2022 MRO Virtual RAM Webinar

"New Year, New Processes"

Thursday, April 28, 2022 | 12:30 p.m. to 3:30 p.m. Central

Webex Only

MIDWEST RELIABILITY ORGANIZATION

380 St. Peter St, Suite 800
Saint Paul, MN 55102
651-855-1760
www.MRO.net

LOGISTICS

WebEx Login
If any help is needed logging into Webex please reach out to Kendra Buesgens at kendra.buesgens@mro.net or Michelle Olson at michelle.olson@mro.net.

Audio and Video Recording
Participants will be muted upon entry. Please note that Midwest Reliability Organization (MRO) may make a video and/or an audio recording of the speakers for the purposes of making this information available to board members, members, stakeholders and the general public who are unable to attend the meeting in person.

Questions
If you have questions for a speaker, please utilize Webex's chat feature. Please submit all questions to 'All Panelists.' If we are unable to get all questions asked/answered during the webinar, a response will be provided after the webinar either directly to the requestor or through another form of outreach.

Presentations
The presentations and recordings from today's webinar will be shared in the near future.

Feedback
Your feedback is very important to us and is used to improve future MRO trainings and events. Please utilize the survey link at the end of this packet to provide your feedback.

AGENDA

Thursday, April 28, 2022 | 12:30 p.m. to 3:30 p.m. Central

12:30 p.m. – 12:35 p.m.	**Webinar Welcome** *Emcee: Kendra Buesgens, Risk Assessment and Mitigation Administrator*
12:35 p.m. – 1:05 p.m.	**MRO Processing Improvement** • Contacting RAM • Preliminary Review *Summer Stephens, Sr. Risk Assessment and Mitigation Specialist, O&P* *Marissa Falco, Risk Assessment and Mitigation Technical Coordinator*
1:05 p.m. – 1:30 p.m.	**Align Updates** • Lessons Learned • Ongoing Align Development & Support *Michael Spangenberg, Risk Assessment and Mitigation Engineer III, CIP* *Marissa Falco, Risk Assessment and Mitigation Technical Coordinator*
1:30 p.m. – 1:40 p.m.	**Afternoon Break**
1:40 p.m. – 2:00 p.m.	**Self-Identified Findings** *Bill Steiner, Director of Risk Assessment and Mitigation*
2:00 p.m. – 2:25 p.m.	**Standards Update** *Lee Felter, Principal Risk Assessment and Mitigation Engineer, CIP* *Uttam Adhikari, Sr. Risk Assessment and Mitigation Engineer, O&P*
2:25 p.m. – 2:45 p.m.	**Proposed Rules of Procedure Changes** *Tasha Ward, Director of Enforcement and External Affairs*
2:45 p.m. – 3:25 p.m.	**Notable HEROS Questions** *Lee Felter, Principal Risk Assessment and Mitigation Engineer, CIP* *Summer Stephens, Senior Risk Assessment and Mitigation Specialist, O&P*
3:25 p.m. – 3:30 p.m.	**Webinar Closing** *Emcee: Kendra Buesgens, Risk Assessment and Mitigation Administrator*

BIOGRAPHIES

Thursday, April 28, 2022 | 12:30 p.m. to 3:30 p.m. Central

William Steiner

Director of Risk Assessment and Mitigation

Bill Steiner joined the Midwest Reliability Organization in February 2013 as a Risk Assessment and Mitigation Principal Engineer and was promoted to Director of Risk Assessment and Mitigation in October of 2018.

Mr. Steiner has over 30 years of experience working with electric utilities. Prior to working at MRO, he worked for seven years at Siemens Energy Automation as an advanced EMS applications Global Software Development Manager and Project Manager for large EMS installation. Prior to Siemens, Mr. Steiner served seven years as the Manager of the Xcel Energy EMS and three years at Open System International as System Engineering Manager during the early development of the Monarch EMS platform. Prior to this EMS experience, Mr. Steiner had seven years of experience working in Transmission Planning at Avista Corporation and three years in Distribution Engineering at the Public Service Company of New Hampshire.

Mr. Steiner graduated from Drexel University in 1987 with a BS Electrical Engineering - specializing in Power and Machines. He also holds CISSP and PMI certifications.

Marissa Falco

Risk Assessment and Mitigation Technical Coordinator

Marissa Falco joined Midwest Reliability Organization (MRO) in December 2018 as Risk Assessment and Mitigation (RAM) Administrator and transitioned into her new role as RAM Technical Coordinator in January 2021. In her role Marissa provides lead support for the integration of the Align and the ERO Secure Evidence Locker (SEL) for critical business processes along with performing the initial intake of findings through Align.

Marissa joined the RAM team after working at multiple Zoos and Aquariums. Her focus was hands-on care and documentation for exotic animals, and responsibilities included project management, customer service, and media creation.

Marissa received a Bachelor of Science degree in Marine Biology from Nova Southeastern University in Fort Lauderdale, FL.

Summer Stephens

Senior Risk Assessment and Mitigation Specialist, O&P

Summer Stephens joined MRO in September 2019 as a Compliance Auditor III. In January of 2021 transitioned to her current role in Risk Assessment and Mitigation.

Ms. Stephens has six years of System Operator experience working for Xcel Energy (NSP) in the Transmission Control Center. Over three years of construction Project Management experience with Xcel Energy (NSP) and other Industry Contractors. In addition has several years of construction and maintenance experience working as a Union Laborer at various MN Generating Plants and Refineries.

Ms. Stephens is a NERC certified System Operator at the Reliability Coordinator level.

Lee Felter

Principal Risk Assessment and Mitigation Engineer, CIP

Lee Felter joined MRO in March 2020 as a member of the Risk Assessment and Mitigation department.

Prior to joining MRO, Mr. Felter had 17 years of power system engineering experience working at PPL, Xcel Energy, and as a consultant. His expertise on Protection and Controls (P&C), SCADA, and communications were applied to standards development and infrastructure projects. Those projects included SCADA and communications infrastructure overhauls, design and testing of: transmission substation control systems; wind farms; solar farms; and energy storage.

Mr. Felter is a graduate of the Pennsylvania State University, with a Bachelor of Science degree in Electrical Engineering Technology. He is also a registered professional engineer (PE) in the State of Pennsylvania.

Uttam Adhikari, PhD

Sr. Risk Assessment and Mitigation Engineer

Uttam Adhikari joined MRO in December 2019 as a Risk Assessment and Mitigation Engineer. He has over 10 years of engineering experience, which covers a broad spectrum of the electrical engineering field.

Prior to joining MRO, Uttam worked at Peak Reliability for three and a half years as an EMS Network Applications Engineer. He worked on projects involving R&D on advanced EMS applications for control room operations including Synchrophasor applications, oscillation monitoring, and data analysis; RAS modeling and visualization, EMS applications support, and West-wide System Model (WSM) testing and validation.

Previous to Peak, Uttam worked at MISO as a Transmission Planning Engineer. Prior to MISO, he worked at Mississippi State University for two years as an Assistant Research Professor and four years as a graduate researcher. He worked on projects involving Synchrophasor Systems; data analytics, large-scale system modeling and simulation; cyber security in smart grid, and developed Event and Intrusion Detection Systems (EIDS) for power systems.

Uttam has a PhD degree in Electrical and Computer Engineering from Mississippi State University, Mississippi State and a Bachelor's degree in Electrical Engineering with an emphasis on Power Systems, from the Institute of Engineering (IOE, Nepal). He is a member of IEEE and IEEE-HKN.

Kendra Buesgens

Risk Assessment and Mitigation Administrator

Kendra Buesgens joined MRO in January 2021 as the Risk Assessment and Mitigation Administrator.

Kendra joined the RAM team after working in the healthcare and behavioral health fields for 8 years. Kendra is a licensed alcohol and drug counselor (LADC) in the state of Minnesota. Her main focus was adult patient care in residential and outpatient settings, providing care to those struggling with mental health and substance abuse. With this, Kendra obtained knowledge of process and procedure of confidential legal documents, and state and government oversight.

Kendra received a Bachelor of Science degree in Psychology and Chemical Dependency from St. Cloud State University.

Tasha Ward

Director of Enforcement and External Affairs

Tasha Ward is the Director of Enforcement and External Affairs for the Midwest Reliability Organization (MRO). Mrs. Ward is responsible for the enforcement of the Reliability Standards as detailed in the NERC Compliance Monitoring and Enforcement Program (CMEP) within the MRO region. Mrs. Ward is also responsible for MRO's External Affairs within the United States. Mrs. Ward joined MRO in October 2019.

Prior to joining MRO, Mrs. Ward served as the Lead Compliance Monitoring and Enforcement Specialist at Southwest Power Pool, a member based organization that oversees the bulk electric grid and wholesale power market for 14 states. A familiar face to the Electric Reliability Organization (ERO), Mrs. Ward also served as a Senior Enforcement Attorney for the Southwest Power Pool Regional Entity (SPP RE) from 2009 until 2015 and rejoined in 2017 until dissolution in 2018. During her gap year with the SPP RE, Mrs. Ward contracted with the SERC Reliability Corporation and taught computer courses to students in 1st through 8th grades. Early in her career, Mrs. Ward was a law clerk at the Arkansas Supreme Court for the Honorable Justice Jim Gunter and served as Associate Executive Director at the Arkansas Bar Association.

Mrs. Ward graduated with a Bachelor of Science from the University of Central Arkansas located in Conway, AR and received her doctor of jurisprudence (J.D.) from the University of Arkansas at Little Rock Bowen School of Law in Little Rock, AR. She is licensed to practice law in Arkansas and Texas and is a Certified Compliance and Ethics Professional. She is a member of the Texas Bar Association, the Energy Bar Association, and the Society of Corporate Compliance and Ethics.

PRESENTATIONS

All presentations for today's webinar are included in order of presentation. Some presentations may have changed slightly after the print deadline.

