ERO Executive Spotlight – Charles Dickerson, President and CEO, NPCC

A Clean Energy Future, Societal Decarbonization Objectives and Our Extremely Significant Role

With the United States back in the Paris Agreement, the Administration has announced several measures related to decarbonization, including a national goal to deploy 30 GW of offshore wind capacity and building a national network of 500,000 electric vehicle (EV) charging stations — both by 2030. The combination of Federal, State and Provincial goals will necessitate a tremendous amount of collaboration and coordination across many areas — physical, policy—regulatory and technological. NPCC and the broader ERO Enterprise’s participation are crucial for these goals to be accomplished successfully.

While NPCC and the ERO Enterprise are technology neutral, offshore wind and EVs are two of the more salient solutions that will be relied on to help pave the way toward the clean energy future. Continued on page 2

Headlines

Robb, Lauby and Cancel Spoke at Federal Energy Regulatory Commission’s 2021 Annual Reliability Technical Conference

FERC, NERC Staff Review 2021 Winter Freeze, Recommend Standards Improvements

Fault-Induced Solar PV Tripping Events in Texas: Odessa Disturbance Report Published

Sena Spoke on Reliability Issues during WIRES Webinar

Lauby Spoke at United States Energy Association’s Advanced Energy Technology Forum
A Clean Energy Future (cont’d)

Our role will be to ensure that these and other technologies are implemented and operated in a way that does not compromise the integrity of the bulk power system, maintaining a system that is highly reliable and fit to accommodate various sources of supply to ensure energy adequacy.

Although many regions across the continent have some level of decarbonization plans, a close look at the NPCC Region demonstrates very ambitious goals in less than 30 years. The New England states have published 80% reduction goals to be achieved no later than 2050. Nova Scotia, Ontario and Quebec each have variations of net-zero or 30% or greater reductions by 2030/50; and New York has a 70% renewable electricity supply goal by 2030. The achievement of these collective goals will have the effect of significantly modifying the sources and characteristics of future electric energy production and will require a change in the assumptions about deliverability challenges and where generation sources will be located.

Additionally, increases in the electrification of the transportation and building sectors will play a critical role in accomplishing societal decarbonization objectives. These changes will provide opportunities for NPCC in conjunction with its members and the ERO Enterprise to understand and leverage the emerging technologies to enhance reliability, provide grid essential services and increase the resilience of the bulk power system.

The good news — we are already working to help educate, collaborate and plan for this exciting future. NPCC has and continues to hold Distributed Energy Resources/Variable Energy Resources (DER/VER) forums with various regulators to discuss challenges and coordination. NPCC is collaborating to develop a DER Guidance document, prioritizing its Regional Reliability Directory reviews based on DER/VER and working with the various ISO/RTO planning teams to identify more efficient and effective ways to conduct NPCC activities while ensuring continued collaboration. In addition, efforts are underway across the ERO Enterprise to improve the planning and modeling and assessing of reliability risks associated with DER/VER.

Key attributes essential to the reliable operation of the bulk power system will continue to be the ERO Enterprise and NPCC’s focus as this grid transformation unfolds.

We can do this, and we will.

Headlines

Robb, Lauby and Cancel Spoke at Federal Energy Regulatory Commission’s 2021 Annual Reliability Technical Conference

Jim Robb, NERC’s president and CEO, Mark Lauby, NERC’s senior vice president and chief engineer, and Manny Cancel, NERC’s senior vice president and CEO of NERC’s Electricity Information Sharing and Analysis Center (E-ISAC) participated in the Federal Energy Regulatory Commission (FERC) 2021 Annual Reliability Technical Conference on September 30. The annual conference was comprised of four panels that discussed reliability issues related to the bulk power system:

- Panel 1: Bulk Power System Reliability and Security: Current State, Challenges and Initiatives, featuring a presentation from Robb and Lauby
- Panel 2: Extreme Weather, Risks and Challenges
- Panel 3: Managing Cyber Risks in the Electric Power Sector, featuring remarks from Cancel
- Panel 4: Maintaining Electric Reliability with Changing Resource Mix

The full agenda is on FERC’s website. Robb, Lauby, Cancel Testimony

FERC, NERC Staff Review 2021 Winter Freeze, Recommend Standards Improvements

The electric and natural gas industries need to strengthen their winterization and cold weather preparedness and coordination to prevent a recurrence of the unprecedented February 2021 power outages to millions of people during the February 2021 freeze in Texas and the Midwest.
That is the assessment of a preliminary report presented on September 23 at the FERC meeting by a joint inquiry team of staff from FERC and NERC and its Regional Entities. The report reviews what happened during the freeze and outlines a series of recommendations, including mandatory electric reliability standards, to prevent its recurrence.

