

JUNE 2022

“Change is inevitable. Progress is optional.”

- Wayne Dyer



MIDWEST RELIABILITY **MATTERS**



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DISCLAIMER

MRO is committed to providing non-binding guidance to industry stakeholders on important industry topics. Subject matter experts from MRO's organizational groups have authored some of the articles in this publication, and the opinion and views expressed in these articles are those of the author(s) and do not necessarily represent the opinions and views of MRO.

CEO MESSAGE



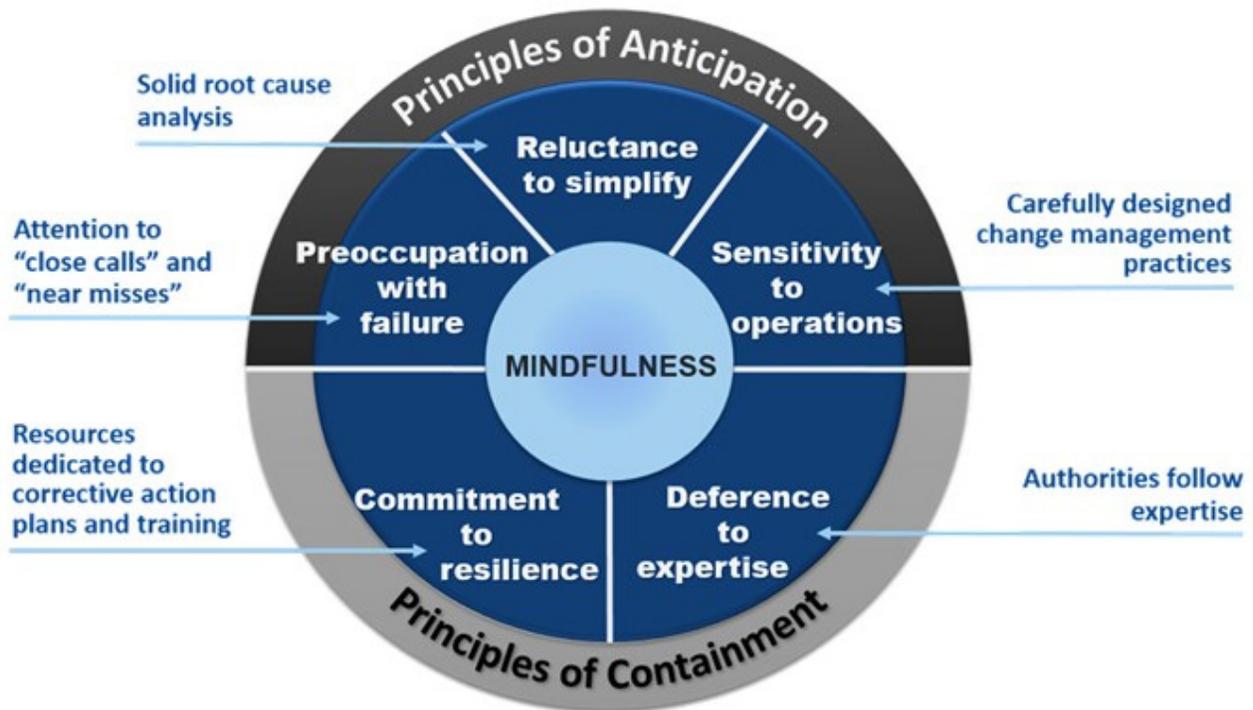
What It Means To Be A HERO

For more than a decade now, MRO has promoted High Reliability Organization (HRO) theory and principles as a framework for ensuring reliable operations in the increasingly complex and interconnected operating environment that encompasses the North American bulk power system. We want all registered entities we interact with to be Highly Effective Reliability Organizations® or “HEROs.” Implementing high standards of operational excellence supports the mission that we share across the ERO Enterprise *to identify, prioritize and assure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system*. But, you may be asking, what does that mean for my organization? What exactly does it mean to be a HERO?

There is rich literature in organizational theory on HROs which originated in studies of aircraft carriers, firefighters, nuclear power operations, and other contexts where unexpected events may have life and death consequences. One of the hallmarks of HROs is that they have strong responses to weak signals. Author Daniel Goleman illustrates this point in his book *Focus: The Hidden Driver of Excellence*. Goleman tells the story of Nobel prizewinning astronomers Arno Penzias and Robert Wilson. Overwhelmed with data

being gathered from powerful new equipment, they initially ignored some static assuming it was the result of faulty equipment and unimportant. After a chance encounter with a nuclear physicist, they realized the static was actually the weak signal from the reverberations of the big bang. This notion of the importance of weak signals is one of the main ideas that Karl Weick and Kathleen Sutcliffe have articulated in their research on HROs and in their book, [Managing the Unexpected](#).

An HRO is an organization that has succeeded in avoiding catastrophes in an environment where operational challenges can be expected due to risk factors and complexity. According to Weick and Sutcliffe, HROs manage the unexpected through five principles: (1) preoccupation with failures rather than successes, (2) reluctance to simplify interpretation, (3) sensitivity to operations, (4) commitment to resilience, and (5) deference to expertise, as exhibited by the encouragement of a fluid decision-making system.



Organizations that follow these five principles produce a collective state of mindfulness. To be mindful is to have a rich awareness and a discriminatory sense of detail, which enhances the ability to discover and correct errors before the errors compound and escalate into a crisis. These five principles are fundamental and are the basis of improvements in quality, reliability, productivity, and resiliency in any organization. By developing mindfulness, HROs demonstrate the capacity to anticipate and to contain unexpected problems.

