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August 2023

From the Desk of the CEO	1
FERC Transmission Reform	2
NERC CEH Courses Available Online	2
The Grid—20 Years of Progress	2
Enforcement Action Migration	2
How to Update CORES Contact Information	2
Effective Mitigation for Most Commonly Reported PNCs: PRC-019	3
CMEP Risk Elements	4
Cybersecurity Alerts	4
ARP Identifies Need for Flexible Resources & Demand Response	5
Texas RE Grid Transformation Workshop	5
Upcoming ERO Enterprise Outreach	6
Upcoming Texas RE Events	7
Standards Updates	8
Contact Information	9
Career Opportunities & Events	10

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From the Desk of the CEO

The term "historic" can often be overused as a descriptor of otherwise commonplace events, but it is aptly applied when describing the <u>heat</u> <u>wave</u> we're currently experiencing in Texas and across many parts of the country. All-time single day <u>records</u> were set during June in towns like Junction (111 degrees) and San Angelo (114), and the trend continued last month as those of us here in Austin experienced our <u>hottest July</u> on record.

The persistence of these high temperatures day after day impacts our infrastructure and our lives in many ways, not least of which is the bulk power system (BPS). As I write this, our Interconnection has set and then broken a new peak-load record multiple times in recent weeks (currently 83,854 set on August 8)and if the "heat dome" continues to linger into August, the record book may be rewritten again. And yet in spite of the unrelenting demand on our electricity infrastructure, the performance of our grid this summer has been a success story.

Thermal and renewable resources have complemented each other well and delivered enough capacity to maintain comfortable operating reserves. During the hottest parts of the day, solar generation reaches its peak, often contributing more than nuclear and almost as much as coal. As the sun goes down, solar production dips but demand for electricity does not as people return home from work and air conditioners have plenty to do with temperatures still high. Wind generation performs well after solar ramps down and provides a buffer to gas generators that continue to shoulder the bulk of the load in our state.



But to put things into context, it isn't unexpected for peak demand to increase year-over-year given the population and industry growth in Texas. As I discussed in this space in May, ERCOT's Seasonal Assessment of Resource Adequacy (SARA) for Summer 2023 projected we'd set a new all-time peak record this summer. Demand for electricity is estimated to continue to increase by an average of almost two percent yearly for the next decade (and with the accelerated push toward broader electrification, two percent may be an understatement).

Summers are challenging for the grid, but it is traditionally a challenge that Texans are able to meet. Registered entities of all fuel types have been doing their part to secure our reserve margin and for that we're all thankful. I wish everyone a safe and productive August, and with any luck September will see temperatures fall as football season heats up.

XASRE

Reliably, Jim Albright

FERC Transmission Reform

On July 27, 2023, the Federal Energy Regulatory Commission (FERC) unanimously approved a historic transmission reform <u>rule</u> that will pave the way for adding new energy resources to the grid by streamlining the interconnection process for transmission providers and providing greater timing and cost certainty to interconnection customers.

"This new rule will enable America's vast power generation resources to connect to the grid in a reliable, efficient, transparent, and timely manner, and in doing so, help provide more reliable, resilient, and affordable electricity for all consumers," FERC Chairman Willie Phillips said.

The new rule, Order No. 2023, takes effect 60 days after publication in the Federal Register. Compliance filings are due 90 days after publication in the Federal Register.

NERC CEH Courses Available Online

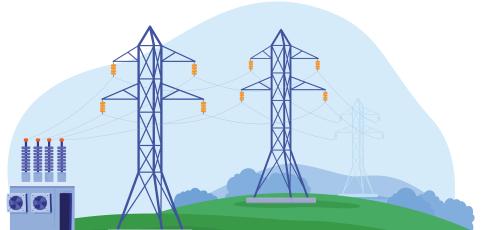
The SERC E-Learning library is a resource for registered entities to train on topics pertaining to compliance. Three of its online courses have been approved as NERC Certified System Operator (NCSO) training:

- ⇒ Low Impact Security: CIP-003
- ⇒ CIP-006, Cybersecurity Physical Security for BES Cyber Assets
- ⇒ CIP-012, Cybersecurity Communications between Control Centers

Individuals who hold NCSO credentials can earn one continuing education hour for each of these courses. In addition, SERC's Physical Security Workshop and its associated PSW-Advanced Lab have been approved for 10 CEHs and five CEHs, respectively. If you are interested in taking any of these courses, please visit the <u>Resource Library</u> on SERC's website, and click the link in the **CEH Courses** section.