MIDWEST RELIABILITY ORGANIZATION

Welcome to MRO's 2022 Virtual RAM Process Webinar

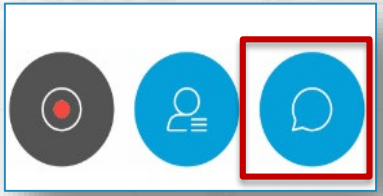
"New Year, New Processes"

April 28, 2022

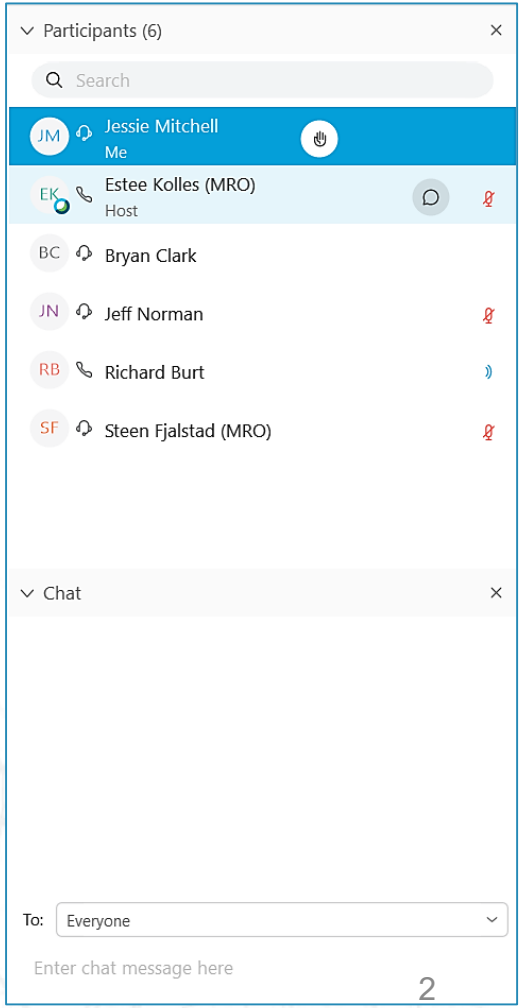
CLARITY | ASSURANCE | RESULTS

Viewing Chat

Open the Chat Feature:



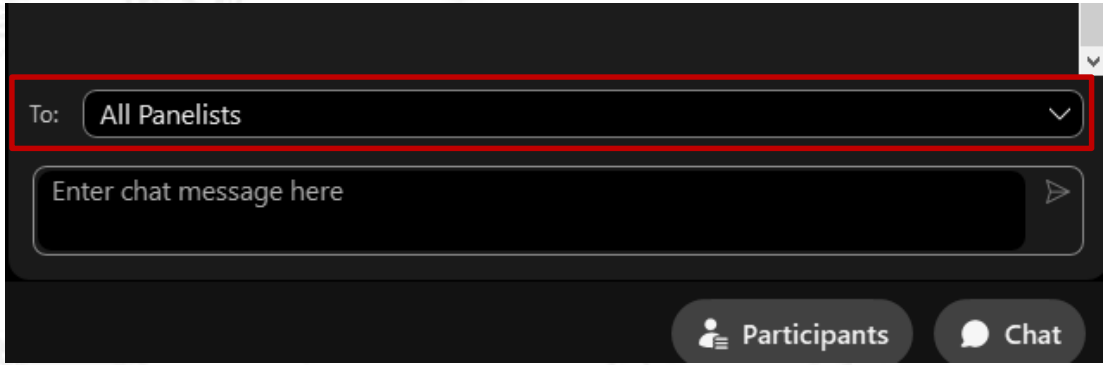
The chat feature will appear to the right of the WebEx window.



Using the Chat Feature

Attendees should chat their questions to ALL PANELISTS.

To chat, select the all panelists by using the drop down arrow in the TO field:



Enter your message in the chat box under the TO field.

Contact Info for Event Support

Kendra Buesgens
Kendra.Buesgens@mro.net

Michelle Olson
Michelle.Olson@mro.net

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MRO Process Improvement

Summer Stephens, Sr. Risk Assessment and Mitigation Specialist, O&P

Marissa Falco, Risk Assessment and Mitigation Technical Coordinator

RAM Process Improvement Project

2021 Q4:

- Review and redesign RAM & Enforcement processing of “findings” for efficiency and effectiveness
- Implement redesign changes to accommodate the new Align ERO system

RAM Improvements

- Contacting RAM
- Preliminary Review

Contact Problem:

The most recent stakeholder survey results (2019) revealed that close to 40% of respondents didn't know who at MRO to contact if they had questions on a specific topic.

RAM Contact Structure

- RAM Administrator
- RAM Technical Coordinator *(*new)*
- Primary Contact *(*new)*
- Case Manager
- RAM Managers- CIP/O&P
- RAM Director

Administrator vs Technical Coordinator

Administrator

Responsible for FTP3 and FTP4 account access, HEROs, PDS exploder, IRA data requests, and the NSRF.

Coordinator *(*new)*

Responsible for general RAM and Align process questions and is the MRO RAM liaison with NERC. Creates and sends the preliminary review RFI.

Primary Contact vs Case Manager

Primary Contact *(*new)*	Case Manager
Responsible for tracking the status of an entity's overall findings and being the first/main point of contact. These contacts will be identified to the entity and would be able to assist prior to case manager assignment and after assessment.	Responsible for the risk assessment and mitigation of a particular finding. Completes case specific RFI questions, SME interviews or other follow ups.

Both roles of Primary Contact & Case Managers are assigned to the RAM Engineers.

Manager vs Director

Manager-CIP/O&P	Director
Responsible for the management of CIP/ O&P team of engineers, assigns case managers.	Responsible for ensuring department operates in a fair and consistent manner, and ERO coordination.

Example Contact Questions

Example question	Contact
Has my finding been assigned to someone?	Primary Contact
I have a self report for CIP-002 and just came across another issues, who should I contact?	Primary Contact
My EFT/FTP account has locked me out, who can help me?	Administrator
I have questions about mitigation, who do I discuss these with?	Primary Contact/ Case Manager
Who can assist me, I am having trouble doing something in Align?	Coordinator/ Primary Contact

Example Contact Questions

Example question	Contact
Why can't I upload to ERO SEL?	Coordinator/ Primary Contact
What is this request item from the preliminary review?	Coordinator
Can I extend this milestone?	Primary Contact/ Case Manager
How do I escalate a finding discussion?	Primary Contact/ RAM Managers
Whom can I discuss a high level process questions/recommendations with?	RAM Managers/ Director

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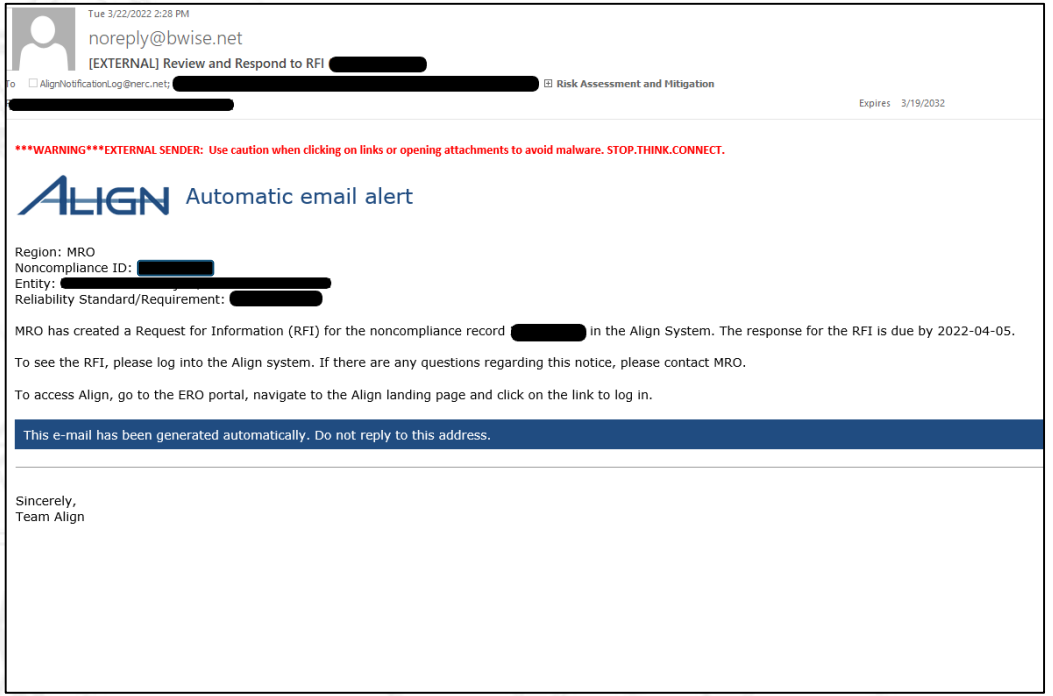
Preliminary Review RFI

Marissa Falco, Risk Assessment and Mitigation Technical Coordinator

Preliminary Review

- Conducted by RAM Technical Coordinator
- Sent for all Findings submitted into Align
- Goal is to send out within 31 days of submittal/hand-off
- Asked to reply in 2 weeks



Tue 3/22/2022 2:28 PM

noreply@bwise.net

[EXTERNAL] Review and Respond to RFI [redacted]

To AlignNotificationLog@nerc.net; [redacted] Risk Assessment and Mitigation

[redacted] Expires 3/19/2032

WARNINGEXTERNAL SENDER: Use caution when clicking on links or opening attachments to avoid malware. STOP.THINK.CONNECT.

ALIGN Automatic email alert

Region: MRO
Noncompliance ID: [redacted]
Entity: [redacted]
Reliability Standard/Requirement: [redacted]

MRO has created a Request for Information (RFI) for the noncompliance record [redacted] in the Align System. The response for the RFI is due by 2022-04-05.