MRO considers HEROs to be those entities that demonstrate effectiveness at identifying risks, assessing those risks, and mitigating risks using the following five HRO principles.

1. Preoccupation with Failure

To be preoccupied with failures rather than successes means that HROs encourage reporting errors, they sweat the small stuff, and they use a robust feedback system. They treat even small mistakes and misoperations as potential symptoms that something is wrong with the system, something that could have

severe consequences if several separate small errors coincide. They also make a continuing effort to articulate mistakes they don't want to make; they have a preoccupation with failure.

2. Reluctance to Simplify Interpretation

To be reluctant to simplify interpretation means that HROs take deliberate steps to create a complete picture. They encourage varied experiences and differences of opinion without destroying nuances that diverse people detect. HROs understand that a simple answer to a complex problem may indicate a less than full understanding of the problem. When they "recognize" an event as something they have experienced before and understood, that recognition is a source of concern rather than comfort. The concern is that superficial similarities between the present and the past mask deeper differences that could prove significant.

3. Sensitivity to Operations

To be sensitive to operations means that HROs want to know how things work, not just how they are supposed to work. They treat deficiencies in normal operations as "free lessons" that signal the development of unexpected events. HROs are attentive to the front line where the real work gets done. People who refuse to speak up out of fear undermine the system, resulting in less knowledge than is needed for the system to work effectively. It makes no difference why the information is withheld—whether it is for reasons such as fear, ignorance, or indifference—the result is the same.

4. Commitment to Resilience

A commitment to resilience means that HROs develop capabilities to detect, contain, and recover from those inevitable errors that are part of an indeterminate world. HROs develop behaviors that allow individuals and their organizations to be resilient. HROs approach unplanned events in terms of mitigation and rapid recovery. The hallmark of an HRO is not that it is error-free, but that errors don't disable it. Resilience is a combination of keeping errors small and of improvising workarounds that allow the system to keep functioning. Both these pathways to resilience demand deep knowledge of the technology, the system, one's coworkers, and most of all, oneself.

5. Deference to Expertise

HROs make decisions based on the technical truth and rely on the people with the most expertise. They understand that decisions that defer to technical expertise are likely to be more timely and correct. Decisions made on the front line migrate to the people with the most expertise, regardless of their rank.

MRO's HEROs exemplify a collective state of mindfulness. This mindfulness allows for continually tracking small failures, resisting oversimplification, remaining sensitive to operations, maintaining capabilities for resilience, and taking advantage of shifting locations of expertise. Applying HRO principles to the important work we each do to protect the reliability and security of the North American bulk power system is more important now than ever before.

Thank you for being an MRO HERO.

Our future is bright!

- Sara Patrick, President and CEO

COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM



Have a Compliance Question?

Ask the CMEP Advisory Council

One of the purposes of MRO and the MRO Compliance Monitoring and Enforcement Program Advisory Council (CMEPAC) is to conduct outreach and awareness to promote compliance with mandatory NERC Reliability Standards. In November 2016, the MRO Risk Assessment and Mitigation (RAM) Department began encouraging registered entities to submit questions relating to compliance via email at heros@mro.net.

In August 2020, the CMEPAC established the askcmepac@mro.net email address and monthly calls to assist entities in strengthening their compliance programs, discuss pending enforceable NERC Reliability Standards, and field questions relating to NERC compliance from a CMEPAC member perspective. Responses from the CMEPAC are not intended to determine if an entity is or is not compliant, and may on occasion be forwarded to heros@mro.net with approval from the submitting entity.

One of the many items discussed within the CMEPAC and considered under the council's work plan is to coordinate

with the MRO RAM Department to periodically review and publish redacted questions posed to HEROs and askCMEPAC in the Midwest Reliability Matters newsletter. This month, we have three questions and the related responses:

Question 1 (Mixed Trust Authentication Environments)

Related to mixed trust in virtual environments as applicable to currently effective NERC requirements: What are the implications for setting up a CKM (Certificate and Key Management) Cyber Asset for shared use between CIP and non-CIP personnel, with users' accounts in two separate Active Directory (AD) domains: one for CIP users and one for non-CIP? Is setting up this shared CKM system consistent with 2015 Lessons Learned on Mixed Trust Authentication Environments and able to operate as described without bringing all accounts in the non-CIP AD into scope?

Background: The CKM solution has a web portal where users access and manage their certificate and credentials. To avoid mixed trust issues: 1. All administrators of the system with ability to provision access for themselves or others would authenticate against a CIP AD; 2. Accounts accessing the system via a non-CIP AD cannot access CIP data, and; 3. Non-CIP users would not have administrative rights to edit permissions and grant themselves or other non-CIP accounts access to CIP data. The CKM is not currently an EACMS, but may be in the future.

Response 1

MRO's understanding of the implementation is that the CKM: 1. Stores certificates and keys as a repository of machine credentials; 2. Provides a web interface such that users can manage their credentials (Electronic Access), and; 3. Is not integrated to CIP-applicable Cyber Assets as a function in an Authorization-Authentication process (EACMS functionality).

Response 2

Is setting up this shared CKM system consistent with the 2015 Lessons Learned on Mixed Trust Authentication Environments and able to operate as described without bringing all accounts in the non-CIP AD into scope?

