

# NERC News

## July 2022

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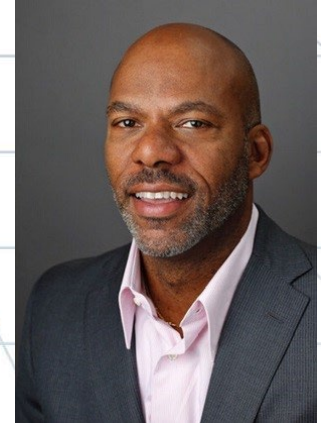
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### ERO Executive Spotlight – Charles Dickerson President and CEO, NPCC

#### Reliability Assurance in a Rapidly Changing Decarbonization Landscape

There is an adage that says, “The future is bright,” and given all the decarbonization policies that are being put into place, we should hope that not only is our future bright, but that it is windy too. As each state and province in the NPCC Region continues to enact progressive decarbonization policies to maximize the use of new, efficient and clean electricity resource technologies, utility operators and planners will need newer and improved methodologies to keep pace with both the changing resource mix and the increasing



connected and mobile loads. In fact, a recent National Renewable Energy Laboratory study estimated that in order to meet the needs of a high electrification scenario, power generation capacity will need to double between now and 2050.

While these changes are happening across the continent, policy objectives in the Northeast for renewable energy, electric vehicles, building electrification and offshore wind development are occurring at a near breathtaking rate. The resultant changes in the time-varying characteristics (future net load will depend on when electric vehicle charging will occur as well as when solar and wind resource output materialize) and location of future electricity supply and demand resources in the NPCC Region will present challenges in planning, operating and maintaining the reliability of the bulk power system.

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**(Cont'd)**

In order to keep pace with (and ultimately stay ahead of) the changes, NPCC, in partnership with its Regional Standards Committee, recently conducted multiple public outreach sessions designed to promote communication, coordination and collaboration on emerging industry issues. Earlier this year, NPCC hosted the [Distributed Energy Resources \(DER\)/Variable Energy Resources \(VER\) Forum](#), which examined the impacts of future electric vehicle charging requirements on the bulk power system. Another similar forum, addressing the impacts of proposed building electrification objectives, is scheduled for August 11.

In furtherance of our goal to identify, reduce and mitigate reliability risks in light of the Region's decarbonization objectives, NPCC updated its [DER/VER Guidance Document - Considerations to Optimize and Enhance System Resilience and Reliability](#) to include resource planning impacts, FERC Order 2222 on DER aggregation, interconnection standards and a new appendix on transmission-connected inverter-based resources. This document along with the continued use of updated planning and operating assessments will be necessary to ensure a more accurate understanding of how DER/VER interact with the Region's interconnected grid.

These NPCC activities complement and support the continent-wide efforts underway at the ERO Enterprise to define DER and address the aspects related to planning and modeling by the NERC System Planning Impacts from Distributed Energy Resources Working Group, also known as the System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG). Correctly understanding the modeling of DER/VER in transmission system integration will result in effective interoperability and reliable operation.

Finally, we must maintain coordination with our federal government partners. NPCC and its members participate in the U.S. Department of Energy and the Department of the Interior's Bureau of Ocean Energy Management Atlantic Offshore Wind initiatives to collect input and collaborate on strategies to enable the development of sustainable and equitable offshore wind transmission.

There is so much being done, and yet more is needed to adapt to the rapidly changing decarbonization landscape. Let us all continue to communicate, collaborate and coordinate activities within the Regions as we fulfill our mission to ensure a highly reliable and secure bulk power system amidst these challenges.

May our collective future be bright and windy too. ■■■

**Headlines****Extreme Weather, Inverter Issues, and Cyber Threats Pose Unprecedented Challenges to the Grid**

The grid withstood an unprecedented combination of challenges in 2021 — extreme and sustained weather events, increasingly sophisticated and severe cyber and physical threats and the urgent need to reliably integrate the rapidly growing fleet of inverter-based resources — that tested grid reliability, resilience and security. In spite of these conditions, NERC's [2022 State of Reliability](#), which looks at past performance, found that operators maintained grid reliability with one notable exception — the February 2021 Texas and South-Central United States cold weather event that led to the largest controlled load shed event in North American history.