“This is a wake-up call for all of us. There was a similar inquiry after Texas experienced extreme cold weather in 2011, but those recommendations were not acted on,” FERC Chairman Rich Glick said. “We can’t allow this to happen again. This time, we must take these recommendations seriously, and act decisively, to ensure the bulk power system does not fail the next time extreme weather hits. I cannot, and will not, allow this to become yet another report that serves no purpose other than to gather dust on the shelf.”

“These preliminary findings provide clear and comprehensive insight into what happened on the grid during the February freeze and our joint recommendations provide a roadmap for what actions need to be taken next in order to prevent a repeat occurrence,” said Jim Robb, president and CEO of NERC. “Our coordinated efforts — across both the electric and natural gas industries — will provide the way ahead. NERC and FERC are committed to working together to make this happen.”

The February freeze triggered the loss of 61,800 megawatts of electric generation, as 1,045 individual generating units experienced 4,124 outages, derates or failures to start. It severely reduced natural gas production, with the largest effects felt in Texas, Oklahoma and Louisiana, where combined daily production declined to an estimated 20 billion cubic feet per day. That is a reduction of more than 50 percent compared to average production from February 1–5.

The joint assessment points to freezing of generator components and fuel issues as the top two major causes of generator outages, derates or failures to start. The identified causes in the preliminary report affected generating units across all fuel types. Of the 1,045 generating units affected, 57 percent were natural gas-fired units that primarily faced fuel-supply challenges.

The preliminary report makes nine key recommendations, including changes to mandatory reliability standards that build upon the recently approved standards developed in the wake of a 2019 joint inquiry into a prior cold weather event. Among those are:

- Revisions to require generator owners to identify and protect cold weather-critical components;
- Build new or retrofit existing units to operate to specific ambient temperatures and weather based on extreme temperature and weather data;
- Take into account effects of wind and precipitation in winterization plans;
- Corrective action plans for generator owners that experience freeze-related outages; and
- Ensure the system operator is aware of the operating limitations in the generating fleet so that they can plan mitigation actions.

The preliminary report also recommends that generator owners be provided the opportunity for compensation and recovery of the costs of building or retrofitting to operate to a specific temperature, and that Congress, state legislatures and jurisdictional regulators require gas facilities to prepare and follow cold weather preparedness plans.

The presentation of the preliminary findings and recommendations is available here. The FERC, NERC and Regional Entity staffs will release their final report in November.

Fault-Induced Solar PV Tripping Events in Texas: Odessa Disturbance Report Published

On May 9, 2021, the Texas Interconnection experienced a widespread reduction of over 1,100 MW of solar photovoltaic (PV) resources due to a normally cleared fault on the bulk power system (referred to as the “Odessa Disturbance”). While the ERO has analyzed multiple similar events in California, this is the first disturbance involving a widespread reduction of solar PV resources in the Texas Interconnection. The event
involved facilities across a large geographic area of up to 200 miles from the location of the initiating fault.

NERC and Texas RE analyzed this event, in coordination with ERCOT, and have documented the key findings and recommendations in the report. The report provides details regarding the initiating event, performance of the bulk power system-connected solar PV fleet during the event, and additional details around the event. The report also describes modeling and studies improvements needed to address the root causes of these issues, which is applicable to all Interconnections. Lastly, the report documents a smaller event involving solar PV resources that subsequently occurred on June 26. 

Odessa Disturbance Report

Sena Spoke on Reliability Issues During WIRES Webinar
On September 15, Janet Sena, NERC’s senior vice president of External Affairs, provided an update on reliability issues and NERC’s recent and upcoming work to improve grid reliability. The webinar, which took place at 3:00 p.m. Eastern, was hosted by WIRES, an organization that develops and shares critical industry research that helps inform regulatory and policy-making decisions.