In the implementation assumptions described above, the CKM does not meet the definition of EACMS. In a future where the CKM is EACMS, it is not permissible to partition CIP and non-CIP classes of users having Electronic Access on a single Cyber Asset; the non-CIP users must be brought into scope. The lessons learned does not imply that an individual CIP-applicable Cyber Asset can have Electronic Access granted to a subset of non-CIP user; it is focused on the separation of AD into a root and multiple child configuration with separation between CIP and non-CIP users.

MRO considers actively managing machine credentials to be a good risk-reducing practice. It is assumed that the CKM stores machine credentials associated to Cyber Asset, versus associated to a user account. One should consider if there are BCSI implications from the combination of data available on the CKM (credentials stored associated to hostname, IP, username/password from the AD).

Question 2 (TPL-001-5 Footnote 13)

In Footnote 13, Item 13.a. states the following:

COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM

c. A single station dc supply associated with protective functions required for Normal Clearing (an exception is a single station dc supply that is both monitored and reported at a Control Center for both low voltage and open circuit).

Does the term “Normal Clearing” include breaker failure related equipment in the case that some other protection device is required to operate first and have failed? However, in the case of cascading breaker failures there could be an issue since if the second non-faulted breaker does not clear. It looks like an N-1-1 type event.

Response 1

Regarding Footnote 13.a., it does not include breaker-failure schemes. Contingency category P4 addresses a failure of a breaker while attempting to clear a fault on the same list of Elements as listed on P5. Furthermore, the list of Elements in P5 does not include breakers.

Response 2

Does the term monitored in the above mean the same items as PRC-005-6 Table 1-4(f)?

Regarding footnote 13.c, there is no direct connection between TPL-001 and PRC-005 and the monitoring criteria in these two standards are not identical, although they do overlap.

Response 3

Does the term monitored in the TPL-001-5 standard only refer to the low voltage and open circuit? Is there any criteria or guidance for low voltage? 5%, 10% of nominal. Is there any criteria or guidance for open circuit? Is this an event like a fuse opening or wire falling out of a terminal?

The only criteria applied to TPL-001-5 footnote 13.c. is that which is included in the footnote: “monitored and reported at a Control Center for both low voltage and open circuit.” The standard does not include any criteria or definition of what constitutes low and high voltage levels or open circuit; this is to be determined by the technical expertise of the registered entity.

Response 4

Where should the monitoring occur?

The location of monitoring is not specified within TPL-001, but it is clear that the “station DC supply” is the component that must be monitored. The term “station DC supply” is included as one of the five component types in a Protection System, as defined in the NERC Glossary of Terms. The description in the glossary entry is as follows:

Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply)

Question 3 (EOP-005-3 R6)

EOP-005-3 R6 states:

Each Transmission Operator shall verify through analysis of actual events, a combination of steady state and dynamic simulations, or testing that its restoration plan accomplishes its intended function. This shall be completed at least once every five years. Such analysis, simulations or testing shall verify: [Violation Risk Factor = Medium] [Time Horizon = Long-term Planning]

6.1. The capability of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.

6.2. The location and magnitude of Loads required to control voltages and frequency within acceptable operating limits.

6.3. The capability of generating resources required to control voltages and frequency within acceptable operating limits.

In a blackout scenario, the entity's restoration plan requires waiting on cranking power from a neighboring system prior to being able to pick up any system load, start any generation, or build our remaining sub-BES system. The entity is essentially a load center for another system's island to pick up during the restoration process and we would not have a significant impact controlling BES voltages or frequency. Because it does not have Blackstart unit capabilities, it does not believe that R6.1 applies to us and question whether it has the ability to perform analysis for 6.2 and 6.3 based on the fact that our system is just a load for a neighboring system as they build out their island during restoration.

Is the entity, as a Transmission Operator, required to perform the analysis, simulations, or testing to verify its PSR plan under EOP-005-3 in whole, only sub-Requirements 6.2 and 6.3, or not at all?

Response

R6 requires each TOP to verify that its Restoration Plan accomplishes the intended function.

If the System Restoration Plan addresses energization of Cranking Paths (from a Blackstart Resource to the next generator) or initial loads served from a Blackstart Resource prior to the startup of any other generators, then 6.1 requires the TOP to verify the Blackstart Resource capability as it relates to those parts of the System Restoration Plan, whether the Blackstart Resource is located within the TOP's footprint or outside of it. Conversely, if the startup of Blackstart Resources and energization of Cranking Paths and initial loads is addressed exclusively within neighboring TOPs' Restoration Plans, then 6.1 could be met through documentation of this fact.

All TOPs must perform some analysis, simulation, or testing to meet 6.2 and 6.3, regardless of the location of Blackstart Resources.

**The most recent NERC Standards, Compliance and Enforcement Bulletin
can be found [here](#).**

Response 2

If the entity is required to meet EOP-005-3 R6 wholly or in part, how would it meet the Requirement by “Testing” that the PSR plan accomplishes its intended function? The entity understands analysis of actual events and steady state and dynamic simulations, but the testing part is unclear.

R6 can be met through analysis or simulation if testing is not performed. However, if the entity wishes to pursue system restoration plan testing, the following report from FERC provides some information on “expanded” restoration plan testing: <https://www.ferc.gov/sites/default/files/2020-05/bsr-report.pdf>

Special thanks to the MRO RAM Team for their contributions to this article.