[Full Announcement](#) | [2022 State of Reliability](#) | [2022 State of Reliability Infographic](#)

**NERC Staff Participated in 2022 IEEE Power & Energy Society General Meeting**

NERC staff participated in the Institute of Electrical and Electronics Engineers' (IEEE) Power & Energy Society (PES) General Meeting. The meeting, "Powering a Sustainable Future in a Changing World," brings together electric power and energy experts and stakeholders from across the globe to share the latest advancements in technology and ideas that will propel our future.

Several members of NERC's staff presented a number of peer-reviewed technical papers, and participated in the conference as panelists:

- **Svetlana Ekisheva**, Principal Data Science Advisor, Advanced System Analytics and Modeling
- **Howard Gugel**, Vice President, Engineering and Standards
- **William Lamanna**, Senior Engineer
- **Mark Lauby**, Senior Vice President and Chief Engineer
- **Mark Olson**, Manager, Reliability Assessments
- **Mohammed Osman**, Lead Engineer
- **Donna Pratt**, Performance Analysis Manager
- **Wei Qiu**, Lead Engineer, Event Analysis
- **Ryan Quint**, Director, Engineering and Security Integration
- **JP Skeath**, Engineer II
- **Lee Thaubald**, Senior Application Specialist, Performance Analysis

“NERC’s staff provides leadership on issues of reliability, security and resilience,” said Lauby, NERC’s senior vice president and chief engineer. “Sharing state-of-the-art findings and approaches to address emergent and projected risks to the reliable operation of the bulk power system in a venue like the IEEE PES General Meeting is a crucial part of NERC’s mission as the Electric Reliability Organization. Not only does it provide another venue for collaboration and validation, but the ability to learn from and leverage another important part of the reliability ecosystem.”

## Robb Participated in NARUC 2022 Summer Policy Summit

Jim Robb, NERC’s president and CEO, recently participated in the NARUC 2022 Summer Policy Summit in San Diego. Robb spoke during the opening general session panel — The Transforming Grid – Embracing Change While Preserving Reliability. The session, moderated by Judith Jagdmann, NARUC president, provided essential insights from NERC assessments and industry experts alike to help regulators support clean energy evolution in a reliable manner.

## Robb Discusses Summer Reliability Outlook and Supply Chain Challenges on APPA Podcast

Earlier this month, Jim Robb discussed the [2022 Summer Reliability Assessment](#) and the supply chain challenges

facing the North American grid on American Public Power Association’s “Public Power Now” podcast.

[Public Power Now: NERC President and CEO Discusses Summer Assessment and Supply Chain Challenges](#) ■■■

## Compliance

### Webinar Resources Posted

NERC posted the [slide presentation](#) and [recording](#) from the July 6, 2022 Project 2021-04 – Modifications to PRC-002-3 webinar.

### Functional Mapping Enhancements in Development for ERO Portal CORES Application

The ERO Enterprise is currently developing an enhanced version of the functional mapping module within the Centralized Organization Registration ERO System (CORES) on the ERO Portal. This briefing is intended to notify registered entities of upcoming changes; however, no action is required at this time.

CORES includes a module called Functional Mapping that is used to identify critical functional relationships between registered entities. During the registration process, the ERO Enterprise performs a review of functional relationships identified by the NERC Rules of Procedure (ROP), certain Reliability Standards and other important entity relationships.

Functional Mapping identifies the relationships between registered entities by their function, which may also be used by registered entities for compliance purposes. NERC standards also use the registered functions to create compliance relationships. When registered entities map to each other, they ensure there are no gaps in their compliance nor functional registration. The ERO Enterprise also uses functional mapping information for ensuring that there are not any gaps in registration, for determining entity risk, and for other CMEP activities. Several registered entities have volunteered to participate in a focus group that will provide the ERO Enterprise with valuable registered entity input and feedback during the developmental process.