The Grid—20 Years of Progress

This month marks the 20th anniversary of the 2003 Northeast blackout, which occurred on August 14, 2003, and impacted 50 million North Americans across Michigan, Ohio, Pennsylvania, New York, and Ontario. NERC, NPCC, and ReliabilityFirst collaborated on <u>The Grid – 20 Years of Progress Since the 2003 Northeast Blackout</u>, which reflects on the progress the ERO Enterprise has made towards a more reliable and resilient grid in the last two decades.

Enforcement Action Migration

The North American Electric Reliability Corporation (NERC) has rescheduled the migration of closed Enforcement Actions into Align for September 14, 2023, and will validate the completed migration before the end of September. Once the closed Enforcement Actions are migrated to Align, registered entities will be able to see their respective closed actions by navigating to the Enforcement Processing module and viewing the My Closed Findings tab. No action is needed from registered entities to facilitate the migration.

Please contact <u>Texas RE Enforcement</u> with any questions.

How to Update CORES Contact Information

It is essential for all registered entities to annually review their contact information and update it accordingly. Updating contact information is critical to ensure effective communication and avoid inadvertent time delays. Instructions for updating CORES contact information is available <u>here</u>.

Effective Mitigation for Most Commonly Reported PNCs: PRC-019

By Kaitlin Van Zee, Director, Enforcement & Registration

Change management procedures for equipment installation and maintenance, third-party vendor oversight, automated processes, and overlapping controls for protection and control (PRC) Reliability Standards are four areas in which mitigation can help to reduce the likelihood of recurrence of a PRC-019 potential noncompliance (PNC) and increase the likelihood of detection of a PNC. Quick detection of a PNC hopefully results in shorter duration of noncompliance, thus reducing the risk posed to the bulk power system.

Change Management

PRC-019-2 R2 requires that registered entities verify that any equipment or setting changes either do not affect the coordination required in PRC-019-2 R1 or, if they do, that the registered entity conduct another coordination study. An effective method to ensure compliance is to include a step in the paperwork for equipment and setting changes to verify that settings for Protection System still comply with PRC-019-2 R1. This may look like an additional step on a checklist for installation of new equipment. Building a robust change management procedure should help prevent a Facility from becoming noncompliant with PRC-019.

Vendor Oversight

It is common for third-party vendors be involved in equipment installation and maintenance. In those situations, adding an oversight process for the registered entity to review the vendor's work may help ensure that equipment or setting changes either do not affect the coordination required in PRC-019 R1 or, if they do, that the registered entity conduct another coordination study. For example, requiring an in-house manager or subject matter expert to review the vendor's final paperwork will allow for a registered entity to confirm that settings are coordinated in accordance PRC-019.

Additionally, many registered entities hire third-party vendors to perform coordination studies as part of the process to verify coordination in accordance with PRC-019. It is important to review these studies to ensure that the vendor's verification report includes all the elements listed in PRC-019-2 R1 (for example but not limited to: Protection System settings, limiters, steady state stability limit, and equipment capabilities). Again, incorporating review by an in-house manager or subject matter expert in the process should ensure that all required elements are included and verified in accordance with PRC-019.

Overlapping Controls

As Enforcement highlighted last month, PRC Reliability Standards intentionally complement each other. Accordingly, building in overlapping controls in PRC procedures will help ensure that Facilities remain compliant with PRC-019. For example, if a registered entity's Protection System maintenance under PRC-005 detects that protective relay settings were not applied as intended, this could in turn trigger an assessment to determine whether you need to reverify the coordination under PRC-019. Similarly, a registered entity may choose to combine PRC-019 and PRC-024 compliance reviews, which may save both time and cost, and help with the quick detection and resolution of noncompliant settings.