- Mark Buchholz, Western Area Power Administration; Theresa Allard, Minnkota Power Cooperative; Trevor Stiles, American Transmission Company – MRO CMEPAC Members



Compliance Monitoring and Enforcement Program (CMEP) Consolidation of CIP FAQs

May 31, 2022

Click here for: [CIP CMEP FAQs](#)

To facilitate easier navigation of various CIP frequently asked questions (FAQs), CMEP staff has consolidated the documents into a single searchable FAQ page under the [Compliance Monitoring and Enforcement Program One-Stop Shop](#).

The searchable FAQ includes, or will include, previously released FAQs from the Supply Chain Small Group Advisory Sessions as well as the Supply Chain Risk Mitigation Program. The searchable FAQ is also in the process of being updated to include the soon to be released FAQ from the CIP-012-1 Communications between Control Centers Small Group Advisory Sessions. Future related FAQs will be added as developed.

For more information or assistance, please contact [Daniel Bogle](#) (via email) or at **(404) 606-3856**.
[Twitter @NERC Official](#) | [LinkedIn](#)



MRO TO HOST HYBRID 2022 CMEP CONFERENCE

July 26, 2022 | 9:00 a.m. to 4:00 p.m. Central | Saint Paul, MN or Virtual

Conference Details

MRO's CMEP Advisory Council will host the organization's annual CMEP Conference in a hybrid format, with both in-person and virtual options to attend. The purpose of this conference is to provide registered entities valuable information about compliance monitoring and enforcement within MRO's footprint for 2022, as well as other important topics for the industry. There is no fee for attendance.

Key Agenda Topics

- ERO Transformation
- Align Update – Audits
- Cold Weather Practice Guide and Questionnaire Overview
- COVID-19 Impacts on Audit Processes and On-Site Visits
- Registered Entity Compliance Programs
- Internal Controls and Frameworks
- Facility Ratings
- Emerging Issues: Align Tool Update
- Geo-Political Tensions

Registration and Lodging

Registration is now [open](#) and closes on **July 22, 2022**. Rooms can be [reserved](#) at the Hampton Inn & Suites Downtown St. Paul at a rate of \$129/night. Hotel room block expires on July 6, 2022.

There will also be an in person social networking event at Tom Reid's Hockey City Pub on July 25, 2022 from 5:00 p.m. to 7:00 p.m. Central (Appetizers will be provided and a cash bar available.)

EXTERNAL AND REGULATORY AFFAIRS

State Regulatory Outreach Initiative

The ERO Enterprise state outreach initiative is continuing to strengthen relationships between ERO Enterprise staff and other regulatory agencies, enabling the ERO to become a valued and trusted resource for federal and state regulators. Additionally, MRO continues to coordinate with neighboring regions on outreach opportunities in states located within multiple regional footprints. On April 22, 2022, Sara Patrick, President and CEO, attended a joint meeting with the NERC Board of Trustees and the National Association of Regulatory Utility Commissioners' (NARUC's) Electricity Committee. This meeting focused on strategic reliability and security issues, including the intersection of state and federal jurisdictions.

MRO will continue to send communications to and meet with state regulators within its regional footprint to provide information on MRO and the ERO Enterprise and inform these agencies of public reports published each year highlighting the risks and challenges facing the bulk power system. These correspondences also highlight opportunities to attend educational events hosted by MRO and the ERO Enterprise. The next scheduled communication will be informing state regulators of MRO's Summer Reliability Assessment.

In June, by invitation, MRO president and chief executive officer Sara Patrick, director of security Steen Fjalstad, and I will meet with the Minnesota Public Utilities Commission to discuss current trends and concerns around cybersecurity topics. In addition, at a jointly hosted presentation by the Minnesota Public Utilities Commission and Department of Commerce, Steen Fjalstad will be part of a five-person panel discussion about cybersecurity threats to the grid. John Seidel, Principal Technical Advisor, along with staff from ReliabilityFirst, will give a presentation to the Illinois Public Utility Commission about battery storage.

John Seidel will also be part of the Wisconsin Office of Energy Innovation regional education workshop "Shattered Cheddar," held in partnership with Wisconsin Emergency Management and with support from the National Association of State Energy Officials (NASEO) and the U.S. Department of Energy's Office of Cybersecurity, Energy Security and Emergency Response). This workshop is for state emergency management and energy office emergency response staff from the Midwest, Great Plains, and Rocky Mountain regions to explore how states can improved their ability to identify gaps in energy management plans as they relate to multi-state coordination, among other current issues states may face.

Director of reliability analysis Bryan Clark and I will attend the Mid-American Regulatory Conference (MARC) Annual Meeting being held June 19-23, 2022. MARC is an association of regulatory agencies from 14 Midwest states (Arkansas, Kansas, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, Texas, and Wisconsin). The annual meeting is attended by state commissioners, commission staff, and representatives of regulated industries and is open to the public. Topics on this year's agenda include FERC Order No. 2222 Use Cases and Implementation, and Building for the New Normal: Development of Grid Enhancement Investments and Other Technologies.

Regulatory Update

On May 19, 2022, NERC released a statement on the Federal Energy Regulatory Commission (FERC) May Open Meeting actions. "At its monthly open meeting, the Federal Energy Regulatory Commission (FERC) approved in part and denied in part NERC's petition for revisions to its Rules of Procedure regarding its

compliance monitoring and enforcement program. The order approves revisions for the Personnel Certification and Credential Maintenance Program in ROP section 600, the Training and Education Program in section 900, and Confidential Information in section 1500. The order also approves in part and rejects in part proposed revisions to the Compliance Monitoring and Enforcement Program (“CMEP”) in section 400, Appendix 2, and Appendix 4C.

