

NERC News

February 2021

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Update on Recent Extreme Cold Snap in South-Central United States

The extreme cold weather that so heavily impacted Texas and parts of the South-Central United States in February caused significant loss of generation, subjecting more than four million Texans to local blackouts and other cascading impacts, including municipal water system failures. The human toll — suffering, deaths and economic loss — makes the 2021 Texas winter a highly significant reliability event. It demonstrates the criticality of electric service and that the ERO's mission remains as important as ever.

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Extreme Cold Snap (cont'd)

We must understand the Texas event and take preventative action. As an initial step, NERC and FERC have begun an inquiry into what happened in Texas, the Midwest and the South-Central states.

The inquiry, which will culminate in a report later this summer, will cover three themes:

- Comprehensive, detailed analysis of the event and root causes.
- Commonalities with other cold weather events, including the 2011 winter event that also impacted Texas significantly.
- Findings and recommendations for further action.

The Federal Power Act charges NERC to assess the reliability and adequacy of the bulk power system. Our assessments evaluate the performance of the grid, identify reliability trends, anticipate challenges and provide a technical platform for important policy discussions. By identifying and quantifying emerging reliability and security issues, we are able to provide risk-informed recommendations and support a learning environment for industry to pursue improved reliability performance.

NERC's assessments have consistently highlighted reliability risk in Texas. In our [2020/2021 Winter Reliability Assessment](#), NERC warned of the potential for extreme generation resource outages in ERCOT due to severe weather and the potential need for grid operators to employ operating mitigations or energy emergency alerts to meet peak demand. Even while successfully meeting summer demand in 2019, our [2020 State of Reliability](#) found that Texas continued to have insufficient resources to meet its reference margin level. NERC's [2020 Long-Term Reliability Assessment](#) pointed to low operating reserves during the summer and during the months of March and October of the study years (2022 and 2024).

A significant cold weather event occurred in this same region during the first week of February 2011. In that event, low temperatures were in the teens for five consecutive mornings with many sustained hours of below freezing temperatures throughout Texas and New Mexico. Between February 1–4, 210 individual generating units within ERCOT's footprint experienced an outage, a derate or a failure to start. At the peak of the crisis, a controlled load shed of 4,000 MW affected 3.2 million customers in Texas. During the course of the event, power losses also occurred in parts of New Mexico and Arizona.

Following the 2011 event, FERC and NERC produced a joint inquiry report, [Outages and Curtailments during the Southwest Cold Weather Event of February 1–5, 2011: Causes and Recommendations](#). Key recommendations included:

- Generation owners and operators should ensure adequate construction, maintenance and inspection of freeze protection elements, such as insulation, heat tracing and windbreaks.
- Reliability Coordinators and Balancing Authorities should require generators to provide accurate data about the temperature limits of units so they know whether they can rely on those units during extreme weather.
- Balancing Authorities should review the distribution of reserves to ensure that they are useable and deliverable during contingencies.
- Finding that natural gas service was also impacted by the event, state lawmakers and regulators in Texas and New Mexico, working with industry, should determine if weather-related production shortages could be mitigated through the adoption of minimum winterization standards for natural gas production and processing facilities.

In response, and after significant consideration, NERC and industry developed and published a [reliability guideline](#) in 2012 to help industry develop their own readiness programs for generating units throughout North America. The guideline, which has since been

updated, provides a general framework for developing winter weather readiness programs for generating units with a focus on maintaining individual unit reliability and preventing future cold-weather related events. Each year, NERC and the Regional Entities hold winter preparation webinars to reinforce the guideline's recommendations.

Another significant cold weather event occurred in 2018 that also impacted grid reliability. A joint inquiry between NERC and FERC following that event recognized that severe winter weather continued to present significant reliability risk, and NERC concluded that a mandatory cold weather standard was needed. In September 2019, NERC initiated development of [new cold weather requirements](#) through enhancements to existing mandatory Reliability Standards. The standards development initiative is focused on generator unit winterization preparedness and communication protocols between generator units and the entities that monitor bulk electric grid performance. The standards drafting team and observers consist of a diverse set of representatives from all areas of industry, including small and large generator owners, regulatory organizations, federal agencies and grid operators. We expect to submit the winterization requirements to FERC for approval this year.

Severe weather this winter underscores NERC's critical role in assuring reliability and resilience. Our work with the Regional Entities, industry and our government partners is essential to supporting the foundation of our society. Nearly 400 million North Americans are depending on us! ■■■

Headlines

Save the Dates for GridSecCon 2021

NERC and Texas RE are co-hosting the 10th grid security conference, GridSecCon, on October 19–20, with training opportunities available on October 18. GridSecCon brings together cyber and physical security leaders from industry and government to deliver expert training sessions, share best practices, present lessons learned, and share effective threat mitigation programs.