Adequate Lead Times

Finally, Enforcement has observed that some PRC-019 violations are caused by delays in performing a coordination study. In particular, delays in getting information from original equipment manufacturers (OEM) may cause delays in verifying coordination in accordance with PRC-019 R1. Accordingly, building in adequate lead times to the project management of a PRC-019 coordination study should ensure that all verifications occur in a timely manner and in compliance with PRC-019.





CMEP Risk Elements

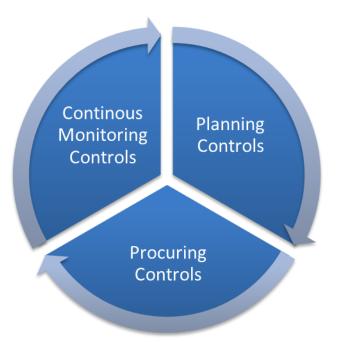
By Jonah Crandall, CIP Physical and Cybersecurity Analyst

Supply Chain

The Electric Reliability Organization (ERO) Enterprise published the <u>2023 CMEP Implementation Plan</u> (CMEP IP) in October of 2022. Supply chain risks have been identified as a risk element for three consecutive years because of recent supply chain attacks such as the SolarWinds Orion, Microsoft Azure/365, JBS, and Colonial Pipeline.

Responsible Entities looking to bolster their Supply Chain Risk Management (CIP-013-2) plan could implement additional monitoring tools to help detect compromises of vendor products or services. The U.S. Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA) has developed numerous <u>resources</u> to help monitor and identify possible compromises. Further, CISA has a <u>resource library</u> dedicated to Supply Chain Risk Management (SCRM).

By implementing additional controls, you can increase the likelihood of identifying malicious actors utilizing compromised products or services and act before they have a chance to cause any severe harm.



Remote Connectivity

The 2023 CMEP IP identifies seven risk-based areas of focus, one of which is remote connectivity. The COVID-19 pandemic influenced changes in the way employees, vendors, and workspaces interact by shifting large portions of the workforce to a remote work model. These changes can have unintended effects on the security posture of an organization.

However, this isn't to say that remote connectivity is not secure and shouldn't be implemented. There are several ways that an organization can bolster the security posture of their networks, while also allowing the ease of access that remote connectivity provides. One such measure is the implementation of multifactor authentication (MFA) with remote connectivity.

By implementing MFA, you create a layer of security that is not easily breached by the average attacker. For example, if you require both a password and a generated security code (soft token) from an authenticator app, then a malicious actor would need both a valid password as well as the soft token to access the network remotely. By implementing MFA as a control, you can reduce some of the risks presented by remote connectivity while meeting the demand of today's workforce. Implementing additional security controls (such as malicious code prevention) can help to further reduce the risks presented by remote connectivity as a component of a defense-in-depth cybersecurity strategy.



CIP Standard Security Objectives



Cybersecurity Alerts

There has been a surge in in recent years of cybersecurity attacks using ransomware across the United States. In response, CISA released cybersecurity advisories <u>AA23-165A</u> and <u>AA23-158A</u>. Alert AA23-165A details the ransomware-as-a-service (RaaS) known as LockBit. Alert AA23-158A details the recent actions taken by the CLOP Ransomware Gang, which is utilizing a newly discovered SQL injection vulnerability to conduct attacks. For more information related to ransomware prevention resources, visit CISA's #StopRansomware campaign <u>website</u>.