The ERO Enterprise will submit a compliance filing within 60 days as directed by the Order.”

If you have any questions, do not hesitate to reach out to me at tasha.ward@mro.net.

Employee Spotlight

Please join us in welcoming the following individuals to the MRO Team:

Rita Li joined MRO in June as a Data Analyst Intern for the summer. Rita is currently a student at Macal-ester College in St. Paul, double majoring in Applied Math and Statistics and Computer Science.

Cris Zimmerman joined MRO in May as the new Manager of Outreach and Stakeholder Engagement. Cris has extensive experience developing and delivering technical training programs for the power industry, spending much of his career working for Xcel Energy. We are looking forward to the experience and knowledge Cris brings to this new role.

Max Vang joined MRO in May as an IT Support Analyst. He has many years of experience in supporting various IT and audio visual functions and will provide much needed support to MRO in these areas. We look forward to having him as part of the IT team.

Lauren McClary is working with MRO as a temporary Meeting Administrator and is greeting visitors at the front reception desk. She has several years of administrative and customer service experience and will be an asset to our meeting and event planning team.

Also, please congratulate **Rumyana Kreidler**, who recently accepted the position of Manager of Risk Assessment and Mitigation. Rumyana has been with MRO since 2018, initially working in the Compliance Department. She transitioned to working in the Risk Assessment and Mitigation Department in 2019. Her wealth of technical and management experience will serve her well in this new role.

MRO is hiring! To apply for any of the following positions, please visit the [Careers Page](#) on our website or find us on [LinkedIn](#).

- Human Resource Generalist
- Reliability Specialist (Senior or Principal)
- Principle Technical Advisor

BULK POWER SYSTEM RELIABILITY



Generation Availability Data System

Generation Availability Data System (GADS) is a mandatory industry program for conventional generating units that are 20 MW and larger. Section 1600 of the North American Electric Reliability Corporation (NERC) Rules of Procedure clearly states that the generation data is collected under GADS. NERC introduced GADS in 1982 as a series of databases used to voluntarily collect operating information on the performance of electric generating equipment. In June 2010, the NERC Planning Committee created the Generation Availability Data System Task Force (GADSTF) to review the GADS data and determine whether reporting should become mandatory. The task force determined that missing capacity from newer units and technologies led to inadequate data for conducting reliability studies. Therefore, the NERC Board of Trustees ultimately approved mandatory GADS reporting for conventional generating units.

Today, NERC's GADS maintains operating histories on more than 5,000 generating units in North America, and GADS is recognized as a valuable source of reliability information for total unit and major equipment groups and is widely used by industry analysts in a variety of applications. This valuable source of reliability, availability, and maintainability information includes unit design data, monthly performance data (including hours of availability and power produced), and events data. Through GADS, NERC and the six Regional Entities (of which MRO is one) collect information about the performance of electric generating equipment and

provide assistance to those researching information on power plant outages. GADS also supports equipment availability analyses and other decision-making processes in the industry. This data is collected throughout the year on a quarterly basis and allows Regional Entities to identify any significant trends in a timely manner. GADS data is used in NERC's State of Reliability Report analyzing the Equivalent Forced Outage Rate (EFOR) by region and generation type, and the top causes of forced outages. MRO also includes GADS data in regional seasonal assessments to analyze the major forced outage contributors and the impacts of top events on regional bulk power system reliability.

The ERO Enterprise's mission is to identify, prioritize and assure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system. Accurate data reporting in a timely fashion supports ERO Enterprise efforts and is crucial to the success of our mission. In order to assist utility personnel in reporting information to GADS, NERC developed [GADS Data Reporting Instructions](#) (DRI). The GADS DRI document details the procedures, format, and frequency to follow when reporting data to GADS. The DRI document has several sections, and each section highlights a particular area of data to report to GADS. Section II describes the three general types of data to be reported to GADS: event, performance, and design. Sections III and IV provide the details for the event and performance reporting requirements, respectively. Section V describes the format and procedure to follow when reporting design data to GADS.