Lauby Spoke at United States Energy Association’s Advanced Energy Technology Forum
On September 9, the United States Energy Association (USEA) hosted their third Annual Advanced Energy Technology Forum, which explored technological innovation in the energy sector. Mark Lauby, NERC’s senior vice president and chief engineer, participated in Session 2: Infrastructure Challenges and Opportunities, which began at 9:55 a.m. Eastern and moderated by Sheila Hollis, acting executive director of USEA. Lauby was joined in Session 2 by Dena Wiggins, president and CEO, Natural Gas Supply Association; Paul Kjellander, president, NARUC; Allison Clements, commissioner, FERC; and Catherine Hunt Ryan, chief financial officer, Bechtel.

The virtual forum was organized into four sessions:

- **Session 1 (Panel):** Technological Advances in the National Labs
- **Session 2:** Infrastructure Challenges and Opportunities
- **Session 3 (Panel):** Academic Innovations
- **Session 4 (Panel):** 2021 Fortnightly Under 40 – Leading the Way

The full agenda, including all moderators and speakers, is available [here](#).

Compliance

Webinar Resources Posted
NERC posted the presentation and streaming webinar from the August 27, 2021 Joint Compliance and Certification Committee/ERO Enterprise webinar on Supply Chain.

Align Release 3 Update
The Align project team completed the development of Release 3 in September and is currently conducting regression testing. End-to-end quality assurance (QA) testing and user acceptance testing (UAT) will commence in the next few weeks. Announcements regarding the go-live date and adoption plans for Release 3 will be announced in November. Release 3 functionality will consist of core capabilities for audits, audit planning and scheduling.

Align Release 4 Announced
As announced at the August NERC Board of Trustees meeting, the Align project team added Release 4 to the project schedule for 2022. The ERO Enterprise remains committed to the effectiveness of the CMEP and invested in the Align and SEL tools to improve the security, automation/efficiency, and harmonization/consistency of CMEP activities. Release 4 will encompass functionality originally scheduled for Release 3: inherent risk assessments (IRAs), compliance oversight planning (COP) and enhancements to audits, audit planning and scheduling.
The main reason for the bifurcation due to lessons learned with Release 1 and Release 2: take deliberate steps and break the effort into pieces to ensure each release is implemented properly. An example of this approach was the phased rollout of Release 1 by Region and the phased rollout of Release 2 by function.

As the project team worked with ERO Enterprise Subject Matter Experts (SMEs) to identify the specific requirements around functionality for IRAs, COPs, and audits, it became clear that these processes, which were never automated nor harmonized, would be too large for a single release. The ERO Enterprise uses 18 separate tools to complete this work today — from webCDMS and CITs to SharePoint, FTP sites and Microsoft Office tools. Given the importance of these processes to the effectiveness of the CMEP, the project team decided to focus on providing core functionality for audits, audit planning and audit scheduling in Release 3, deferring the functionality for IRAs, COPs and enhanced audit capabilities until a new Release 4 in 2022. Our target date for Release 4 will be Q3 2022. A specific go-live date for Release 4 will be announced after Release 3 is adopted.

Data Handling in Align and the Secure Evidence Locker
The ERO Enterprise at times must review information owned or produced by registered entities that relates to bulk power system operations and planning. This information often includes evidence registered entities must provide to demonstrate compliance with NERC and Regional Reliability Standards and Requirements, as well as information to determine the risk on the bulk power system. The ERO Enterprise has implemented the Secure Evidence Locker (SEL), provided and maintained by the ERO Enterprise, for use by registered entities to submit evidence (also known as artifacts) for assessment.

NERC posted a guidance document that provides clarity regarding the storage and maintenance of registered entity and ERO Enterprise-created or -provided information related to Compliance Monitoring and Enforcement Program (CMEP) activities in Align and the SEL. This guidance is to provide general principles to support ERO Enterprise program alignment, but individual facts and circumstances, as well as experience with the Align and SEL systems, may shape ERO Enterprise actions.

Reliability Standard Audit Worksheet Posted for Newly Effective Standard
NERC posted a new Reliability Standard Audit Worksheet (RSAW) for FAC-008-5. Requirement 7 from FAC-008-3 was retired, leading to this new version of the Standard—FAC-008-5 — Facility Ratings—which became effective October 1, 2021. FAC-008-5 applies to Generation Owners and Transmission Owners.

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 NERC Reliability Standards, allowing for enhanced transparency around compliance expectations.