The event will be held virtually due to the ongoing pandemic. More details will be made available on the [E-ISAC website](#), [NERC website](#), and [Texas RE website](#). We look forward to seeing you there virtually. For more information or assistance, please contact events@eisac.com.

NPCC Appoints Charles Dickerson as New President and CEO

The Northeast Power Coordinating Council, Inc. (NPCC) is pleased to announce the appointment of Charles Dickerson to succeed Edward A. Schwerdt as NPCC's president and CEO. Dickerson will assume his responsibilities on March 8, 2021. With NPCC's focus on identifying and addressing new and emerging issues impacting northeastern North America bulk power system reliability and security, Dickerson looks forward to continuing NPCC's commitment to the collective vision of a highly reliable and secure North American bulk power system and assuring the effective, efficient reduction of risks to the reliability and security of the grid. [NPCC Announcement](#)

FERC, NERC to Open Joint Inquiry into 2021 Cold Weather Grid Operations

FERC and NERC announced that they would open a joint inquiry into the operations of the bulk power system during the extreme winter weather conditions experienced by the Midwest and South-Central states. The severe cold weather in February contributed to power outages affecting millions of electricity customers throughout the region.

For now, the emphasis must remain on restoring power to customers and securing the reliability of the bulk power system. FERC and NERC will work with other federal agencies, states, Regional Entities and utilities to identify problems with the performance of the bulk power system and, where appropriate, solutions for addressing those issues.

ERO Enterprise Launches Quarterly Compliance Podcast

NERC is pleased to announce the launch of the new quarterly ERO Enterprise compliance podcast called "[Currently Compliant](#)." Hosted by ERO Enterprise subject

matter experts (SMEs), “Currently Compliant” is intended to be a quick way to bring attention to frequently asked questions on which the SMEs have some clear insights to share. While there are multiple places to look for compliance material, “Currently Compliant” hopes to be viewed like a Q&A session after a workshop or catching up with the experts over an appetizer and beverage at a reception. The SMEs always strive to bring you useful and correct insights, but the facts and circumstances of your situation may not fit their assumptions. It is always best to reach out to compliance contacts at your relevant Regional Entity for specific questions.

The inaugural episode is focused on [PRC-019-2 R1](#) and features the following regional SMEs:

- **Keith Smith**, Manager, O&P Compliance Monitoring, Texas RE
- **Rumyana Kreidler**, Senior Risk Assessment and Mitigation Engineer, MRO
- **Kimberly Griffith**, Senior Compliance Engineer, NPCC
- **Brian Thiry**, Manager, Entity Engagement, ReliabilityFirst
- **Ryan Mauldin**, Senior Compliance Assurance Advisor, NERC

For any suggestions or questions, please contact compliancequestions@nerc.net and put “Currently Compliant” in the subject line. [Currently Compliant: Episode 1](#)

NERC Report Highlights Major Contribution to Reliability Offered by Battery Storage

NERC’s [Impacts of Electrochemical Utility-Scale Battery Energy Storage Systems on the Bulk Power System](#) report was recently released. The assessment emphasizes some of the potential reliability benefits that battery energy storage systems can offer, such as providing peaking capacity; minimizing the need for new generation and transmission infrastructure; and providing essential reliability services (e.g., frequency response, ramping and voltage support).

“North America currently has less than 2 GW of battery storage, but that capacity is projected to increase 100

percent to 4 GW by 2023,” said Thomas Coleman, NERC’s chief technical advisor of Engineering and Standards. “The rapid transformation of the transmission grid to meet carbon goals while maintaining reliability, security and resilience is a primary focus for industry and regulators. It is abundantly clear that battery energy storage systems have a key role in accomplishing that goal.”

While the report found existing NERC Reliability Standards adequately cover existing battery storage, it recommends that NERC should conduct a thorough assessment of existing standards and guidelines to ensure that they adequately consider the projected large increase in battery energy storage systems. In addition, data on battery storage lacks consistency across reporting entities, necessitating a need for better reporting mechanisms for this type of data. NERC recommends that entities that compile battery data information enhance both their data and their reporting methods.