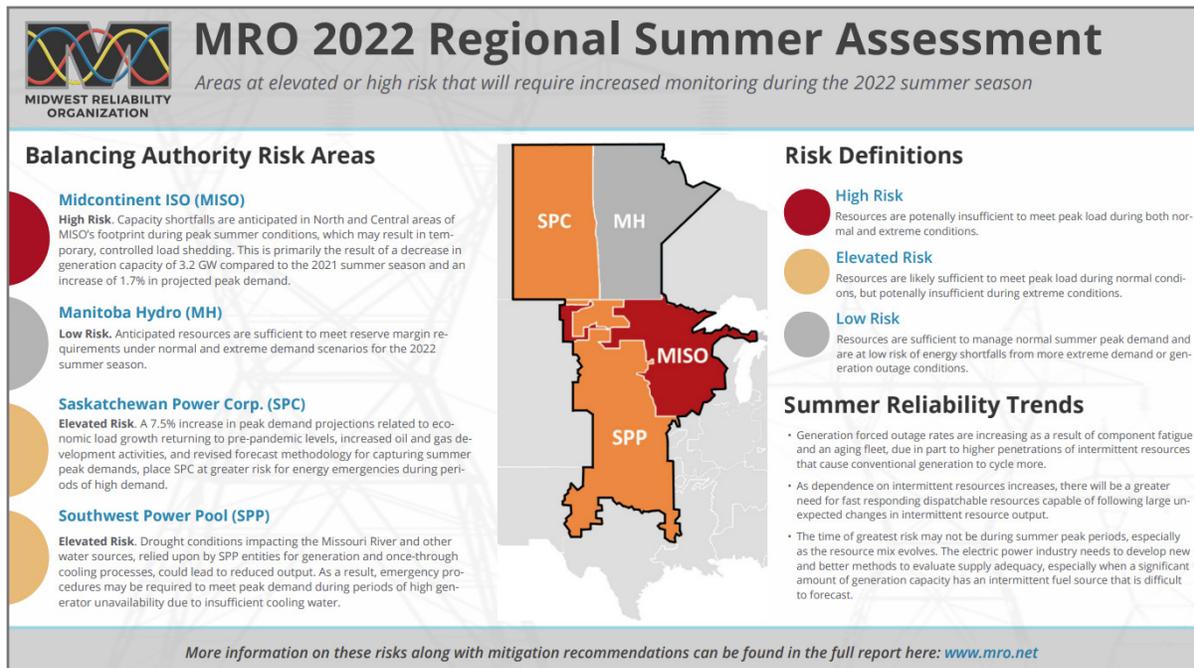
With significant changes to the resource mix, wind generation data plays a very important role in resource adequacy analyses. Wind data reporting became mandatory on January 1, 2018, for 200 MW or larger. As of January 1, 2020, wind data reporting is required from wind plants with total installed capacity of 75 MW or larger. GADS Wind reporting is more data intensive and on a separate platform. The details of the GADS Wind reporting tool will be included in a separate article.

- Dianlong Wang, Sr. Power System Engineer, P.E.

MRO Releases Regional Summer Assessment

MRO is releasing its 2022 Regional Summer Assessment (2022 RSA) this month, which will be followed by a webinar on the topic on June 30, 2022. The assessment provides information and awareness to regulators, industry leaders and registered entities, and other key stakeholders on the expected health of the bulk power system within MRO's regional footprint for the upcoming summer season. This assessment complements NERC's Summer Assessment (which provides an evaluation of resource and transmission system adequacy necessary to meet projected summer peak demands across all of North America) by taking a more granular look at reliability challenges that present a greater risk within MRO's regional footprint. MRO also includes historical trends as part of its seasonal assessments.

NERC's [2022 Summer Reliability Assessment](#) highlights the risks of potential energy shortfalls this summer for Midcontinent Independent System Operator (MISO), particularly in the North and Central areas of MISO's footprint, due to insufficient capacity to cover the anticipated summer peak demands. The anticipated shortfalls increase the risk of temporary, controlled load sheds or other operating mitigations such as deployment of load-modifying resources or non-firm imports to meet reserve requirements under normal peak summer conditions.



Above-normal temperatures and continued drought conditions over the western half of the United States will impact the Missouri River and other water sources used by Southwest Power Pool (SPP) for generation and once-through cooling processes. This could lead to reduced output from these resources and require the implementation of emergency procedures to meet peak demand during periods of high generator unavailability because of insufficient cooling water.

Anticipated resource capacity in Saskatchewan will be strained to meet projected peak demand for the summer season. This is primarily the result of a projected increase in load growth from the economy returning to pre-pandemic levels, increased oil and gas development activities, and a revised forecast methodology for anticipating summer peak demands. Saskatchewan Power Corporation (SPC) is seeing tighter reserve margins as available resources approach planning reserve margin levels. SPC projects sufficient operating reserves for normal weather this summer; however, above-average seasonal temperatures and increased forced outages for generation will require external assistance from Alberta, Manitoba, and/or SPP.

The 2022 RSA reflects MRO's independent assessment of the upcoming summer season to identify challenges and potential risks to the reliable operation of the bulk power system within MRO's regional footprint. This assessment provides an in-depth evaluation of resources and transmission system adequacy necessary to meet projected summer peak demands in 2022, as well as an analysis of historical performance data to identify trends that could impact system reliability during the summer months. Some of the topics covered during the 2022 RSA webinar will be:

- A review of 2021 summer transmission events and the impact on the Bulk Electric System (BES)
- Reliability impacts of historical MRO regional conventional generation forced outage rates
- Performance of BES transmission lines and outages based on circuit miles
- MRO historical operations and misoperations of the protection system and the outage causes during summer 2021
- Resource adequacy analysis and the driving force behind resource shortfalls for summer 2022

Webinar registration information will be provided in early June with the release of the MRO 2022 RSA report.

- Salva Andiappan, Principle Reliability Assessment Engineer


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NEW MRO WEBSITE COMING IN JUNE

For some time now, our stakeholders have been asking us to improve the navigation of our website and its search capabilities. In January, we polled individuals from MRO registered entities and other stakeholders that frequently use the website to seek input on the website's functionality and what opportunities exist for improvement. Since that time, a small team of MRO staff has been working with an external firm to design and develop a new site that better meets the needs of our stakeholders.