To see the RFI, please log into the Align system. If there are any questions regarding this notice, please contact MRO.

To access Align, go to the ERO portal, navigate to the Align landing page and click on the link to log in.

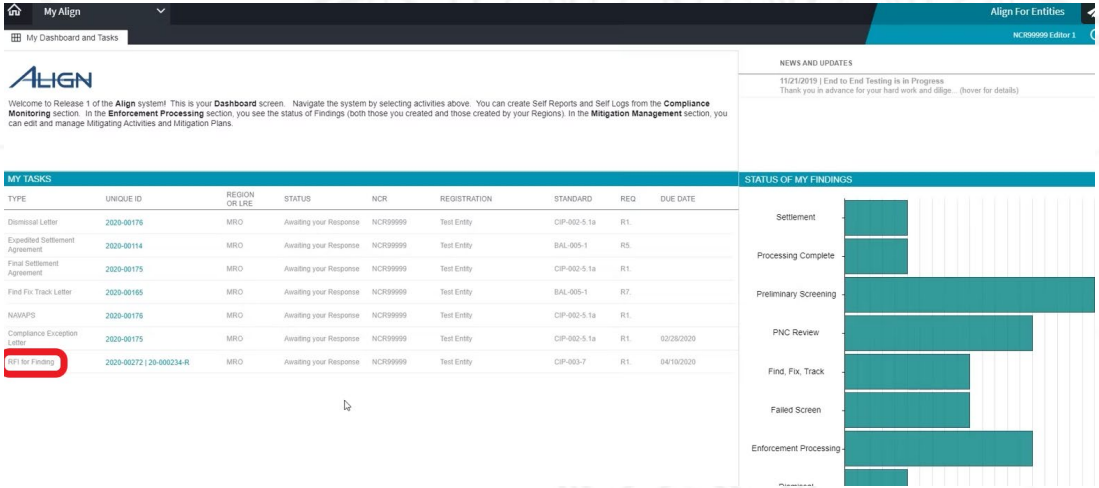
This e-mail has been generated automatically. Do not reply to this address.

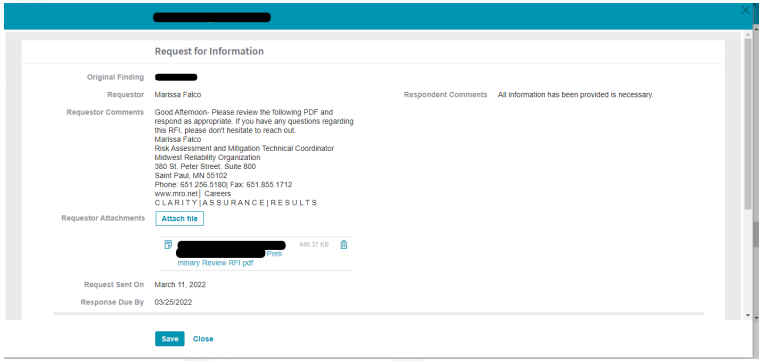
Sincerely,
Team Align

What is the purpose?

- **Incorporate feedback from MRO stakeholder survey**
  - Identified entities didn't know who to contact
- **Better/faster initial communication between RAM and the entity**
- **Give contact information quickly**
  - Opportunity to speak with RAM faster
- **Tool provided for future reference to demonstrate what information is required for all findings**

What does it look like?





What Is All Included?

Finding Details		
Entity	**Unique ID**	**Standard and Requirement**

Mitigation Submission Checklist					
No.	**Question**	**Yes**	**No**	**N/A**	**Unknown**
1.	Is mitigation in progress or complete?	☐	☐	☐	☐
2.	Has mitigation been submitted under the mitigation record within Align? If the mitigation information was submitted within the PNC record or into the SEL, it must be transferred into the mitigation record within Align.	☐	☐	☐	☐
3.	Is there mitigation milestone to address the current issue and another to address the reoccurrence that is submitted into Align under the mitigation record?	☐	☐	☐	☐
Prioritization Checklist					
No.	**Question**	**Yes**	**No**	**N/A**	**Unknown**
4.	Does the entity request a prioritized discussion with RAM regarding the potential noncompliance or mitigation?	☐	☐	☐	☐
5.	Was the potential noncompliance identified by an internal control?	☐	☐	☐	☐
6.	Was the potential impact reported as Serious?	☐	☐	☐	☐
7.	Is the potential noncompliance still occurring?	☐	☐	☐	☐

- **Checklist**
  - Mitigation
  - Prioritization
- **Compliance History**
- **RAM Primary Contact Information**

Checklist- Mitigation

Mitigation Submission Checklist				
Question	**Yes**	**No**	**N/A**	**Unknown**
Is mitigation in progress or complete?	☐	☐	☐	☐
Has mitigation been submitted under the mitigation record within Align? If the mitigation information was submitted within the PNC record or into the SEL, it must be transferred into the mitigation record within Align.	☐	☐	☐	☐
Is there mitigation milestone to address the current issue and another to address the reoccurrence that is submitted into Align under the mitigation record?	☐	☐	☐	☐

- **Mitigation is now tracked through Align**
- **Mitigation must be submitted into Align by the entity**
  - Compliance is unable to submit on behalf of the entity
- **Submitting mitigation is different than submitting mitigation evidence to the ERO SEL**

Checklist- Prioritization

Prioritization Checklist					
No.	**Question**	**Yes**	**No**	**N/A**	**Unknown**
4.	Does the entity request a prioritized discussion with RAM regarding the potential noncompliance or mitigation?	☐	☐	☐	☐
5.	Was the potential noncompliance identified by an internal control?	☐	☐	☐	☐
6.	Was the potential impact reported as Serious?	☐	☐	☐	☐
7.	Is the potential noncompliance still occurring?	☐	☐	☐	☐

- **Request an initial conversation with RAM**
- **Identify any potential ongoing or serious risks quickly**

Compliance History

Relevant Compliance History			
Unique ID	Processed As	Mitigating Activities or Mitigation Plan	Mitigation Complete?

- Identify findings of the same standard and requirement that have been closed within the past 5 years
- RAM Case Manager to review further

RAM Primary Contact

- **Typically one RAM Primary Contact per entity**
  - Will not be based on O&P or CIP
- **Occasionally Standard specific or Self-Cert/Audit RAM Primary Contacts**
- **Contact them for status updates on finding, questions regarding finding, and mitigation questions**

Answering the RFI

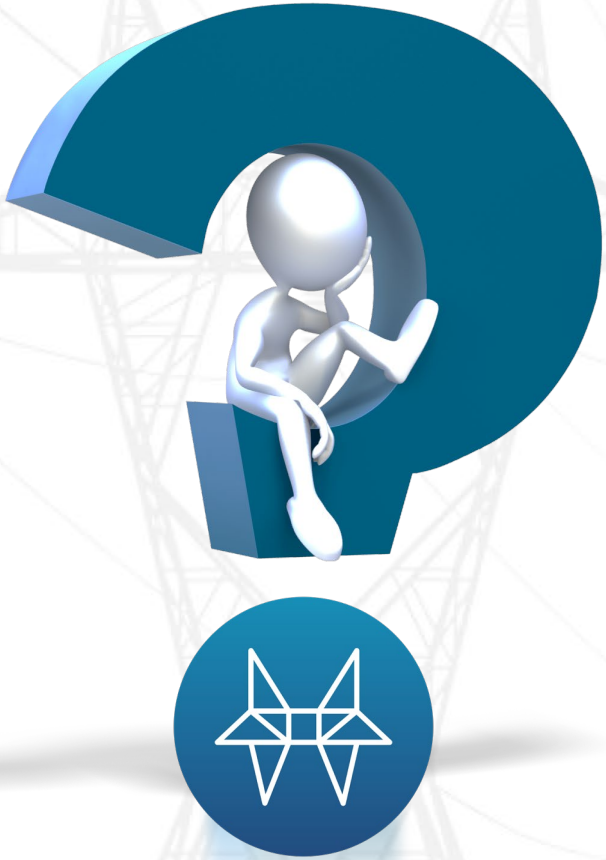
- **Meant to ensure both RAM and the entity are on the same page**
  - Not meant to be an extensive amount of work for the entity
- **If all information is correct and no unknown responses checked, respond within Align "All information has been provided and correct"**
- **Questions about the checklist directed to RAM Technical Coordinator**

Answering the RFI

- **Any question marked as unknown or you feel is incorrect, please provide or give an explanation on why information is missing**
  - Ex. Mitigation has not been submitted into Align as we are still determining some of the milestones
- **Can respond either within the ERO SEL, or Align under "Respondent Comments", which ever is more appropriate for the information provided**
  - Ex. Yes we request a prioritized discussion, we would like to discuss the specifics of the finding- submitted through Align
  - Ex. We are providing more evidence and believe this should be dismissed – Explanation provided through Align, evidence provided through ERO SEL
- **Inform us if there are compliance history corrections**
  - Can be provided through ERO SEL or Align, depending on the amount of detail

What Happens Next?