The report identifies a number of other key findings and recommendations for consideration and implementation by industry and regulators that will leverage the reliability benefits those battery energy storage systems can offer. Based on the findings contained in the report, NERC recommends the following:

- System planners should prepare for a significant increase in the critical mass of battery storage. They should also ensure that deployed battery storage provides the necessary essential reliability services to maintain bulk power system reliability, security and resilience.
- As regulators provide more incentives for the viability of battery storage to provide capacity and energy, system planners must adequately plan the system for a projected large increase in battery storage, understanding the impact of size, location and operating characteristics on maintaining the reliable operation of the grid.
- The value of battery storage as a complement to variable energy resources, such as wind and solar, should be fully understood by system planners and operators. System planners must conduct adequate studies to determine the dynamic stability impacts of battery storage

interconnection, the capability to provide capacity to meet long-term and contingency reserve margin requirements and the ability to provide essential reliability services.

- The NERC Reliability and Security Technical Committee (RSTC) should form a task force to study the forward-looking implications of battery energy storage systems and their overall effects on bulk power system reliability and resilience.

“As we continue to assess the implications created by the integration of cutting-edge technologies to the electrical grid and the increasing amount of projected battery storage in the future, industry and regulators must pay more attention to bulk power system-connected battery energy storage systems,” Coleman added.

NERC Publishes Annual Report Highlighting Pandemic Response, Industry Collaboration, and Effectiveness and Efficiency Efforts

As highlighted in the [NERC 2020 Annual Report](#), this past year was a one of continued growth and transformation with a worldwide pandemic pushing to the forefront the criticality of the ERO Enterprise’s collective mission and vision of assuring the reliability, resilience and security of the North American bulk power system.

Over the course of 2020, COVID-19 highlighted the need for greater agility, increased collaboration and expanding the ERO Enterprise mindset beyond compliance. NERC quickly learned how to engage effectively with stakeholders to address important issues, such as the security solutions developed for the new Compliance Monitoring and Enforcement Program (CMEP) initiatives, consisting of the Align project and the Secure Evidence Locker, and continued its core monitoring function with the Regional Entities working through approaches to move work traditionally performed onsite to being performed virtually.

NERC’s 2020 successes are due, in large part, to the collaboration that occurred across government and industry. Bringing CEOs together with government leadership, NERC was able to cut through bureaucracy, focus high-level attention on critical needs and share situational awareness. Working closely with FERC, NERC

was able to provide regulatory relief to industry so focus could remain on protecting workers and retooling operating protocols to maintain the reliability and security of the grid with a largely remote workforce.

“All of us who are part of the reliability and security ecosystem — the ERO Enterprise, industry, our government partners and others, such as Electric Power Research Institute (EPRI) and the North American Transmission Forum (NATF) — came together to protect our teammates and execute our mission on behalf of the North Americans who depend on a reliable supply of electricity to support their lives,” writes Jim Robb, NERC’s president and CEO. “While I think we will all be happy to see 2020 in the rearview mirror, we can all be very proud of what we have accomplished and what we have learned about collaboration and resilience.”

Board Welcomes New Trustees, New Chair; Recognizes Outgoing Chair Thilly and Trustee Schori

NERC’s first Board of Trustees meeting of 2021 welcomed two new Board members, reflected on 2020 achievements and focused on current supply chain efforts. The Board acted on two reliability proceedings and accepted the framework to address known and emerging reliability and security risks

Ken DeFontes and Robert Clarke presided over the meeting as the Board’s new chair and vice chair, respectively. DeFontes takes over from Roy Thilly, who served as the Board chair from Feb. 2017–Feb. 2021 and will continue as a trustee. Outgoing Board member Jan Schori was honored with a resolution in recognition of her contributions to NERC and the industry. The Board welcomed returning trustees George Hawkins and Rob Manning as well as two new trustees: Larry Irving and Sue Kelly. Irving is president and chief executive officer (CEO) of the Irving Group, providing strategic advice and assistance to international telecommunications and information technology companies. Kelly served as president and CEO of the American Public Power Association, the national trade association representing public power utilities, from 2014 to 2019.

Maria Pope, president and CEO of Portland General Electric, and Richard Glick, FERC chair, provided opening remarks. Pope reviewed industry’s significant

investments of capital and human resources toward mitigating the impacts of wildfires throughout the West. She described the effectiveness of mutual assistance throughout the region and unprecedented industry coordination and lauded WECC's significant contributions toward mitigations. Pope concluded her remarks with a reminder that the ERO Enterprise should continue to be a leading voice on wildfire risk.

Glick reflected on the shared mission of FERC and NERC, highlighting the need for continued close communication. Speaking to grid reliability, Glick described cyber security as a top priority for FERC and the greatest reliability challenge going forward. He noted that the recent supply chain compromise might warrant additional evolution in FERC's approach to cybersecurity. Glick concluded his remarks by stressing the importance of natural gas supply to electric reliability, calling for more robust cyber security protections for the natural gas pipeline system.