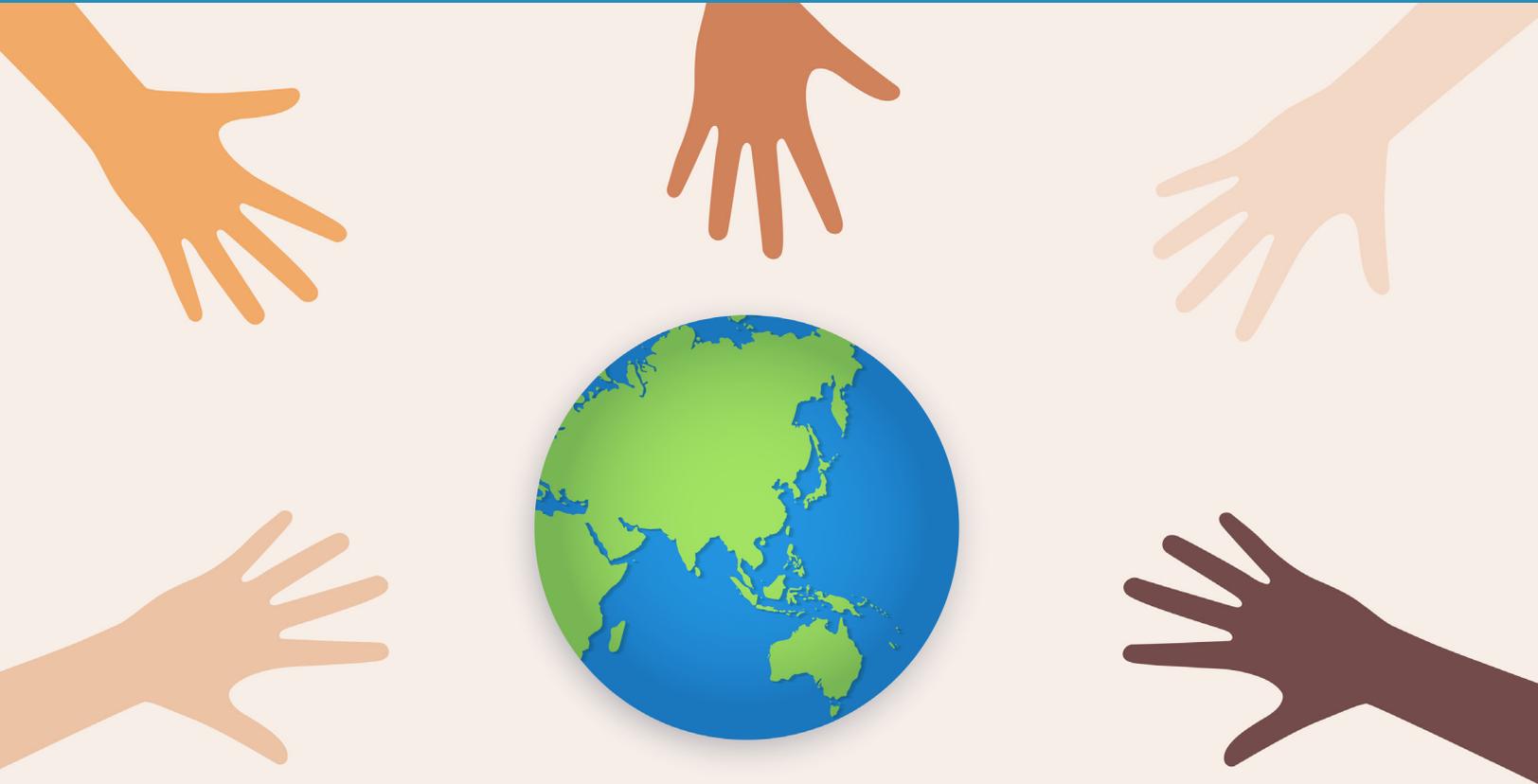
We are very excited to announce that MRO will go live with a new website this June!

Some of the website enhancements you can look forward to are:

- Structure designed around key program areas, organizational groups, industry events, news, and information
- Drop down menu items for easier navigation
- Improved search functionality and the ability to sort news and library items by category and document type
- Ability to subscribe to specific areas of interest
- Integrated social media buttons to share important information

Our goal with the new site is to provide end-users with easier access to information highlighting the important work we do to forward our vision of a highly reliable and secure North American bulk power system. Stay tuned for more!

DIVERSITY, EQUITY AND INCLUSION

**WORLD DAY FOR CULTURAL DIVERSITY
FOR DIALOGUE AND DEVELOPMENT**

World Day for Cultural Diversity for Dialogue and Development

“Our ability to reach unity in diversity will be the beauty and the test of our civilization.”

– Mahatma Gandhi

On May 21 of each year, World Day for Cultural Diversity for Dialogue and Development (World Day) is celebrated by vast cultures all over the world, along with the role of intercultural dialogue for achieving peace and sustainable development. World Day was first declared in 2002 when the United Nations General Assembly adopted the declaration, with full understanding of the need for cultural diversity, development of prosperity among all, and global peace. In September 2015, the adoption of the [2030 Agenda for Sustainable Development](#) by the United Nations even more deeply set the stage for cultural diversity in the world. There are 17 Sustainable Development Goals within the resolution that can be achieved by “drawing upon the creative potential of the world’s diverse cultures and engaging in continuous dialogue to ensure that all members of society benefit from sustainable development.”

MRO recognized this day and celebrated by hosting an international potluck on June 8 where each employee brought an item representing their family, culture, or ethnicity. The purpose of the potluck was to share and celebrate the different backgrounds and traditions that make us each unique. In addition to enjoying the opportunity to connect and spend time together, recipes and the reasons behind the food were compiled and shared.

Celebrating World Day and understanding the objectives of the United Nations in declaring this cultural event is important because embracing other cultures helps bridge the gaps that exist among us and lead to a more intelligent, moral, and impactful lifestyle.

What can you do to observe and take part in World Day?