- **If no prioritization is required, the finding will go through normal processing**
- **If prioritization is required, RAM Primary Contact/RAM Case Manager will be in touch**
  - Examples of why an item might be prioritized
    - Entity requested a discussion with RAM
    - Risk reported as serious
    - Issue is still ongoing with no understanding of mitigation
- **The goal of prioritization is to get the entity in contact with RAM sooner, not to reduce the processing time of the finding**



HEROS@mro.net

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Align Updates

Marissa Falco, Risk Assessment and Mitigation Technical Coordinator

Michael Spangenberg, RAM Engineer III

Lessons Learned (Release 1)

Michael Spangenberg, RAM Engineer III

Self-Report and Self-Log Submittal

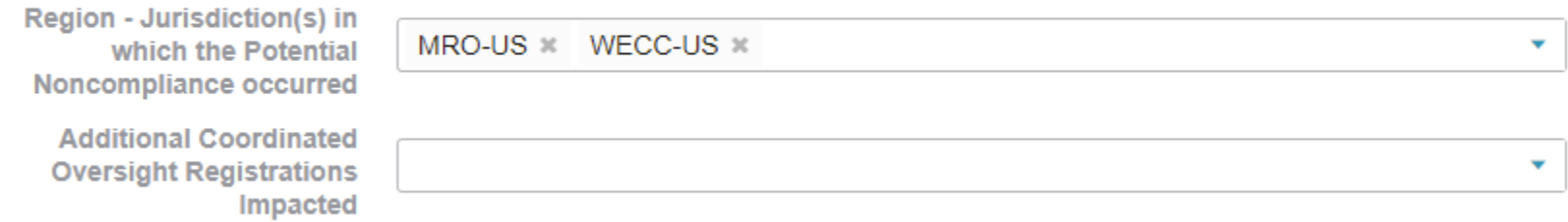
- **Extent of condition**
  - Even if the extent of condition did not uncover additional instances, explanation of how this determination was made assists MRO in understanding the full extent was included
- **Draft Self-Logs and Self-Reports**

Coordinated Oversight/Multi-Region Registered Entity

- **Coordinated Oversight (CO)**
  - Select the region(s) it happened in but routes to LRE
  - Include all of the jurisdictions it happened if applicable
- **Multi-Region Registered Entity (MRRE)**
  - Registered entity will need to report to each region impacted
  - Include other regions reporting too if applicable
- **Either situation will require selection of the region(s) impacted in the Self-Report submittal**

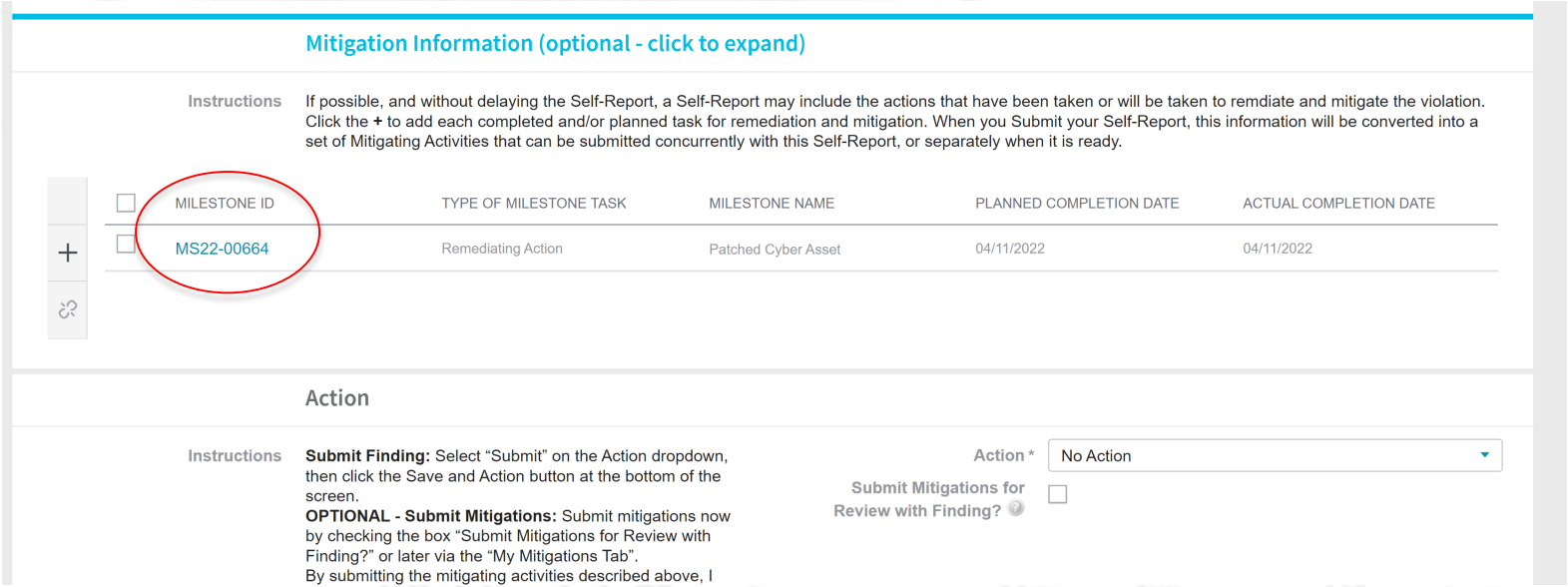
Coordinated Oversight/Multi-Region Registered Entity

- Coordinated Oversight



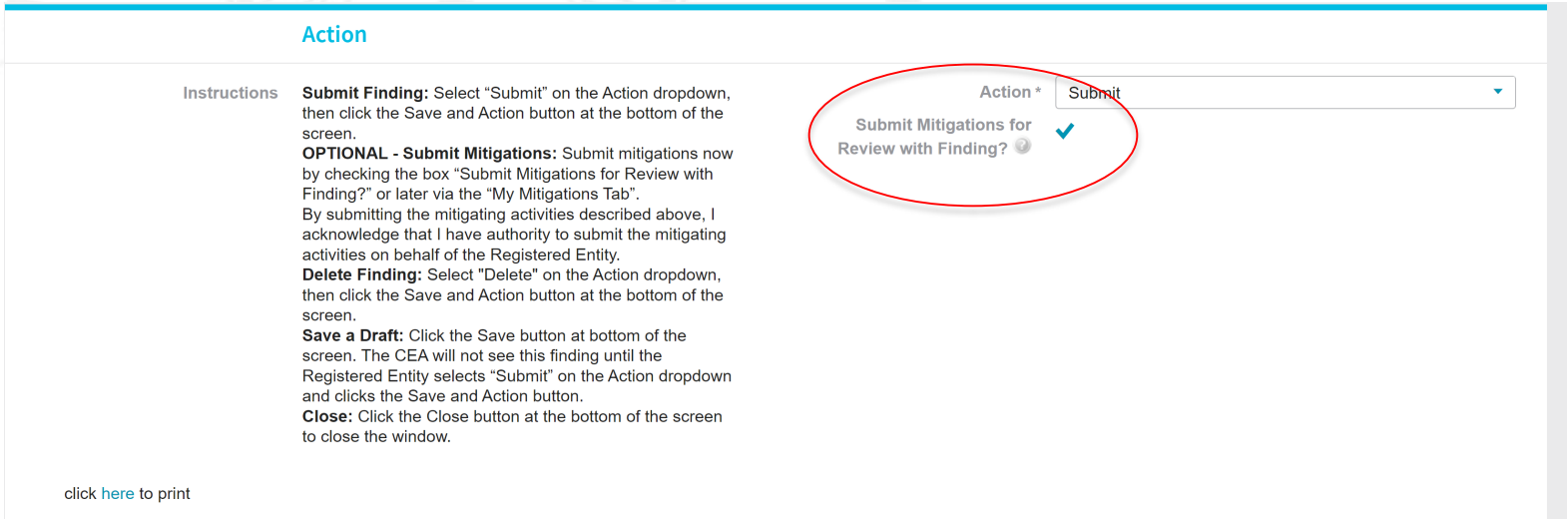
Self-Report and Self-Log Submittal

- Milestone number appears after record is saved



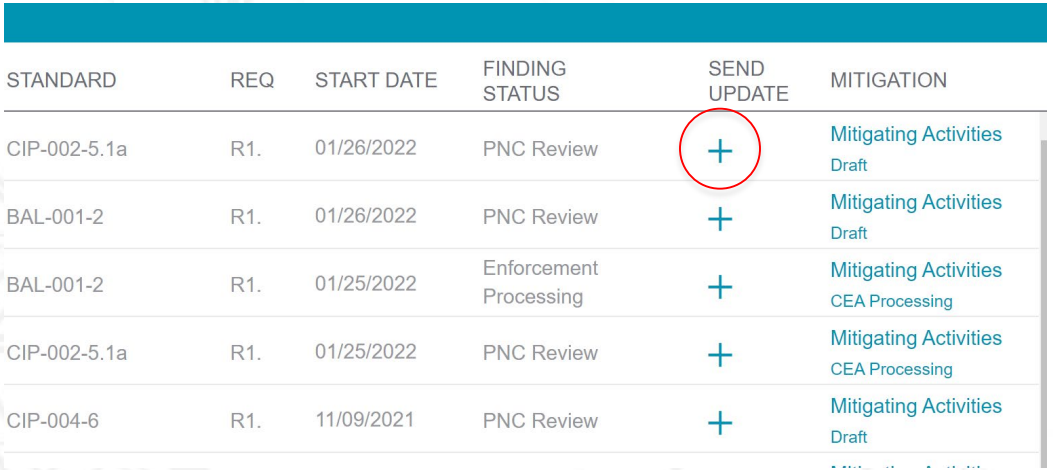
Self-Report and Self-Log Submittal

- **Preferred to submit mitigation with finding**



Self-Report and Self-Log Update

- Update through Enforcement Processing tab
- Updates will not be reflected in the original finding record and will be in the associated Finding Update record



STANDARD	REQ	START DATE	FINDING STATUS	SEND UPDATE	MITIGATION
CIP-002-5.1a	R1.	01/26/2022	PNC Review	+	Mitigating Activities Draft
BAL-001-2	R1.	01/26/2022	PNC Review	+	Mitigating Activities Draft
BAL-001-2	R1.	01/25/2022	Enforcement Processing	+	Mitigating Activities CEA Processing
CIP-002-5.1a	R1.	01/25/2022	PNC Review	+	Mitigating Activities CEA Processing
CIP-004-6	R1.	11/09/2021	PNC Review	+	Mitigating Activities Draft

Request for Information (RFI)

