POWERGEN+ Series

On December 14–15, [POWERGEN+](#) hosted the "O&M, Cybersecurity and the Digital Plant" virtual event. Howard

Gugel, NERC’s vice president of Standards and Engineering, participated on the “Securing the Supply Chain” panel on December 15. Additional participants included Jeffrey Sweet, director, security assessments, AEP; Scott Affelt, XLMPR Energy; and Tom McDonnell, Rockwell Automation.

Other topics included:

- The Cost of Failure – Why Mission-Critical Should be Your Mission
- Using Cooperation to Address Cybersecurity Risks across the Industrial Control Ecosystem
- Securing the Supply Chain
- The Future of Digitalization in Power Virtual Event
- Making Sense of Data in Conventional Power Plants

Robb Named Chair of United Nations Cleaner Electricity Systems’ Group of Experts

Jim Robb was named chair of the [Group of Experts on Cleaner Electricity Systems](#) (CES), which is part of the United Nations Economic Commission for Europe (UNECE). The UNECE includes the United States and Canada, and the U.S. Department of State advanced Robb’s candidacy. The two-year term provides a forum for intergovernmental dialogue on investment and regulation for the promotion of cleaner electricity production. Prior to Robb’s appointment, Barry Worthington, the late executive director of the United States Energy Association, chaired the CES.

Recent areas of work for the group include:

- Regulatory and policy dialogue
- Sharing best practices in the field of cleaner electricity production
- Carbon capture and storage, as well as carbon utilization
- Advanced technologies for power generation
- Evaluation of efficiency enhancing measures for power plants

“Like NERC, the Group of Experts focuses on the technical issues surrounding the transition to a cleaner energy system and seeks to inform the policy positions taken by member states. I am very excited to take on this

challenge, honored to succeed Barry Worthington, and look forward to contributing to critical policy dialogue on a broader international stage.”

As the CES chair, Robb will also serve as ex-officio vice chair of the [UNECE Committee on Sustainable Energy](#).



Compliance

Newly Effective Standards

On January 1, 2021, the following standards and/or requirements will come into effect:

[CIP-008-6 – Cyber Security – Incident Reporting and Response Planning](#) mitigates the risk to the reliable operation of the BES as the result of a Cyber Security Incident by specifying incident response requirements.

[PRC-025-2 – Generator Relay Loadability](#) sets load-responsive protective relays associated with generation facilities at a level to prevent unnecessary tripping of generators during a system disturbance for conditions that do not pose a risk of damage to the associated equipment. This effective date applies to the phased-in implementation of Attachment 1: Relay Settings, Table 1 Options 5b, 14b, 15b and 16b.

[PRC-002-2 – Disturbance Monitoring and Reporting Requirements](#) ensures that there is adequate data available to facilitate analysis of BES Disturbances. On January 1, 2021, entities must be 50% compliant with Requirements R2–R4, R6–R11.

[PRC-012-2 – Remedial Action Schemes](#) ensures that Remedial Action Schemes (RAS) do not introduce unintentional or unacceptable reliability risks to the BES.

Program Alignment Update

In December, NERC received one alignment issue pertaining to the assessment criteria for EOP-005-3. 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—anonously, if desired.

Compliance Guidance Update

The NERC Compliance Assurance department posted a [Compliance Guidance Frequently Asked Questions \(FAQ\) document](#) to the NERC Compliance Guidance web page. This document addresses the most common questions NERC receives regarding Compliance Guidance. This document addresses general Compliance Guidance topics rather than specific Compliance Guidance documents. NERC will update this document as staff receives new questions.

Supply Chain Small Group Advisory Sessions FAQ Updated

This [FAQ document](#) is a composition of commonly asked questions from the participants who attended the small group advisory sessions. NERC has added additional frequently asked questions to the document.

Reporting Mechanisms for CIP-008-6

Effective January 1, 2021, applicable NERC registered entities must comply with the expanded incident reporting requirements in revised Reliability Standard [CIP-008-6](#). Reports must be submitted to the E-ISAC and, for those entities subject to the jurisdiction of the United States, the U.S. Department of Homeland Security Cybersecurity, and Infrastructure Agency (DHS CISA). Staff should work with their Compliance departments on their entity's specific requirements and obligations.

To report to the E-ISAC you may use, but are not limited to, the following reporting mechanisms:

- [EOP-004](#)
- E-ISAC Portal Bulletin
- [Email](#) E-ISAC Watch Operations
- Call E-ISAC Watch Operations at 202-790-6000
- Copy of an [OE-417](#)

To report to DHS CISA:

- [CISA Incident Reporting](#): A copy of this report may also be sent to the E-ISAC to reduce duplication of efforts.
- Call 888-282-0870

- Email soc@us-cert.gov or cisaservicedesk@cisa.dhs.gov

CISA will put the process in writing; however, the submission must be completed by one of the ways listed above. Having a CISA employee check the E-ISAC portal will not suffice as a submission to CISA.