ARP Identifies Need for Flexible Resources & Demand Response

One of the key findings from Texas RE's 2022 Assessment of Reliability Performance (ARP) was that ERCOT no longer has sufficient dispatchable resources to meet its projected 50/50 peak and extreme peak loads. The balance of energy not provided by dispatchable thermal resources must be provided by renewable resources, both at peak and during other periods with limited thermal resource availability. The percentage of peak load provided by renewable resources has shown an increase over the last few years, a trend that is expected to continue. The increased level of variable renewable generation results in a growing need to have flexible resources and demand response available that can be reliably called upon — at times with minimal notice or for short periods across multiple days — to balance electricity supply and demand as conditions occur. Flexible resources and demand response are necessary during some periods to ensure resource adequacy and meet ramping needs. Batteries and other energy storage options may play a key role, especially for shorter duration needs. Should solar and wind output fall below expectations during peak conditions, ERCOT will need to draw on such flexible resources and/ or demand response to maintain balance between load and generation. Additionally, the high levels of solar resources generate a need for more flexible resources to match steep ramping conditions during times when the change in wind or solar output shifts rapidly.

For more information, the full ARP Summary Report is available here.

Texas RE Grid Transformation Workshop

The rapid interconnection of bulk power system (BPS)-connected inverter-based resources (IBR) is fundamentally transforming the electric grid both in Texas and throughout North America. The transformation of the power system from one dominated by large spinning masses to variable resources operated by power electronics, along with the increased use and importance of natural gas resources for system balancing and the participation of distributed energy resources (DER), is occurring rapidly. Although inverter technology and distributed resources each



promise significant benefits, the speed of this change continues to challenge regulators, grid planners, operators, cybersecurity professionals, engineers, and inverter manufacturers, among others. These challenges are evidenced by several events, both in Texas and elsewhere, that make plain the reliability challenges posed by this foundational and swift transformation.

In light of these changes, Texas RE recently conducted its inaugural Grid Transformation Workshop on July 20, 2023, to explore the multifaceted aspects of navigating this transition and realize the benefits of an ever-increasing inverterbased grid topology. The workshop featured a broad set of energy industry experts to discuss issues in planning for, modeling, and reliably implementing our evolving grid. The full agenda and speaker list, as well as recordings of the event are available <u>here</u>.



Upcoming ERO Enterprise Outreach

Technical Talk with RF – August 14, 2023

ReliabilityFirst (RF) offers a regularly scheduled monthly call to provide entities and stakeholders with a forum for addressing topics and questions relevant to reliability, resilience, and security. This session will cover the 2003 Northeast Blackout: What the Bulk Electric System was like before this event, what's changed since and the path forward.

Webex Link



GRIDSECCON 2023 NERC • E-ISAC • NPCC

<u>GridSecCon 2023</u> – October 17-20, 2023

Hosted by NERC, the Electricity Information Sharing and Analysis Center (E-ISAC), and the Northeast Power Coordinating Council (NPCC), GridSecCon brings together cyber and physical security leaders from industry and government to deliver expert training sessions, share best practices and effective threat mitigation programs, and present lessons learned.

Agenda Register





NERC

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

GridEx VII North America's Largest Grid Security Exercise

GridEx VII – November 14-15, 2023

Registration for GridEx VII ends on September 1, 2023, for lead planners and planners. Industry members and government partners are encouraged to have their planners register to coordinate their organization's planning process and exercise conduct.

Lead planners and planners must have E-ISAC Portal access to register for GridEx VII. Organizations that are not eligible for E-ISAC Portal access can participate in GridEx VII by partnering with E-ISAC members. For questions regarding E-ISAC membership, contact <u>memberservices@eisac.com</u>.



Upcoming Texas RE Events

Texas RE Quarterly MRC & Board Meetings – August 23, 2023

On August 23, 2023, Texas RE will hold its quarterly meetings of the Member Representatives Committee (MRC) and Board of Directors. This quarter's Board meeting will feature guest keynote speakers Pablo Vegas, CEO of ERCOT, and Ken DeFontes, Chair of the NERC Board of Trustees.

Both meetings will be held in-person at Texas RE's MetCenter location and virtually via Webex. Registration is available <u>here</u>.