Jim Robb, NERC president and CEO, began his remarks by reflecting on the past year. "At last year's February Board meeting, we were just beginning to hear about COVID-19 with little understanding of the future. Now, 12 months later, the supply chain compromise has emerged as another top priority, and we continue to deal with the pandemic," Robb said. "It's been a time of change and transition, which continues with welcoming new leadership to the Member Representatives Committee and Board of Trustees. The strength of the reliability ecosystem comes from our ability to come together during times of stress. After an experience like no other year in history, I'm confident that we will continue to work collaboratively and are well equipped to meet any new challenges in 2021."

Robb discussed the Reliability Leadership Summit, the two-day virtual event that brought together industry experts and more than 400 participants to address topics related to known and emerging risks to bulk power system reliability. Topics included grid transformation, extreme natural events, security risks and critical infrastructure interdependencies. The observations from this summit will inform the Reliability Issues Steering Committee's report, expected in August, which will identify, assess and help manage reliability priorities across the ERO Enterprise

Robb also noted the accomplishments of the ERO Enterprise found in the 2020 Annual Report, including pandemic activities, the Align project and supply chain efforts. "The 2020 Annual Report reflects a tremendous amount of work, and I'm proud of how the ERO and industry rose to the challenges we were presented with in 2020. I encourage you to read through this report."

Howard Gugel, vice president of Engineering and Standards, provided an update on supply chain efforts. These efforts include the modification of the Supply Chain Standards to address Electronic Access Control and Monitoring System and Physical Access Control System (completed in 2020) and current work to address supply chain issues for low-impact Bulk Electric System (BES) Cyber Assets in CIP-003; the issuance of two level 2 alerts and a level 1 alert (2020 and 2021); and continued partnerships with the Department of Energy on vendor work and the North American Transmission Forum on certifications.

FERC directed NERC to conduct a study to assess the implementation of CIP-003-7 and to determine whether the electronic access controls provide adequate security. The Regional Entities are collecting data, which will be completed in the first quarter of 2021. Gugel said a draft report is expected in June 2021, with the report due to FERC by July 2021.

"The evaluation of the effectiveness of electronic access controls in CIP-003 for low-impact BES Cyber Assets will assist in understanding the effectiveness of other controls in this standard," Gugel said.

A supply chain pilot project is also underway, Gugel added, which seeks to understand the pervasiveness of equipment manufactured by Chinese telecommunication companies. The study, based on the joint FERC-NERC white paper, will provide a better understanding of the potential risks to the reliability and security of the grid. Other activities include evaluating standards for supply chain effectiveness and gap identification, addressing system-to-system communications and implementing virtualization.

In Board action:

- The Board voted to withdraw CIP-002-6 – Cyber Security – BES Cyber System Categorization,

which was filed with FERC in June. In light of recent cybersecurity events and the evolving threat landscape, additional caution is warranted regarding any criteria that may permit more entities to categorize BES Cyber Systems as low impact, and NERC recommends further study. The Board directed NERC to work with stakeholders and conduct the necessary additional studies and, recognizing the complexity of the undertaking, to complete expeditiously its analysis of the risk. NERC will report to the Board on the status of this work on a quarterly basis.

- The Board adopted FAC-008-5 – Facility Ratings, which was undertaken in response to FERC Order No. 873. In addition, they voted to retain Requirement R8 and retire Requirement R7 from FAC-008-3. The Facility Ratings standard is part of NERC’s focus on ensuring NERC Reliability Standards appropriately address risks to the bulk power system through its Standards Efficiency Review.

In other business, the Board accepted the white paper, *Framework to Address Known and Emerging Reliability and Security Risks*, which the Reliability Issues Steering Committee and the Reliability and Security Technical Committee endorsed. The white paper identifies the policies, procedures and programs developed to support the ERO Enterprise’s mission and incorporates them into a six-step risk management framework. The white paper reviews how resilience is an important component of reliability risk management and considers the application of ERO Enterprise policies, procedures and programs within time required to apply the mitigation and the likelihood and severity.

“As we take pride in the continued reliable operation of the grid during such a difficult year, we do so with recognition that 2020 had its own challenges for reliability and security with many more still ahead,” Robb concluded. “However, through our shared commitment to a reliable, resilient and secure North American bulk power system, I am confident we will rise to any challenge.”