Electricity Information Sharing and Analysis Center (E-ISAC)

E-ISAC Encourages Continued Vigilance at Start of Cyber Security Awareness Month
October marks the start of the Cyber Security Awareness Month (CSAM) “Do Your Part. #BeCyberSmart” campaign. Now in its 18th year, CSAM is co-led by the Cybersecurity and Infrastructure Security Agency (CISA) and the National Cyber Security Alliance (NCSA).

As always, NERC’s E-ISAC urges industry to continue being vigilant, proactive, and to enhance its cyber security posture. According to Manny Cancel, NERC’s senior vice president and CEO of the E-ISAC, while cyber security has been a top priority in the electricity industry for the last decade, this past year has been differentiated by the sheer volume, diversity, and sophistication of events. “As of now, this trend shows no sign of abating with high-profile ransomware and hacks, such as SolarWinds, Colonial Pipeline, Microsoft and Kaseya, impacting our economy and capturing headlines,” Cancel says.
These events bring into sharp focus the risk of a compromise moving laterally from an enterprise’s corporate environment into its operational network, with the potential to impact bulk power system reliability. While NERC is not aware of any resulting bulk power system reliability issues, Cancel cautions the need for continued vigilance and preparedness and the importance of initiatives like CSAM. “NERC and the E-ISAC are hugely supportive of dedicating a month to call attention to and raise awareness of the importance of cyber security across our nation. Reminders like this reinforce the need for continued vigilance against threats including phishing attacks and ransomware,” Cancel noted.

The E-ISAC has seen a significant increase in cyber security shares on its secure Portal in 2021 compared to the same timeframe in 2020, which has led to even greater industry awareness of threats and the ability to implement mitigation strategies. Industry is strongly encouraged to practice good cyber hygiene, apply security patches as soon as possible and share cyber incident information with the E-ISAC.

**Reliability Risk Management**

**Webinar Resources Posted**
NERC posted the presentation and streaming webinar from the September 2, 2021 Preparation for Severe Cold Weather webinar.

**Save the Date for Human Performance in Electric Power Virtual Session #3**
Please save the date and join us on October 21, 2021 from 1:00–5:00 p.m. Eastern for our third Human Performance in Electric Power virtual session. The Electric Reliability Organization Enterprise, the Human Performance Community of Practice (KnowledgeVine and ResilientGrid) and our mutual partners are exploring the vital importance that human and organizational performance play in the reliability and security of the North American power grid. We are finalizing our speaker lineup for our October session and will send the agenda with conference registration soon, but in the meantime, please make sure you save the date to attend.

**Standards**

**Webinar Resources Posted**
NERC posted the slide presentation and recording from the September 9 Project 2020-03 – Supply Chain Low Impact Revisions Industry webinar.

**Segment Representative Election Results**
The Standards Committee (SC) nomination period for the special election for Segment 9 to fill the remainder of the 2020–2021 term closed September 6, 2021. Sarosh Muncherji was nominated. An election was held from September 14–23 in which Sarosh Muncherji received the majority vote and was elected to fill the remainder of the two-year term ending December 31, 2021.

**Regional Entity Updates**

**NPCC Upcoming DER/VER Forum**
The NPCC Regional Standards Committee (RSC) will conduct a DER/VER Forum on Thursday, October 14, 2021, from 9:00 a.m. to 12:00 p.m. Eastern.

The forum will focus on transmission planning needed to facilitate increased amounts of distributed and variable energy resources. NPCC has confirmed speakers from ISO-New England, the NYISO, PSE&G Long Island, the Ontario Independent Electricity System Operator and PJM. The DER/VER Forum is offered at no charge, and no registration is required to attend. The forum will be conducted as a WebEx meeting. WebEx Registration.

Through the NPCC DER/VER Forum, the RSC works to leverage the experience of our members and other stakeholders to facilitate reliably increased amounts of distributed and variable resources.