- For Enforcement processing, MRO may submit an RFI from either enforcement record or the mitigation record
- Remember the RFI in Align is the official RFI and “Save and Action” officially response to the RFI
- Email notification will be sent to applicable contacts when MRO submits the RFI in Align
- RAM staff may reach out through email if a phone call is requested otherwise all RFIs are through Align

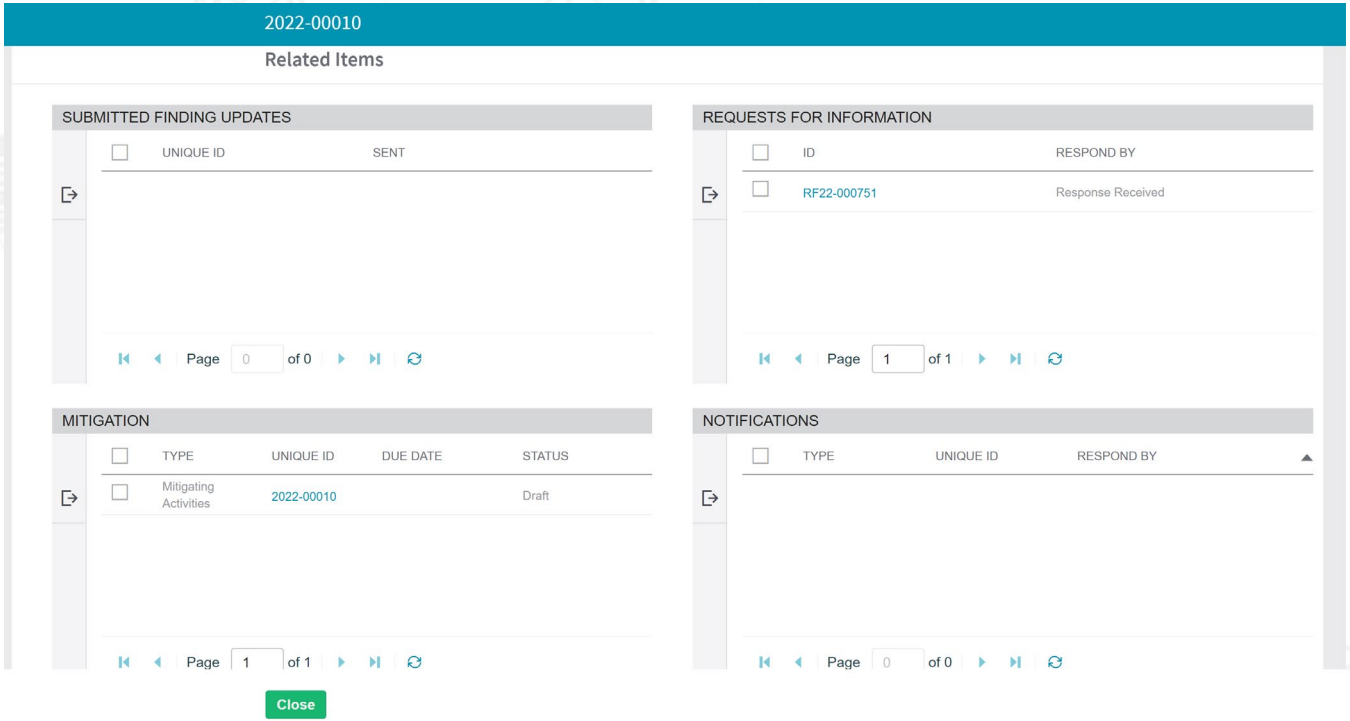
Request for Information (RFI)

- In Align: My Align Dashboard

MY TASKS

	TYPE	UNIQUE ID	REGION OR LRE	STATUS
	RFI for PDS	| RF21-000682	MRO	Awaiting your Response
	Find Fix Track Letter	2021-00607 | NO21-000323	MRO	Awaiting your Response
	Find Fix Track Letter	2021-00625 | NO21-000320	MRO	Awaiting your Response
	RFI for Finding	2021-00672 | RF21-000749	MRO	Awaiting your Response
	RFI for Mitigation	2022-00008 | RF22-000764	MRO	Awaiting your Response

Self-Report and Self-Log Record



Finding Review Status

Table 1.1: My Open Findings Tab	
Finding Status	Description of Finding Status
Preliminary Screen	In review for validation of appropriate noncompliance. Per the Rules of Procedure, it needs to be completed in 5 business days
PNC Review	In queue or under RAM review. PCC can email MRO RAM Primary Contact to speak to RAM about status
Enforcement Processing	RAM's preliminary risk determination has been completed and is being prepared for final processing or is under final processing by Enforcement
Disposition (Dismissal, CE, FFT, or Settlement)	NERC approved the disposition

Finding Review Status

- In Align: Enforcement Processing > My Open Findings

STANDARD	REQ	START DATE	FINDING STATUS	SEND UPDATE
BAL-001-2	R1.	04/04/2022	Preliminary Screening	+
CIP-002-5.1a	R1.	01/26/2022	PNC Review	+
BAL-001-2	R1.	01/26/2022	PNC Review	+
BAL-001-2	R1.	01/25/2022	Enforcement Processing	+

Mitigation Management

- **Self-Report or Self-Log and Mitigation records are linked but separate records in Align**
- **Every mitigation record starts as mitigating activities**
  - MRO will request it be converted to a Mitigation Plan if necessary

Mitigation Management

- **Ensure milestone titles don't include specific information such as what's included in the milestone description**
  - Milestone extension requests include the milestone title
- **After MRO 'Accepts' the mitigating activities the Registered entity will need to send the Mitigation record to MRO for verification**
  - Email notification will be sent but not considered a task that will show up in My Align Dashboard

Mitigation Stages

Table 2.1: Mitigation Stages	
Draft	Action: Registered entity enters mitigating activity information in Align and submits to MRO for Review. “Save and Action” owner: registered entity
MRO Review	Action: MRO will review the mitigating activities. MRO may RFI registered entity and request additional information or return the mitigation record to the registered entity for resubmittal. When MRO is satisfied with the mitigating activities they will be accepted. “Save and Action” owner: MRO
Active	Action: Registered entity tracks the mitigating activities and when complete, updates the record with the completion dates and submits to MRO for completion review. “Save and Action” owner: registered entity
MRO Completion Review	Action: MRO reviews the completion of mitigating activities and updates record complete. MRO may request verification evidence during this stage as well through RFIs. “Save and Action” owner: MRO

Mitigation Status

Table 2.2: My Active Mitigations Tab	
Status	Description of Status
CEA Processing	The entity submitted mitigation and the record is in queue to be reviewed. Mitigation will be reviewed concurrently with PNC record.
NERC Processing	RAM has approved the mitigation plan, is waiting for NERC approval
Active	Mitigation has been reviewed and approved by RAM. Entity needs to verify mitigation has been completed within Align once complete.
Active-Returned as Incomplete	Entity has verified mitigation, RAM has reviewed the record and deemed mitigation incomplete. Entity will need to resubmit for verification with further evidence.

There may be scenarios were a mitigation record could be marked “Complete” prior to the Enforcement processing being complete and vice versa

Mitigation Status

- **In Align: Mitigation Management > My Active Mitigations**

REGION AND JURISDICTION	START DATE	STATUS
MRO-US, WECC-US	01/25/2022	CEA Processing Due 02/24/2022
WECC-US	01/25/2022	CEA Processing Due 02/24/2022
MRO-US	08/01/2021	Active
MRO-US	06/01/2021	Active
MRO-US	08/20/2021	Active

Enforcement

- **Official Notice will be through Align**
  - Expectation is to acknowledge the notice
    - Additional information in response may or may not be required
  - Auto-generated Align email notification will be sent to appropriate contacts

Enforcement

- In Align: My Align Dashboard

Secure Evidence Locker

- Don’t include sensitive information in the file name as this will be included in the manifest that is emailed to the submitter
- Remember to consider the sensitive nature of supporting information and if it should be in Align or the SEL for review by MRO

Email Notifications

- **Notifications**
  - Self-Report/Self-Log submittal and RFIs
    - PCC and all ACCs
  - Enforcement Notifications
    - PCC, all ACCs, and PCO
  - Mitigation Management
    - PCC and all ACCs

Contacts vs Users

Contacts

- **Primary Compliance Contact (PCC)**
  - Only contact role that receives automatic user permissions
- **Alternate Compliance Contact (ACC)**
- **Primary Compliance Officer (PCO)**
- **Entity Admin**

Users

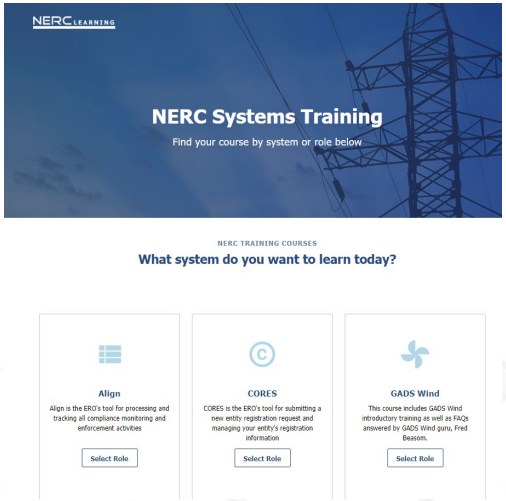
- **Align Submitter**
  - Includes ERO SEL Submitter
- **Align Editor**
- **Align Reader**

Align Contacts and Users

- **Entity is responsible for updating in both webCDMS and CORES**
- **Updating Contacts in CORES**
  - Video 13 Contact Roles found here: NERC Training Videos
- **Updating user permissions in CORES**
  - Align User Guide
- **Permissions may take up to 24 hours to activate**

Training and Resources

- MRO Align website
- Registered Entity Release 1 User Guide
- NERC Training Videos
- General Questions
  - align@mro.net