Please note that an Audit, Governance, and Finance Committee meeting will not be held this quarter. The Board of Directors meeting will begin at 1:00 p.m. Central.

NSRF Meeting – August 24, 2023

The NERC Standards Review Forum (NSRF) is a stakeholder group reporting to the Texas RE MRC. The purpose of the NSRF is to provide a regional stakeholder forum for discussion, collaboration, and research on NERC Standard Authorization Request forms (SARs), standards under development, interpretations, and existing Reliability Standards. This month's meeting will be held both virtually and in-person at ERCOT's Austin MetCenter office.

Talk with Texas RE: Oil & Gas Industry Cybersecurity – August 29, 2023

Natural gas is the foundation of the current resource mix in Texas. Ensuring cybersecurity for the industry is crucial for ensuring electric reliability. Join us on August 29, 2023, to hear from the Angela Haun, executive director for the Oil and Natural Gas ISAC and Zabrina Antry, a cyber threat intelligence analyst at the ONG-ISAC.

Winter Weatherization Workshop – September 13, 2023

Registration is open for the 2023 Winter Weatherization Workshop, hosted by Texas RE, which will be held on September 13, 2023, from 9:00 a.m. to 3:30 p.m. Central.

Featuring speakers from Texas RE, ERCOT, the PUCT, and registered entities, this training is designed for qualified scheduling entities (QSEs), conventional Generation Owners, and Operators to learn best practices, lessons learned, and improvements for generator reliability during winter weather. The agenda and further event information will be available at a later date.

Register | Texas RE Resource Hub

Fall Standards, Security, & Reliability Workshop – October 25, 2023

Texas RE's 2023 Fall Standards, Security, & Reliability Workshop will be held on October 25, 2023, beginning at 9:00 a.m. Central. This workshop is intended for all stakeholders in the Texas Interconnection.

The agenda and further event information will be available at a later date.











Standards Update

NERC Actions

On July 14, 2023, NERC submitted its <u>request</u> to expend funds from its Assessment Stabilization Reserve (ASR) to fund the Inter-Regional Transfer Capability Study (ITCS). As part of the Fiscal Responsibility Act of 2023, Congress directed NERC to carry out a study to examine the total current transfer capabilities between each pair of neighboring transmission planning regions.

FERC Actions

On July 3, 2023, FERC issued an <u>order</u> accepting NERC's January 3, 2023, Compliance Filing providing additional details about NERC's budget related to the E-ISAC and the Cybersecurity Risk Information Sharing Program (CRISP).

On July 27, 2023, FERC issued an <u>order</u> denying the petition for rulemaking for a physical security Reliability Standard filed by Secure-the-Grid Coalition.

Currently Posted Reliability Standards Projects

Project	Action	End Date
Project 2021-03—CIP-002 SAR	Comment Period	8/18/2023
2024-2026 Reliability Standards Development Plan	Comment Period	8/22/2023
Project 2023-06—CIP-014 Risk Assessment Refinement SAR	Comment Period	8/24/2023
Project 2023-01—EOP-004 IBR Event Reporting Draft 1	Joint Ballot Pools	8/28/2023
Project 2021-04—Modifications to PRC-002 Phase 2 Draft 1	Joint Ballot Pools	8/30/2023
Project 2021-06—Modifications to IRO-010 and TOP-003	Final Ballot	8/31/2023

Upcoming Enforceable Standards



Contact Information for Texas RE Management

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August 2023

Upcoming Events



Current Openings



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Texas RE Board of Directors

Milton B. Lee Chair (Independent)

Crystal E. Ashby Vice Chair (Independent)

Suzanne E. Spaulding (Independent)

Jeffrey Corbett (Independent)

Jim Albright President and CEO Curt D. Brockmann MRC Chair (Affiliated)

Daniela Hammons MRC Vice Chair (Affiliated)

Jimmy Glotfelty Commissioner, Public Utility Commission (Ex officio, non-voting)

Courtney Hjaltman Public Counsel, Office of Public Utility Counsel (*Ex officio*, non-voting)