This enhancement to functional mapping capabilities will have several expected benefits, which include:

- New “Acknowledgment” functionality
- New Notifications for both registered entities and the ERO Enterprise
- Improved user interface
- Improved data entry controls
- Improved data architecture
- Consolidate existing data from other systems and applications

Additional updates will be provided as the project progresses. If there are any questions, please contact your Regional Entity or send an email to [nerc.registration@nerc.net](mailto:nerc.registration@nerc.net).

### **CIP-014-3 RSAW Posted**

A [Reliability Standard 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 has posted an RSAW for [CIP-014-3](#). CIP-014-3 applies to physical security of Transmission stations and Transmission substations and their associated primary control centers. The new RSAW includes minor updates following the FERC Order Approving Modifications to the Compliance Section of Reliability Standard CIP-014. ■■■

### **Event Analysis, Reliability Assessment, and Performance Analysis**

#### **Save the Date for the 2022 Winter Weather Webinar**

NERC will be holding its annual Preparation for Severe Cold Weather Webinar on September 1, 2022. The webinar format has been revised to include presentations from various industry, stakeholder and ERO Enterprise participants. The event will be held virtually and more details will be announced shortly.

### **EPRI, ESIG, NAGF, and NERC Announce Joint Generator Interconnection Workshop**

This major online workshop by the Electric Power Research Institute (EPRI), the Energy Systems Integration Group (ESIG), the North American Generator Forum (NAGF) and NERC will cover the important relationships between interconnection process reforms and new standards for inverter-based resources. The workshop will provide education on both topics and how they interact for improving the generation interconnection process and ensuring more economic, sustainable and reliable operation of the future grid.

Interconnection queues around the United States are backlogged by approximately 1,500 GW of generation projects facing multi-year study delays. FERC recently issued two proposed rulemakings to address some of these challenges — “Building for the Future through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection” and “Improvements to Generator Interconnection Procedures and Agreements” — with comments to FERC due this fall. Separately, recent NERC disturbance reports have indicated gaps in interconnection studies, modelling, and interconnection requirements for inverter-based resources. Also, the new IEEE 2800 standard for “Interconnection and Interoperability of Inverter-Based Resources Interconnecting with Associated Transmission Electric Power Systems” has recently been approved and, if used, will provide additional benefits for both reliability and the interconnection study process.

This timely, online workshop will show the important relationships between these topics, as well as provide technical understanding of each topic area, in a way that will facilitate constructive discussion and thoughtful feedback prior to the upcoming FERC comment deadlines. While panelists will include engineering and technical experts on each topic, the workshop is intended for a broad engineering, policy and decision-maker audience. The workshop includes three, half-day online sessions on August 9, 10 and 11. Participation in all three days is recommended, but not required. You will need to register separately for each half-day session you plan to attend. We will provide materials and recordings to all sessions

for those that registered at the conclusion of the workshop. There is no charge for the workshop.

Registration details are below and are also available under Upcoming Events.

- [Day 1: The Interconnection Process](#)  
1:00–4:00 p.m. Eastern, August 9, 2022
- [Day 2: Interconnection Studies and Modeling](#)  
1:00–4:00 p.m. Eastern, August 10, 2022
- [Day 3: IBR Interconnection Requirements and Next Steps](#)  
1:00–4:00 p.m. Eastern, August 11, 2022

## Lessons Learned Posted

NERC posted two new lessons learned on the [Lessons Learned page](#). A successful lesson learned 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.

The [Forecasted High Winds](#) Lesson Learned focuses on the implementation of coping strategies by a specific utility developed from prior experience to address high-speed wind days, which can pose challenges to transmission, distribution and wind-generation availability. It is of primary interest to Transmission Owners, Transmission Operators, Generator Owners, Generator Operators, Reliability Coordinators and Balancing Authorities.