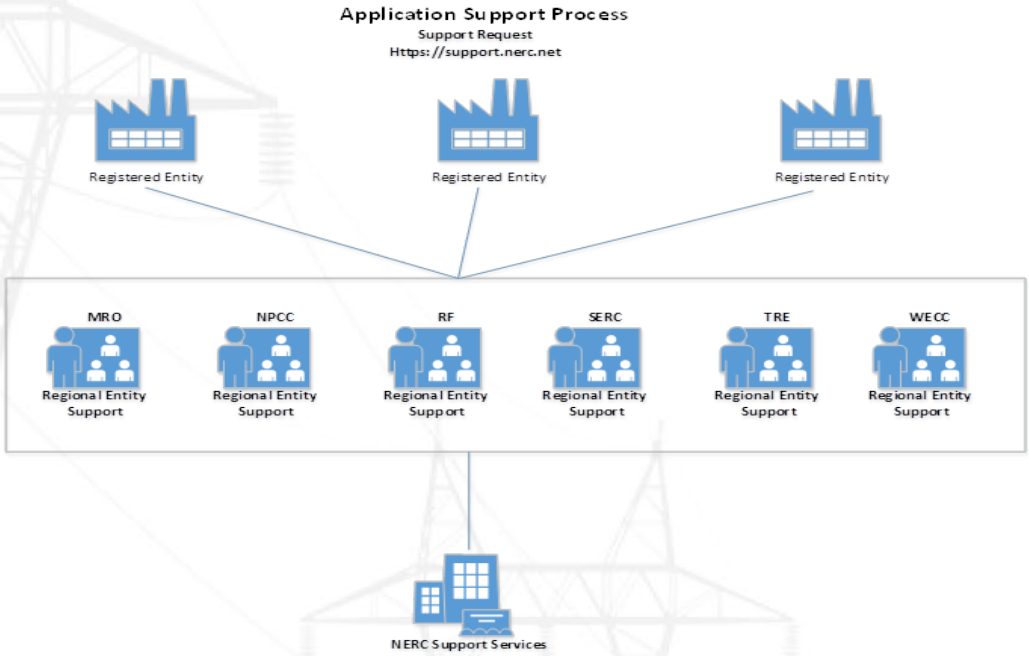


Ongoing Align Development and Support

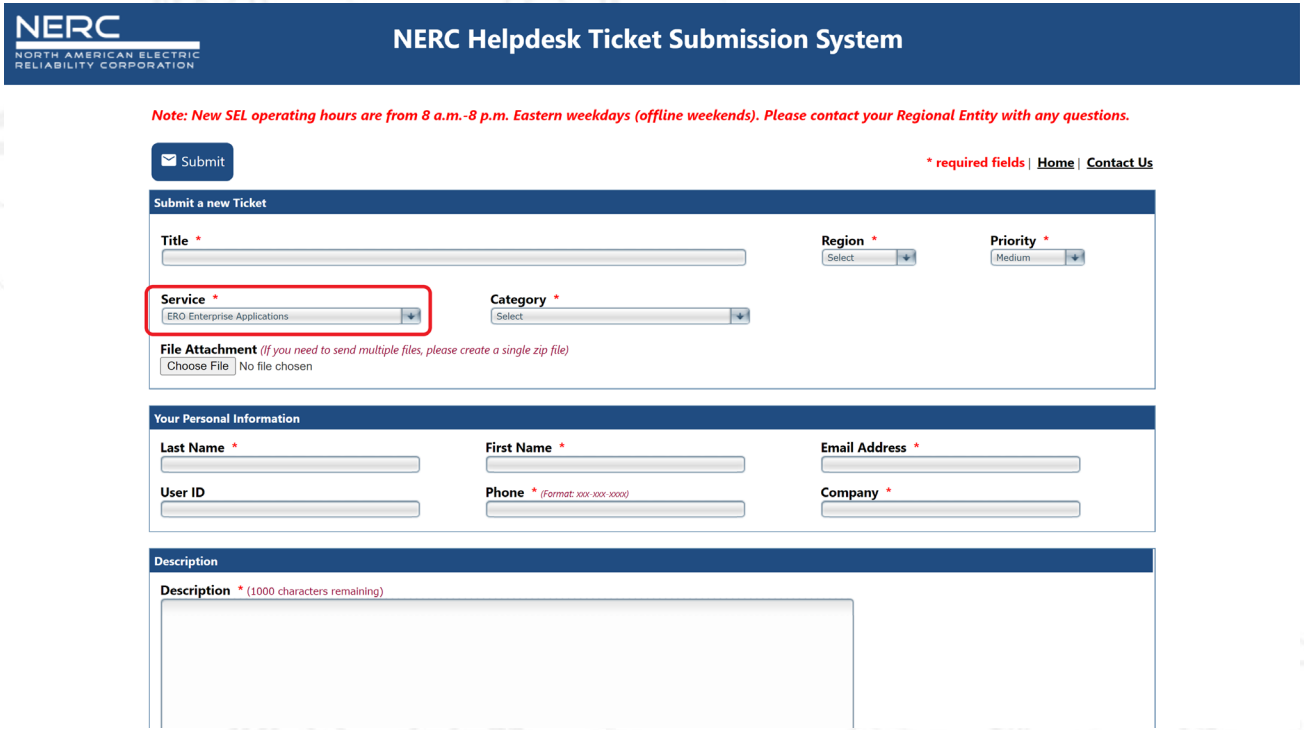
Marissa Falco, RAM Technical Coordinator

Help Desk Tickets: What to Expect

- **Create support tickets for issues**
  - https://support.nerc.net
- **Regional entity will be the first point of contact and resolution**
  - CORES/Align/ERO SEL Support tickets
  - Client Services go directly to NERC
- **The Regional entity will escalate to NERC, if required for resolution**
  - May take up to 3 days to respond
- **NERC may escalate to Bwise if unable to resolve with internal resources**



Help Desk Ticket



Support Model Overview

Level 0 Support

Self-Service Resources

Resources that can be accessed directly, on-demand, by end-users to answer frequent questions or issues

- Align training materials
- Quick reference guides
- Training recordings/videos
- FAQs

Level 1 Support

Regional POC (L1)

Regional Entity Point of Contact that manage issues for, and responds to, registered entity end-users

- Receive end user issues via FootPrints
- Resolve/respond to basic inquiries using support resources or collaborating with regional counterparts
- Consult with L2 resources as appropriate
- If able to resolve issue, update FootPrints and respond to registered entity end user to close loop
- Submit Regional issues requiring NERC Support in FootPrints (e.g., regional user termination requests)

If unable to resolve issue, escalate to NERC Support via FootPrints

Level 2 Support

NERC Support (L2)

Centralized NERC team that helps resolve complex or technical inquiries

- Review FootPrints backlog, prioritize, and address issues
- If able to resolve issue, reach out to Regional POC and close ticket once end-user confirms the issue has been resolved
- If unable to resolve issue, escalate to BWise support team to troubleshoot
- Once issue is resolved, reach out to Regional POC and close ticket in FootPrints
- Escalate major support issues to IT Leadership
- Generate reports on a weekly basis to track and report on key metrics

If unable to resolve issue, contact BWise Technical Support

Level 3 Support

BWise Tech Support (L3)

BWise technical support resources that help resolve system issues

- Coordinate with NERC Support to assign, prioritize and resolve issues
- Troubleshoot system issues
- Contact NERC Support upon issue resolution
- Escalate major support issues to appropriate BWise leadership

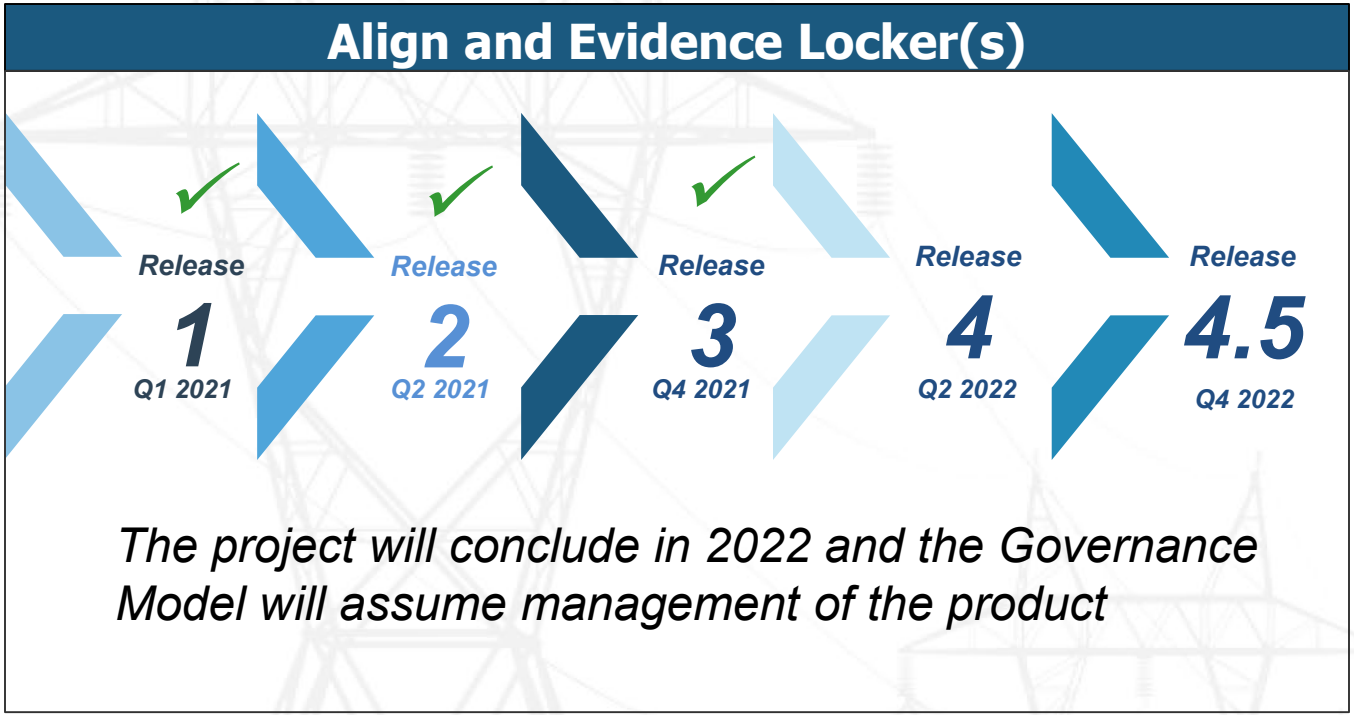
FAQs

- There are answers to more than 120 questions posted on the Align Project FAQ page, which can be sorted using the Search feature
- Regular updates are shared via our regional and registered entity newsletters, which can be found via the News and Communications section of the Align Project site
- Submit questions to askalign@nerc.net