Board presentations are located on NERC’s website. The next Board of Trustees meeting is May 13. A decision will be made by March 10 as to whether the meeting will take place virtually or in Washington, D.C., as originally scheduled. ■■■

Compliance

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 they can achieve and demonstrate compliance. For many standards, this is straightforward. For others, a variety of approaches may achieve the same objective. Industry develops Implementation Guidance, for industry, and the guidance requires ERO Enterprise endorsement. This guidance provides examples for implementing a standard.

The NERC Compliance Assurance department has posted three new documents to the Proposed Implementation Guidance section of the [NERC Compliance Guidance web page](#):

- [CIP-005-7 R3 Electronic Security Perimeters \(2019-03 SDT\)](#)
- [CIP-010-4 R1 Configuration Change Management and Vulnerability Assessments \(2019-03 SDT\)](#)
- [CIP-013-2 Supply Chain Risk Management Plans \(2019-03 SDT\)](#)

Compliance Monitoring and Enforcement Annual Report Now Available

This annual report highlights key ERO Enterprise CMEP activities that occurred in 2020, provides information and statistics regarding those activities and identifies the ERO Enterprise’s 2021 CMEP priorities. In 2020, CMEP activities throughout the ERO Enterprise reflected continuing implementation of a risk-based approach that has enabled the ERO Enterprise to focus resources on risks to the reliability of the bulk power system, risks specific to registered entities and risks pertaining to serious noncompliance. In 2020, the ERO Enterprise:

- Worked with FERC, Canadian provincial authorities and industry to maintain the reliability of the bulk power system during the novel coronavirus pandemic through activities such as:
 - Providing guidance to industry regarding regulatory discretion during the pandemic;
 - Posting frequently asked questions regarding the guidance;
 - Temporarily expanding the Self-Logging program to address minimal and moderate risk potential noncompliance related to registered entities' coronavirus response efforts;
 - Moving to off-site compliance monitoring engagements, implementing the use of technology to make those engagements successful and documenting when on-site follow-up compliance monitoring engagements will be needed once conditions permit in order to resolve any remaining concerns; and
 - Conducting remote visits to evaluate changed conditions related to organization certification;
- Completed the roll-out of the Centralized Organization Registration ERO System (CORES) project;
- Prepared for the release of the Align and Secure Evidence Locker tools in 2021;
- Implemented a new process for filing and submittal of CIP noncompliance information to FERC in which NERC requests that FERC treat the entire filing or submittal as Critical Energy/Electric Infrastructure Information (CEII) and does not publicly post redacted CIP noncompliance information;
- Addressed FERC directives in its order accepting NERC's Five-Year Performance Assessment through proposed revisions to the NERC Rules of Procedure and required compliance filings;
- Monitored RE implementation of Compliance Oversight Plans (COPs) for their registered entities;
- Promoted a focus on internal controls in all CMEP activities, ranging from compliance monitoring to mitigation of noncompliance;
- Placed significant emphasis on outreach to industry on topics ranging from common themes seen in significant Critical Infrastructure Protection violations, new and revised Reliability Standards impacting supply chain risk management and low impact Bulk Electric System (BES) Cyber Systems and trends and best practices seen in higher risk violations of currently enforceable Reliability Standards such as cyber and physical security, Facility Ratings and vegetation management;
- Endorsed Implementation Guidance and CMEP Practice Guides in areas addressing inverter-based resources, evaluation of Facility Ratings and System Operating Limits, generation segmentation, communications between control centers and Real-Time Assessment quality of analysis;
- Collaborated with FERC and jointly published a Supply Chain white paper to help the electric sector identify vendors of components on their networks so that they can take any necessary action to mitigate potential risks to the bulk power system;
- In collaboration with National Institute of Standards and Technology (NIST), assessed and updated the NERC CIP Reliability Standards mapping to the NIST Cybersecurity Framework; and
- Continued to work on aligning programs across the ERO Enterprise to create greater consistency in its approach to CMEP activities.

In 2021, the ERO Enterprise plans to continue its focus on effective program alignment and harmonization in risk-based compliance monitoring and enforcements. Specific priorities for 2021 include evaluating and filling any gaps created by coronavirus-related limitations on

compliance monitoring, enforcement, registration and certification; delivering the Align and Secure Evidence Locker tools; continuing to embed internal control activities within the compliance monitoring program; working as an ERO Enterprise with stakeholder feedback to evaluate compliance monitoring and enforcement processes for efficiency; and harmonizing processes where appropriate. The full report is currently available in as [Agenda Item 5](#) in the BOTCC agenda package.

Updating Registered Entity Contacts in CORES

In preparation for the pending move to the new CMEP Align system in 2021, the ERO Enterprise will enable new functionality in the Centralized Organization Registration ERO System (CORES) allowing registered entities to make changes to their own registered entity contact roles directly in CORES. The ERO Enterprise plans to release this new CORES software functionality soon and will notify registered entities when the software is released.