The [Tower Climber Incident](#) Lesson Learned addresses an incident in which, on an August day, a climber was reported to be on the top of a tower shared by three circuits (a 500 kV circuit, a 230 kV circuit and a 115 kV circuit). As a result, the three circuits were required to be manually removed from service to protect the safety of the climber while taking into account system limitations that may be caused by their removal from service. They were later returned to service after the climber was reported to be safely down from the tower. It is of primary interest to Reliability Coordinators, Balancing Authorities, Transmission Operators and Transmission Owners. ■■■

## Standards

### Resources Posted

NERC posted the [slide presentation](#) and [recording](#) from the July 6, 2022 Project 2021-04 – Modifications to PRC-002-3 webinar. ■■■

### 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](#).

- **EPRI–ESIG–NAGF–NERC Generator Interconnection Workshop** – August 9–11, 2022 | [Day 1 Registration](#) | [Day 2 Registration](#) | [Day 3 Registration](#)
- **Board of Trustees Committees, Member Representatives Committee, and Board of Trustees Meetings** – August 17–18, 2022, Vancouver, Canada | [Register](#)
- **Standards Committee Conference Call** – 1:00–3:00 p.m. Eastern, August 24, 2022 | [Register](#)
- **GridSecCon 2022** – October 18–19, 2022 | [Register](#)
- **Preparation for Severe Cold Weather Webinar** – September 1, 2022 | Registration Details Coming Soon
- **2022 EPRI–NATF–NERC Annual Transmission Planning and Modeling Workshop** – November 2–3, 2022 | Registration Details Coming Soon ■■■

## Regional Entity Events

### Midwest Reliability Organization (MRO)

- [CMEP Advisory Council Monthly Call](#), August 9
- [MRO Protective Relay Subgroup Q3 Meeting](#), August 16
- [MRO Reliability Advisory Council Q3 Meeting](#), August 17
- [MRO Compliance Monitoring & Enforcement Program Advisory Council Q3 Meeting](#), September 21
- [Organizational Group Oversight Committee](#), September 21

- [MRO Board of Directors Meeting](#), September 22
- [MRO Security Conference Training](#), October 4
- [MRO Security Conference](#), October 5

## [NPCC](#)

- [Regional Standards Committee Meeting](#), August 10
- [DER/VER Forum](#), August 11

## [ReliabilityFirst \(RF\)](#)

- [8th Annual Protection System Workshop](#), August 3
- [5th Annual Human Performance Workshop](#), August 4
- [Technical Talk with RF](#), August 15
- [Technical Talk with RF](#), September 19
- [Fall Workshop](#), September 27
- [Fall Workshop](#), September 28

## [SERC Reliability Corporation](#)

- [System Operator Conference #3 \(SOC3\)](#), September 20–22
- [SERC Risk Committee](#), September 21
- [SERC Board of Directors Meeting](#), September 22
- [SERC Fall Reliability & Security Seminar](#), October 4–5
- [SERC Sponsored Physical Security Professional Class \(PSP\)](#), October 24–28
- [System Operator Conference #4 \(SOC4\)](#), November 8–10

## [Texas RE](#)

- [Talk with Texas RE: Cold Weather Project Update](#), August 4
- Quarterly [MRC](#), [AG&E](#), and [Board](#) Meetings, August 24
- [Extreme Events Resiliency Workshop](#), September 20–21

## [WECC](#)

- [Resource Adequacy Series: Assessments, A Comparative Overview Webinar](#), August 3
- [Joint Guidance Committee Virtual Meeting](#), August 5

- [Compliance Open Webinar](#), August 18
- [Grid Fundamentals Virtual Class](#), August 23–24
- [Reliability Assessment Committee Virtual Meeting](#), August 25
- [Board of Directors and Annual Meeting Hybrid/Las Vegas](#), September 13–14 ■■■

## [Filings](#)

### **NERC Filings to FERC in July**

*July 18*

[Compliance Filing on CMEP ROP](#) | NERC submitted to FERC a compliance filing consisting of updates to the NERC Rules of Procedure (ROP) (Section 400 and Appendix 4C) in response to the May 19, 2022 FERC Order. ■■■

## [Careers at NERC](#)

### **Enforcement Analyst**

Location: Washington, D.C.

[Details](#)

### **CIP Assurance Advisor**

Location: Atlanta

[Details](#)

### **Data Science Advisor**

Location: Atlanta

[Details](#)

### **Procurement Manager**

Location: Atlanta

[Details](#) ■■■