BES Artifacts Submittal Guide

- **February 2022: NERC published a updated Align and ERO SEL artifact submittal exception guide: Link**
- **Key topics**
  - Process overview
  - Example artifacts
  - ERO Enterprise practice

Align Release Overview

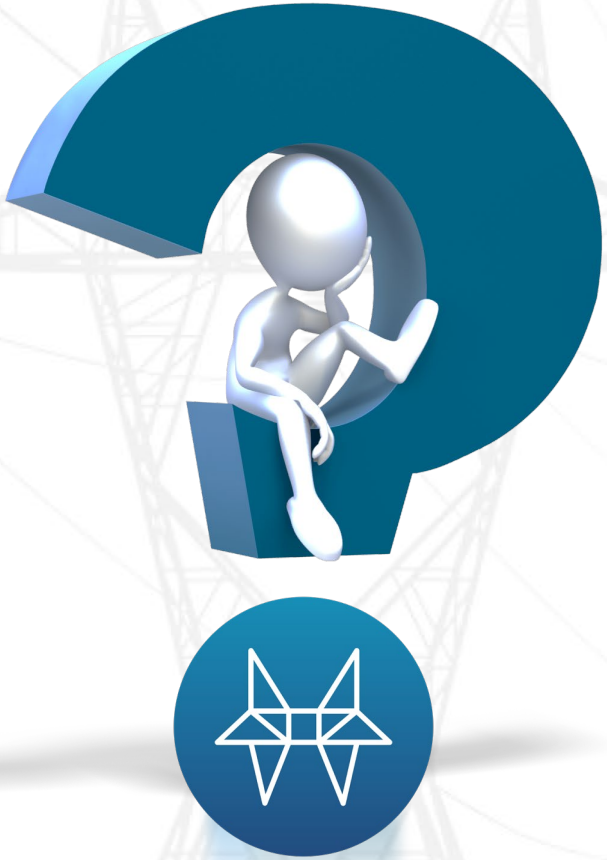


Release 3 Adoption

Region	Adoption Approach
MRO	Will start in April 2022 with the first notification for Q3 coordinated oversight audit; will complete one audit end-to-end, then review processes for lessons learned

Align Release 4/4.5: What to Expect As a Registered Entity

Stakeholder Group	Functionality
Registered Entities	• Enhanced Audit and Scheduling functionalities • Compliance Planning (Inherent Risk Assessment (IRA), and Compliance Oversight Plan (COP)) • Expand Requests for Information (RFIs) for Compliance Planning



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MIDWEST RELIABILITY ORGANIZATION

Afternoon Break

1:30 p.m. – 1:40 p.m. CST

Webinar Survey

MIDWEST RELIABILITY ORGANIZATION

Self-identified Findings

William Steiner, Director of Risk Assessment and Mitigation

The History

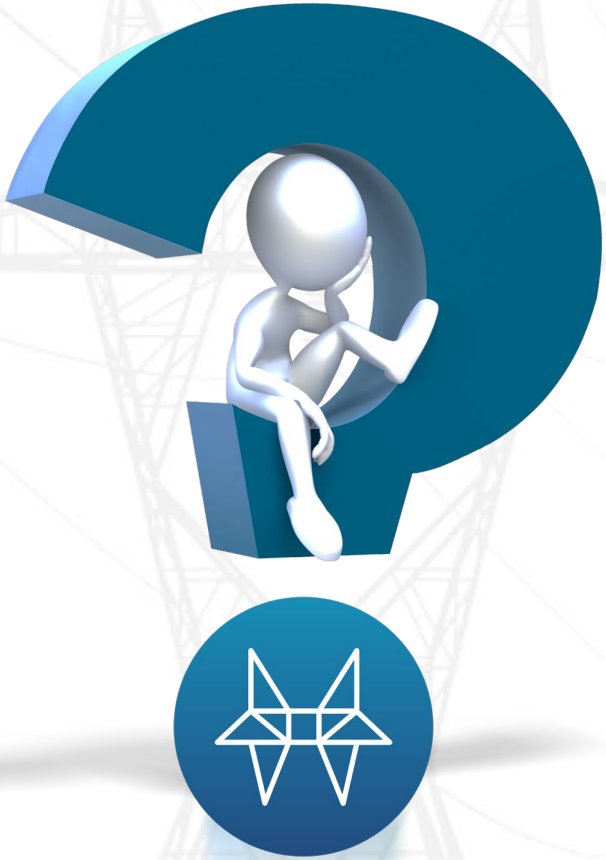
- **80% of findings are self-identified**
- **Consistent with strong culture of compliance**
  - Identified earlier – reducing risk
  - Mitigate quicker – reducing risk
  - Can demonstrate effectiveness of internal controls
  - 6 years of use of Compliance Exceptions
    - Most minimal risk findings processed as compliance exceptions

Adjusting for ERO Risk

- **More minimal risk findings could have elevated dispositions (e.g. Find Fix Track)**
- **Typical factors which require elevated processing:**
  - Longer Durations
  - Significant extent of condition analysis required
  - Longer mitigation timeframe
  - Increased ERO-wide risk (e.g. FAC-008)

Impact of Self-Logging Entities

- **Self-logged items are expected to be minimal risk compliance exceptions**
- **If disposition is not determined to be a compliance exception, the intake method will be changed to self-report**
  - Additional RFI's may be required
- **For example: Only the most minor FAC-008 issues should be Self-Logged**



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MIDWEST RELIABILITY ORGANIZATION

CIP and OPS NERC Reliability Standards Pending Enforcement and in Development

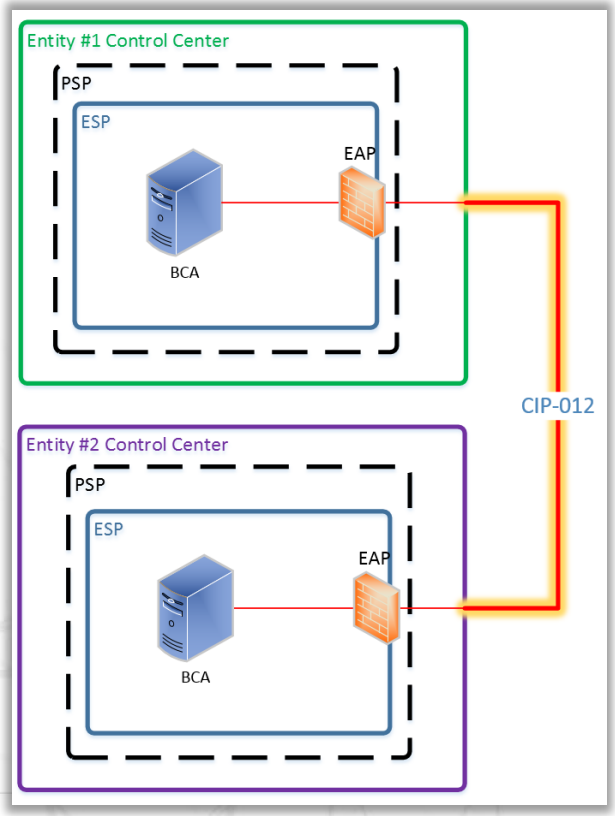
Lee Felter, Principal Risk Assessment and Mitigation Engineer

Uttam Adhikari, PhD, Sr. Risk Assessment and Mitigation Engineer

CIP-012-1 Control Center Communications (2016-02)

- **Purpose: Protection of Real-time data transmitted between Control Centers**
- **R1: Implement a plan to mitigate the risks of unauthorized disclosure or modification of data in transit:**
  - Part 1.1: Identify the protection used
  - Part 1.2: Identify where the protection was applied
  - Part 1.3: Identify responsibilities of each entity when protection is shared
- **Order 866 (1/23/2020):**
  - Approved standard as “largely responsive”, and…
  - Directed modifications that address ‘availability’

Final Ballot	NERC Adoption	FERC Approval	US Effective
8/13/2018	8/16/2018	1/23/2020	7/1/2022



CIP-012-2 Control Center Communications (Project 2020-04)

- In response to FERC order 866
- Projected Purpose: Ensure availability of Real-time data transmitted between Control Centers
- FERC: Consider telecomm service contracts with QoS agreements; comm link recovery
- 34.6% affirmative on last ballot

In Draft	Last Ballot	NERC Adoption	FERC Approval	US Effective
x	1/24/2022			

CIP-013-2 Supply Chain Management (2019-03)

- FERC Order 850 (10/18/2018) directed supply chain requirements to include EACMS
- NERC Cyber Security Supply Chain Risks report (5/17/2019) recommended inclusion of PACS
- NERC Adoption deadline of December 2020
- Includes changes to CIP-005-7 Parts 2.4, 2.5, and CIP-010-4 Part 1.6
- Final ballot achieved 76.8% approval

In Draft	Final Ballot	NERC Adoption	FERC Approval	US Effective
x	10/16/2020	11/5/2020	12/14/2020	10/1/2022