By enabling this additional functionality, CORES will ultimately become the official system of record for registered entities to maintain their contact information. It is essential to keep current and accurate registered entity contacts in CORES because the data will be needed in Align, which will start rolling out to the registered entities on March 31, 2021. The ERO Enterprise will be operating in both the legacy systems (CDMS, CDAA, and the SERC Compliance & Committee Portal) and the ERO Portal with CORES until the transition to Align is completed. There have been substantial checks made to ensure that contact roles will be accurate, current and up to date in all systems, but it is up to registered entities to verify and update any new changes to contact roles, as needed.

Registered Entity Maintained Secure Evidence Locker Functional Document Updated

NERC posted a revised [Registered Entity Maintained Secure Evidence Lockers functional specification document](#). The document contains updates to the key functional and business requirements for registered entity maintained secure evidence lockers, the ERO Enterprise functionality checklist and process and the minimum software versions required. ■■■

Reliability Risk Management

Lessons Learned Posted

In February, NERC posted four new lessons learned on the [Lessons Learned](#) page.

[Root Cause Analysis Tools – Barrier Analysis](#) is a topical Lesson Learned. In this case, the objective was to provide information on a root cause methodology more than the discussion of a specific event. The example scenario involves an entity that had several CIP-006 (Physical Security of BES Cyber Systems) violations during construction work several years ago. Most were access logging related. It is of primary interest to Generator Operators, Generator Owners, Transmission Operators, Transmission Owners, Reliability Coordinators and Balancing Authorities.

[Root Cause Analysis Tools – Change Analysis](#) is a topical Lesson Learned. In this case, the objective was to provide information on a Root Cause Analysis (RCA) methodology more than the discussion of a specific event. In the example scenario, a transformer catastrophically failed after approximately 20 years of service. It was one of two nearly identical transformers operating in parallel to feed a large community. Protective relays responded appropriately, opening the station's 138 kV and 13.8 kV breakers (one each) to isolate the fault. It is of primary interest to Generator Operators, Generator Owners, Transmission Operators, Transmission Owners, Reliability Coordinators and Balancing Authorities.

[The Transient Induced Misoperation: Approach I \(Control Circuit Transient Misoperation of Microprocessor Relay\)](#)

Lesson Learned addresses an incident in which voltage transients were found to initiate protective relay digital inputs during close-in faults to a hydroelectric dam. The false inputs resulted in multiple powerhouse line protection misoperations and the unnecessarily tripping of hundreds of megawatts of generation. Due to the vintage of the equipment and a failure of the relay to properly log events, little data was initially available for troubleshooting. The powerhouse line relays at both the substation and powerhouse were owned and operated by the Transmission Operator but were connected to and powered by the Generator Operator's control circuits and battery at the powerhouse. It is of primary

interest to Transmission Owners, Generator Owners, Transmission Operators and Generator Operators.

The [Transient Induced Misoperation: Approach II \(Loss of Protection during Severe Lightning Event\)](#) Lesson Learned addresses an incident in which System 1 and System 2 protection groups shut down as a result of a lightning-strike-induced fault at one terminal of a 345 kV transmission line. Neither System 1 nor System 2 local relay protection cleared the fault. The fault continued for over 1.5 seconds until protection at the remote terminals tripped as designed via time-delayed elements. It is of primary interest to Transmission Owners, Generator Owners, Transmission Operators, Generator Operators, and Reliability Coordinators.

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

NERC Staff Featured on Northwest Power Pool for “Power Insights” Podcast

Northwest Power Pool (NWPP) has released the first two episodes of their new “Power Insights” podcast, hosted by Dave Angell. [Episode 1: DER Data Collection for Modeling and Transmission Studies](#) is focused on the distributed energy resource (DER) data collection for modeling in transmission planning studies, based on a [reliability guideline](#) published by the NERC System Planning Impacts from DER Working Group (SPIDERWG) in September 2020. This episode features:

- **Ryan Quint**, Senior Manager of BPS Security and Grid Transformation, NERC
- **Ian Beil**, Transmission Planner, Portland General Electric
- **Kun Zhu**, Senior Manager of Generator Interconnection, MISO

[Episode 2: San Fernando Event](#) is focused on NERC’s latest [disturbance analysis](#) of the July 2020 San Fernando fault event involving the reduction of about 1000 MW of bulk power system-connected solar photovoltaic

facilities and some distributed energy resources in the Southern California region. This episode features:

- **Ryan Quint**, Senior Manager of BPS Security and Grid Transformation, NERC
- **Rich Bauer**, Associate Principal Engineer, Event Analysis, NERC

Jim Robb Appeared on NPR Podcast to Discuss Recent Extreme Weather

Jim Robb, NERC’s president and CEO, appeared as a guest on NPR’s *1A* podcast on February 18 to talk about the February extreme weather conditions across the Midwest and South-Central states. The severe cold weather contributed to power outages affecting millions of electricity customers throughout the region. Robb discussed the issues, the ERO Enterprise role and working with industry to support the efforts by those impacted utilities to restore power as safely and quickly as possible. You can access the podcast recording [here](#).

Standards

With the implementation of the [Align Project](#) in 2021, there will be changes to the [Reliability Standards web page](#) and associated reports, including the One-Stop Shop, U.S. Effective Date Status/Functional Applicability spreadsheet and VRF and VSL matrices. More details will be provided in the coming months.

Align Project Update

ERO Enterprise leadership is excited to announce the upcoming deployment of the Align tool and the ERO Secure Evidence Locker (SEL). These new tools will be used for processing and tracking all compliance monitoring and enforcement activities, with the goal of improving security and standardizing processes across the ERO Enterprise. The project team is leading a series of ongoing go/no go activities to ensure business and system readiness and identify any issues leading up to the Release 1 go-live.

NERC, regional subject matter experts and 16 registered entities successfully completed testing the ERO SEL. As part of ongoing efforts to prepare the ERO Enterprise for upcoming process and technology changes associated with Align and the ERO SEL, the regional training leads

are hosting regional and registered entity training sessions over the next few months. All Align and ERO SEL training materials, including training videos, user guides, access guides and process flows and reference guides, are available on the [NERC Training site](#). Please reach out to your regional training leads listed on the [Align Project site](#) with any training-related questions.

Webinar Resources Posted

- The [streaming webinar](#) and [slide presentation](#) from the February 4 Project 2019-04 – Modifications to PRC-005-6 webinar;
- The [streaming webinar](#) and [slide presentation](#) from the February 22 Update on CIP Standards Projects webinar; and
- The [streaming webinar](#) and [slide presentation](#) from the February 23 Project 2016-02 – Modifications to CIP Standards Outreach webinar. ■■■

Regional Entity Update

SERC and ReliabilityFirst Collaborate on Supply Chain Training Modules

SERC Outreach and Training has been collaborating with ReliabilityFirst to produce online courses on Supply Chain Risk Management. So far, we have five with two more underdevelopment.

For many organizations, the concept of Supply Chain Risk Management may be new. The first hurdle in managing risk is recognizing the problems. Most importantly, the problems have to be recognized by people who have the power to change the business processes within the organization. The Cyber Security – Supply Chain Risk Management Standard (CIP-013-1) will impact a wide range of departments. Registered entity personnel not responsible for NERC compliance in the past may have roles in the creation and implementation of a registered entity's Supply Chain Risk Management Program. Therefore, it is important to educate your whole organization.

1. [Supply Chain Risk Management Overview](#) provides a high-level view of risks from the supply chain, and their impact on the Bulk Electric System. Everyone in the organization

should view this module, if only to reiterate how important these new standards are to the security and reliability to the Bulk Electric System.

2. [Supply Chain Standards: Past, Present, Future](#) provides a look at the development of these standards and a look at the projects that will help strengthen these protections in the future.
3. [Supply Chain Vendor Management](#) looks at the vendor management life cycle and explores the various stages of vendor identification/acquisition, vendor risk assessment, securing vendor commitment to risk mitigation, etc.
4. [Supply Chain Risk Mitigation](#) discusses the need for a risk mitigation plan for supply chain risks, and identifies mitigation strategies, supply chain risk mitigation plan elements and mitigation processes, controls and tools.
5. [Supply Chain Risk Management Standards](#) addresses how the Supply Chain Risk Management standards support the security objectives required by FERC Order No. 829.

SERC's Robust Resource Library

In addition, SERC Outreach and Training regularly collaborates with some of the bright minds of the SERC Compliance Monitoring group to produce training modules on high-priority topics, such as Facility Ratings and communications protocols. Incorrect Facility Ratings or inadequate communication can result in serious problems for the bulk power system and industry personnel. These courses stress the importance of adhering to the standards.

- [Facility Ratings](#) covers basic information, trends and best practices as well as data insights from the 2019 survey on Facility Ratings.
- [NERC COM Standards](#) provides an overview of Communications (COM) family of Reliability Standards and emphasizes the importance of adhering to the approved communication protocols when issuing orders that affect the

status of the Bulk Electric System.