- Watch a documentary on an international event
- Try cooking a recipe from another country
- Volunteer with a diversity, equity, and inclusion organization
- Take part in a new sport from a different culture
- Visit an art museum dedicated to another culture
- Watch an international film

Together, our future is bright!

- Holly Haynes, Senior CIP Compliance Auditor



Photos from MRO's first International Potluck

INDUSTRY NEWS AND EVENTS

LATEST NEWS:

President Biden Invokes Defense Production Act to Accelerate Domestic Manufacturing of Clean Energy

On June 6, 2022, President Biden issued presidential determinations providing the U.S. Department of Energy (DOE) with the authority to utilize the Defense Production Act (DPA) to accelerate domestic production of five key energy technologies: (1) solar; (2) transformers and electric grid components; (3) heat pumps; (4) insulation; and (5) electrolyzers, fuel cells, and platinum group metals. See the [full announcement](#).

Biden Administration Launches Bipartisan Infrastructure Law Initiative to Connect More Clean Energy to the Grid

The Interconnection Innovation e-Xchange engages utilities, clean energy developers, regulators, and others to enable more clean, affordable electricity while ensuring grid reliability, and resilience. See the [full announcement](#).

FERC Staff Issues 2022 Summer Assessment

The Federal Energy Regulatory Commission (FERC) staff released its 2022 summer assessment outlook for energy markets and electric reliability, noting that electric markets are expected to have sufficient capacity to maintain reliable operations this summer under normal conditions, but that extreme weather events could pose operational challenges. See the [full announcement](#).

FERC - NARUC Joint Task Force on Transmission Announces Fourth Meeting

FERC announced that the joint task force on transmission will meet on July 20, 2022, in San Diego, California. The meeting discussions will cover a broad array of transmission-related topics. The meeting is open to the public and there is no cost

to attend. The meeting will also be available to attend by webcast. More details are [here](#).

Industry Experts Author Paper on Climate Change Impacts to the Grid

Mark Lauby, NERC senior vice president and chief engineer, co-authored and reviewed a report on the grid and climate change as part of IEEE's, Power & Energy Society (PES) Industry Technical Support Leadership Committee (ITSLC). See the [full announcement](#).

Statement on FERC May Open Meeting Action

At its monthly open meeting, FERC approved in part and denied in part NERC's petition for revisions to its Rules of Procedure regarding its compliance monitoring and enforcement program. Read the [full announcement](#).

NERC Report Warns that Extreme Weather Heightens Reliability Risks this Summer

NERC's 2022 Summer Reliability Assessment warns that several parts of North America are at elevated or high risk of energy shortfalls this summer due to predicted above-normal temperatures and drought conditions over the western half of the United States and Canada. Read the [full announcement](#).

INDUSTRY EVENTS:

WECC Board and Committee Meetings

June 14-15, 2022 | Virtual

Register [here](#).

SERC Webinar: The Scoop on Ransomware

June 15, 2022 | 9:00 a.m. to 12:30 p.m. Eastern

Register [here](#).

SERC Ransomware Webinar

June 15, 2022 | Virtual

The focus of this event is to create awareness on Ransomware as a major risk to all critical infrastructure as well as the electric utility industry. Register [here](#).

SERC Webinar: The Scoop on Supplychain

July 19, 2022 | 1:00 to 4:30 Eastern | Virtual

Register [here](#).**Tech Talk with RF: California 2021 Solar PV Events**

June 20, 2022 | 1:00 to 2:30 Eastern | Virtual

Register [here](#).**SERC Board and Committee Meetings**

June 22-23, 2022 | Virtual

The webinar will provide a forum for experts in the gas industry, as well as electric utilities planning groups to raise awareness as we work together to understand and address the risk to reliability. Register [here](#).

Texas RE Reliability 101 Webinar Series**Multiple Dates**

Texas RE's Reliability 101 is a webinar series designed for stakeholders who are new to the electric reliability industry, reliability standards, or their role. Attendance is open to anyone who wants a refresher on compliance and enforcement basics, NERC and Texas RE history, introductions to various program areas, or how to get involved with Texas RE. Register [here](#).

MRO EVENTS:**Security Advisory Council Threat Forum Q2 Meeting**

June 15, 2022 | 8:00 a.m. - 3:00 p.m. Central

Virtual format. Register [here](#).**Security Advisory Council Q2 Meeting**

June 22, 2022 | 9:00 a.m. - 3:00 p.m. Central

Hybrid format. Register [here](#).**Organizational Group Oversight Committee Q2 Meeting**

June 22, 2022 | 9:30 a.m. - 12:00 p.m. Central

Hybrid format. Register [here](#).**Board of Directors Q2 Meeting**

June 23, 2022 | 11:00 a.m. - 2:30 p.m. Central

Hybrid format. Register [here](#).**2022 Regional Summer Assessment Webinar**

June 30, 2022 | 10:00 - 11:00 a.m. Central

MRO's Reliability Advisory Council is hosting this event at the InterContinental Kansas City at the Plaza in Kansas City, Missouri. Attendance is also available by web. Read more and register [here](#).

Annual CMEP Conference

July 26, 2022 | 9:00 a.m. to 4:00 p.m. Central

Hybrid format. Register [here](#).

In addition to the above events, MRO's NERC Standards Review Forum and Security Advisory Council Threat Forum continue to meet weekly, and the CMEP Advisory Council hosts a monthly compliance call.

To see more MRO meetings and events, visit our [website calendar](#).



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