If you have specific questions about the revised CIP-008-6 Reliability Standard applicability or guidance, please contact NERC's Compliance Assurance department or your respective Regional Entity Compliance or Enforcement staff. If you have any questions about submitting a CIP-008-6 report to the E-ISAC, please contact [E-ISAC Watch Operations](#) or call 202-790-6000.



Reliability Risk Management

Monitoring and Situational Awareness Technical Conference Resources Posted

The presentations and streaming webinars from Sessions 1–3 of the 2020 Monitoring and Situational Awareness Technical Conference are now available on the NERC website.

[Click here for Session 1: Presentation](#) | [Streaming Webinar](#)

[Click here for Session 2: Presentation](#) | [Streaming Webinar](#)

[Click here for Session 3: Presentation](#) | [Streaming Webinar](#)

[Click here for Presentations from previous conferences](#)

NERC Energy Management System's Performance Special Assessment Available

To gain a better resolution on the contribution of Energy Management System (EMS) outages to the loss of situational awareness risk and the effect of EOP-004-4, the NERC EMS Working Group conducted an [assessment](#) as an interim activity between recurring updates to its EMS reference document using 2018–2019 EMS events reported through the ERO Event Analysis Process. The report includes assessments for three factors (outage duration, EMS functions and entity reliability functions), examining associated trends, event root causes and

contributing causes identified through the ERO Cause Code Assignment Process for the 2018–2019 period. ■■■

Regional Entity Events

ReliabilityFirst (RF)

- [Technical Talk with RF](#), January 25

Midwest Reliability Organization (MRO)

- [NSRF Weekly Web Meeting](#), January 6
- [PER-006-1 Specific Training for Personnel Webinar](#), January 19
- [MRO CMEP Advisory Council Q1 Meeting](#), February 9
- [MRO SAC Q1 Meeting](#), February 10
- [Protective Relay Subgroup Q1 Meeting](#), February 16

SERC Reliability Corporation

- [Open Forum Webinar](#), January 26
- [Outreach Event - FAC-008 Webinar](#), February 23

Texas RE

- [Talk with Texas RE - Align Update](#), January 28
- [Talk with Texas RE - Cyber Security Threats](#), February 25 ■■■

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](#).

- **Member Representatives Committee Pre-Meeting Conference Call and Informational Webinar** – 11:00 a.m.–12:00 p.m. Eastern, January 6, 2021 | [Register](#)
- **Standards Committee Meeting** – 1:00–3:00 p.m. Eastern, January 20, 2021 | [Register](#) ■■■

Filings

NERC Filings to FERC in December

December 1, 2020

[2020 Frequency Response Annual Analysis Report](#) | NERC submits its 2020 Frequency Response Annual Analysis report for the administration and support of Reliability Standard BAL-003-2 – Frequency Response and Frequency Bias Setting.

December 8, 2020

[2021–2023 Reliability Standards Development Plan](#) | NERC submits its Reliability Standards Development Plan (RSDP) for 2021–2023. 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 14, 2020

[NERC Petition for Approval of Proposed Reliability Standards CIP-013-2, CIP-005-7 and CIP-010-4](#) | NERC submits its petition for approval of proposed Reliability Standards CIP-013-2, CIP-005-7 and CIP-010-4 addressing supply chain cyber security risk management.

December 15, 2020

[CIP SDT Schedule December Update Informational Filing](#) | NERC submits to FERC an informational compliance filing as directed by FERC in its February 20, 2020 Order. This filing contains a status update on two standards development projects relating to CIP Reliability Standards.

[Joint Answer to the Amended Complaint](#) | NERC and WECC submit a Joint Answer to the Amended Complaint by Californians for Green Nuclear Power, Inc.

December 18, 2020

[Joint Comments on BAL-002-WECC-3 NOPR](#) | NERC and WECC submit joint comments on the FERC’s notice of proposed rulemaking regarding proposed Reliability Standard BAL-002-WECC-3.

NERC Canadian Filings to FERC in November

December 11, 2020

[Alberta RSDP 2021–2023](#)

December 12, 2020

[Supply Chain Petition Exhibits A-B, D-I](#)

[Alberta Supply Chain Risk Management Filing](#) ■■■

Careers at NERC

Director, Corporate Compliance CRM and Ethics

Location: Atlanta

[Details](#)

Bulk Power System Awareness Analyst

Location: Atlanta

[Details](#)

Manger Bulk Power System Awareness

Location: Washington, D.C.

[Details](#)

E-ISA Engagement and Outreach Coordinator

Location: Washington, D.C.

[Details](#)

E-ISAC Senior Cyber Threat Intelligence (CTI) Analyst

Location: Washington, D.C.

[Details](#) ■ ■ ■