You can find links to all of the online training modules in our [Resource Library](#). We will be adding to the series as other topics of interest arise. If you have suggestions, please contact us at support@serc1.org.

Regional Entity Events

Midwest Reliability Organization (MRO)

- [MRO RAC Q1 Meeting](#), March 24
- [Organizational Group Oversight Committee](#), March 24
- [MRO Board of Directors Meeting](#), March 25

ReliabilityFirst (RF)

- [Technical Talk with RF](#), March 15

SERC Reliability Corporation

- [Spring Reliability & Security Webinar](#), March 9-10
- [Small Entity Forum](#), March 10
- [Align Release 1 Training \(1 of 3\)](#), March 11
- [Spring Technical Committee Meetings](#), March 22-25
- [Align Release 1 Training \(2 of 3\)](#), March 24
- [SERC Board of Directors Meeting](#), March 31
- [System Operator Conference #1](#), April 6-7
- [System Operator Conference #2](#), April 27-28

Texas RE

- Talk with Texas RE – [Cyber Security Threats](#), March 4
- Talk with Texas RE – [Event Analysis and Emerging Risks](#), March 11
- [Member Representatives Committee](#); [Audit, Governance, and Finance Committee](#); and [Board of Directors](#) Meetings, March 17
- Talk with Texas RE – [New Entity Self-Certifications](#), March 18
- Talk with Texas RE – [Align: Go Live!](#) March 23
- Talk with Texas RE – [Three Practical Strategies for Improving Safety, Reliability, and Human Performance](#), April 8

- Talk with Texas RE – [Registration](#), April 15
- [Spring Standards and Compliance Workshop](#), April 22
- Talk with Texas RE – [Align Update](#), April 26

WECC

- [Board of Directors](#) and associated meetings (virtual), March 16-17 ■■■

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](#).

- **Reliability and Security Technical Committee Meeting** – March 2-3, 2021 | Day 1 [Registration](#) and [Agenda](#) | Day 2 [Registration](#) and [Agenda](#)
- **Project 2016-02 – Modification to CIP Standards Industry Webinar Part 2** – 2:00-4:00 p.m. Eastern, March 3, 2021 | [Register](#)
- **Standards Committee Meeting** – 1:00-3:00 p.m. Eastern, March 17, 2021 | [Register](#) ■■■

Filings

NERC Filings to FERC in February

February 5, 2021

[Notice of Withdrawal for Proposed Reliability Standard CIP-002-6](#) | NERC submits to FERC a Notice of Withdrawal for Proposed Reliability Standard CIP-002-6.

February 16, 2021

[Compliance Filing in Response to January 2013 Order](#) | NERC submits an unaudited report of NERC's budget-to-actual variance information for the fourth quarter of 2020. This compliance filing is in accordance with FERC's January 16, 2013 Order, which approved a Settlement Agreement between the FERC Office of Enforcement and NERC, related to findings and recommendations arising out of its 2012 performance audit.

February 19, 2021

[NERC Petition for Approval of Proposed Reliability Standard FAC-008-5](#) | NERC submits its petition for approval of proposed Reliability Standard FAC-008-5 - Facility Ratings.

February 25, 2021

[Petition of NERC for Approval of Revised SERC RSDP](#) | NERC submits to FERC a petition for approval of the revised SERC Regional Reliability Standards Development Procedure (RSDP).

[Petition for approval of Texas RE Bylaws](#) | NERC submits to FERC a petition for approval of Texas RE Bylaws revisions.

Senior Cybersecurity Analyst

Location: Atlanta

[Details](#) ■ ■ ■

NERC Canadian Filings to FERC in January

February 17, 2021

[Notice of Withdrawal for Proposed Reliability Standard CIP-002-6](#)

February 25, 2021

[Notice of Filing of NERC Proposed Reliability Standard FAC-008-5 - Facility Ratings](#) ■ ■ ■

Careers at NERC

Director, Corporate Compliance CRM and Ethics

Location: Atlanta

[Details](#)

Analyst, Bulk Power System Awareness

Location: Atlanta

[Details](#)

Manger, Bulk Power System Awareness

Location: Atlanta

[Details](#)

Bulk Power System Cybersecurity Specialist

Location: Atlanta

[Details](#)

Standards Developer

Location: Atlanta

[Details](#)

Senior Engineer or Advisor-Performance Analysis

Location: Atlanta

[Details](#)

System Administrator

Location: Atlanta

[Details](#)

Senior Network Administrator

Location: Atlanta

[Details](#)