**NPCC Fall 2021 Compliance and Reliability Webinar**
NPCC will conduct its fall 2021 Compliance and Reliability Webinar at 9:00 a.m. Eastern on November 10, 2021. Register.
Regional Entity Events

**Midwest Reliability Organization (MRO)**
- **MRO Security Training**, October 5
- **Security Conference**, October 6
- **Regional Security Risk Assessment**, October 7
- **Cold Weather Preparedness Workshop**, October 27
- **MRO SAC Q4 Meeting**, November 3
- **MRO RAC Q4 Meeting**, November 9
- **MRO CMEP Advisory Council Q4 Meeting**, November 10
- **Protective Relay Subgroup Q4 Meeting**, November 16

**Northeast Power Coordinating Council, Inc. (NPCC)**
- **Cyber Security Best Practices and Recommendations Webinar**, October 13
- **NPCC DER/VER Forum**, October 14

**ReliabilityFirst (RF)**
- **Technical Talk with RF**, October 11

**SERC Reliability Corporation**
- **Fall Reliability and Security Seminar**, October 5–6
- **System Operator Conference #4**, November 9–11

**Texas RE**
- **Fall Standards and Compliance Workshop**, October 14
- **Talk with Texas RE: CIP & NIST Controls**, November 9

**WECC**
- **2021 NERC Probabilistic Analysis Forum (NERC/WECC)**, October 5–7
- **Internal Controls Practices Group training**, October 6
- **Reliability and Security Workshop**, October 26
- **Grid Fundamentals class**, November 2–3
- **Grid-Forming Inverter-Based Resources webinar**, November 17

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](#).

- **2021 Probabilistic Analysis Forum** – October 5–7, 2021 | [Day 1 Registration] | [Day 2 Registration] | [Day 3 Registration]
- **Member Representatives Committee Pre-Meeting Conference Call and Informational Webinar** – 11:00 a.m.–12:00 p.m. Eastern, October 6, 2021 | [Register] | [Agenda]
- **Monitoring and Situational Awareness Technical Conference: Session 2 – Distributed Energy Resources** – 1:00–3:00 p.m. Eastern, October 7, 2021 | [Register]
- **GridSecCon 2021** – October 19–20, 2021 | [Register]
- **Human Performance in Electric Power Virtual Session #3** – 1:00–5:00 p.m. Eastern, October 21, 2021 | Registration Coming Soon
- **Monitoring and Situational Awareness Technical Conference: Session 3 – Technique and Workforce Challenges** – 1:00–3:00 p.m. Eastern, October 28, 2021 | [Register]
- **Distributed Energy Resource Modeling Capabilities in Simulation Tools Webinar** – 2:00–4:00 p.m. Eastern, October 28, 2021 | [Register]
- **2021 EPRI-NERC-NATF Planning and Modeling Webinar** – 1:00–4:00 p.m. Eastern (each day), November 3–4, 2021 | [Day 1 Registration] | [Day 2 Registration]
- **Virtual Board of Trustees Committees, Member Representatives Committee, and Board of Trustees Meetings** – November 3–4, 2021 | Registration Coming Soon

Filings

**NERC Filings to FERC in September**

*September 15, 2021*

[Request to Expend Funds from NERC’s OCR](#) | NERC submits a Request to Expend Funds from Its Operating Contingency Reserve (OCR).
Motion to Intervene and Comment on Complaint | NERC submits a Motion to Intervene and Comment on a complaint regarding the use of Chinese equipment in the Bulk Electric System.

Petition for BCSI Standards | NERC submits a petition for approval of proposed Reliability Standards CIP-004-7 and CIP-011-3 addressing Bulk Electric System Cyber System Information (BCSI) Access Management.

CIP SDT Schedule September Update Informational Filing | NERC submits 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 the CIP Reliability Standards.

September 24, 2021

September 28, 2021

September 29, 2021
Petition of NERC and the Regional Entities for Approval of Revisions to the ROP | NERC and the Regional Entities submit a petition for approval of revisions to the NERC ROP related to the CMEP, the Personnel Certification and Credential Maintenance Program and the Training and Education Program.

Amended 2022 NERC Budget | NERC submits an amendment to its request for acceptance of its 2022 business plan and budget, 2022 business plans and budgets of the Regional Entities and for approval of proposed assessments to fund the budgets.

NERC Canadian Filings to FERC in September

September 23, 2021
Petition for BCSI Standards | Attachments

Careers at NERC

Associate Counsel or Counsel – Enforcement
Location: Washington, D.C.
Details

Senior Paralegal – Risk Audit
Location: Atlanta/Washington, D.C.
Details

BPS Cyber Security Specialist
Location: Atlanta
Details

Lead Engineer – Event Analysis
Location: Atlanta
Details

Senior Data Analyst
Location: Atlanta
Details

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