Supply Chain Low Impact Revisions (Project 2020-03)

- **CIP-003-X Security Management Controls:**
  - Resolution resulting from the 1600 Data Request
  - SAR Goals:
    - Detect Malicious Communication for inbound/outbound communication
    - Determine initiated vendor remote access sessions
    - Disable vendor remote access sessions when necessary
- **53% approval on the last ballot**

In Draft	Last Ballot	NERC Adoption	FERC Approval	US Effective
x	4/15/2022			

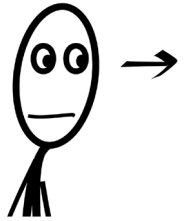
BCSI in the Cloud (Project 2019-02)

- **BES Cyber System Information (BCSI) Access Management Modifications**
  - CIP-004-7 Personnel and Training
  - CIP-011-3 Information Protection
  - SAR SDT formed 4/26/2019
  - Final ballots both >80% positive
  - FERC Notice of Inquiry (NOI) issued February 20, 2020

In Draft	Final Ballot	NERC Adoption	FERC Approval	US Effective
x	6/11/2021	8/12/2021	12/7/2021	1/1/2024

Virtualization (Project 2016-02)

- 2016-02 CIP Drafting Team convened: March 2016, Virtualization became a dedicated effort in 2017
- Enabling new options, not replacing
  - Updated ESP and EAP
- Properly configured VLANs get security credit above low impact
- Super ESP architecture permitted
- Mitigate the risk of side channel vulnerabilities
- CIP-010 baseline and baseline tracking eliminated (shift to change detection)
- The third ballot has CIP-002, 003, 004, 006, 008, 009, 011, and 013 passing. CIP-005, 007, and 010 are at ~60% positive…



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In Draft	Last Ballot	NERC Adoption	FERC Approval	US Effective
x	4/12/2022			

CIP-002 TOCC (2021-03)

- **Conforming changes to CIP-002 and 014 resulting from Project 2015-09 that revised the requirements for determining and communicating SOLs and IROLs**
- **Review CIP-002 and evaluate the categorization of Transmission Owner (TO) Control Centers performing the functional obligations of a Transmission Operator (TOP), specifically those that meet medium impact criteria**
  - Possible bright line criteria revisions
  - Supplemental drafting team nominations are now open
- **1/2023 – anticipated start of revisions**

In Draft	Last Ballot	NERC Adoption	FERC Approval	US Effective
x				

OPS Standards Mandatory Enforcement since July 2020

1-Oct-20	1-Dec-20	1-Jan-21	1-Apr-21	1-Oct-21
• TPL-007-4	• BAL-003-2	• PRC-012-2	• FAC-002-3 • INT-006-5 • INT-009-3 • IRO-002-7 • IRO-010-3 • MOD-031-3 • MOD-033-2 • NUC-001-4 • PER-006-1 • PRC-004-6 • PRC-006-5 • PRC-027-1 • TOP-001-5 • TOP-003-4	• FAC-008-5

OPS Standards Subject to Future Enforcement

1-Oct-22	1-Apr-23	1-Jul-23	1-Apr-24
• PRC-024-3	• EOP-011-2 • IRO-010-4 • TOP-003-5	• TPL-001-5.1	• FAC-003-5 • FAC-011-4 • FAC-014-3 • IRO-008-3 • PRC-002-3 • PRC-023-5 • PRC-026-2 • TOP-001-6

OPS Standards Subject to Future Enforcement

- **PRC-002-2: Disturbance Monitoring and Reporting Requirements**
  - 7/1/2022
    - 100 % Compliance for R2-R4, R6-R11
- **TPL-007-4: Transmission System Planned Performance for Geomagnetic Disturbance Events**
  - 1/1/2023
    - R3, R4, 4.1. 4.1.1–4.1.2, 4.2, 4.3, 4.3.1, R8, 8.1, 8.1.1–8.1.2, 8.2, 8.3, 8.3.1)
  - 1/1/2024
    - R7, 7.1–7.3, 7.3.1–7.3.2, 7.4, 7.4.1–7.4.3, 7.5, 7.5.1., R11, 11.1–11.3, 11.3.1–11.3.2, 11.4, 11.4.1–11.4.3, 11.5, and 11.5.1)

OPS Standards Under Development

Project	Status
2017-01 Modifications to BAL-003-1.1	The Informal comment period for Phase II of **Project 2017-01 Modifications to BAL-003** White Paper concluded at **8 p.m. Eastern, Tuesday, April 27, 2021**.
2019-04 Modifications to PRC-005-6	Supplemental Nomination period for **Project 2019-04 Modifications to PRC-005-6** concluded at **8 p.m. Eastern, Wednesday, December 15, 2021.**
2020-02 Transmission-connected Dynamic Reactive Resources	Nominations are being sought for additional Standard Authorization Request (SAR) drafting team members through **8 p.m. Eastern, Monday, December 20, 2021**. The Standards Committee is expected to appoint supplemental members to the drafting team in February 2022. Nominees will be notified shortly after they have been appointed.
2020-05 Modifications to FAC-001 and FAC-002	Final ballots are open through **8 p.m. Eastern, Friday, April 22, 2022**
2020-06 Verifications of Models and Data for Generators	The revised SARS were accepted by the Standards Committee on July 21, 2021. The Standard Drafting Team will begin revisions to MOD-026 and MOD-027.
2021-01 Modifications to MOD-025 and PRC-019	On December 15, 2021 the Standards Committee authorized revisions to PRC-019-2 and MOD-025-2 based on the revised SARs, and appointed the SAR DT as the Standard Drafting Team (SDT). The SDT will begin revisions to PRC-019-2 and MOD-025-2.
2021-02 Modifications to VAR-002	The informal comment period for the **Project 2021-02 Modifications to VAR-002 Standard Authorization Request (SAR)** concluded at **8 p.m. Eastern, Wednesday, April 6, 2022.**
2021-04 Modifications to PRC-002-2	Nomination period for **Project 2021-04 Modifications to PRC-002-2** SAR drafting team members concluded at **8 p.m. Eastern, Friday, July 30, 2021**. The formal comment period for the Glencoe Light SAR and the informal comment period for the IRPTF SAR for the Project 2021-04 Modifications to PRC-002-2 concluded at 8 p.m. Eastern, Tuesday, July 13, 2021. The Standards Committee accepted these SARs on January 19, 2022.
2021-05 Modifications to PRC-023	The informal comment period for the **Project 2021-05 Modifications to PRC-023 Standard Authorization Request** concluded **8 p.m. Eastern, Wednesday, July 28, 2021.** Once a drafting team is formed, the comments will be reviewed and the next steps of the project determined. The Standards Committee accepted the SAR on December 15, 2021
2021-06 Modifications to IRO-010 and TOP-003	The informal comment period for the revised **Project 2021-06 Modifications to IRO-010 and TOP-003 Standard Authorization Request** concluded **8 p.m. Eastern, Wednesday, February 9, 2022.** The drafting team will review all resonses received during the comment period and determine the next steps of the project.
2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination	The formal comment period for the **Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination Standard Authorization Request (SAR)** and nomination period for SAR drafting team members concluded at **8 p.m. Eastern, Tuesday, December 21, 2021**. The Standards Committee Executive Committee accepted the SAR on February 25, 2022
2021-08 Modifications to FAC-008	The formal comment period and nomination period for the **Project 2021-08 Modifications to FAC-008 Standard Authorization Request (SAR)** concluded at **8 p.m. Eastern, Thursday, January 27, 2022.** **The Standards Committee is expected to appoint members to the drafting team in March 2022. Nominees will be notified shortly after they have been appointed. Once a drafting team is formed, the comments will be reviewed and the next steps of the project determined.**
2022-01 Reporting ACE Definition and Associated Terms	The 30-day informal comment and nomination period for the **Project 2022-01 Reporting ACE Definition and Associated Terms Standard Authorization Request** concluded **8 p.m. Eastern, Thursday, March 10, 2022.** The Standards Committee is expected to appoint members to the drafting team in April 2022. Nominees will be notified shortly after they have been appointed. Once a drafting team is formed, the comments will be reviewed and the next steps of the project determined.
2022-02 Modifications to TPL-001-5.1 and MOD-032-1	The comment and nomination period for the **Project 2022-02 Modifications to TPL-001-5.1 and MOD-032-1 Standard Authorization Requests** concluded at **8 p.m. Eastern, Wednesday, March 02, 2022.** **The Standards Committee is expected to appoint members to the drafting team in April 2022. Nominees will be notified shortly after they have been appointed. Once a drafting team is formed, the comments will be reviewed and the next steps of the project determined.**

Source: Reliability Standards Under Development (nerc.com)

Project 2021-02 Modifications to VAR-002

- Standard(s) Affected – VAR-002-4.1
- To clarify VAR-002-4.1, Requirement R3, in regards to whether the GOP of a dispersed power resource must notify its associated TOP upon a status change of a voltage controlling device on an individual generating unit; for example, if a single inverter goes offline in a solar photo-voltaic (PV) Facility
- Comment Period – March 07, 2022 – April 06, 2022

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x				

Project 2021-01 Modifications to MOD-025 and PRC-019

- **Standard(s) Affected** – MOD-025-2 and PRC-019-2
- **Address the issues that exist with MOD-025-2 regarding verification and data reporting of generator active and reactive power capability (and any other relevant equipment capability)**
- **Enhance reliability by maximizing a generator's capability and its ability to support grid stability during system disturbances by requiring the coordination of control systems with equipment capabilities and protection functions of all generation resource types**
- **SAR accepted by the Standards Committee on December 15, 2021**

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x				

Project 2022-02 Modifications to TPL-001-5.1 and MOD-032-1

- Standard(s) Affected – TPL-001-5.1 and MOD-032-1
- Recommended by The NERC Inverter-Based Resource Performance Task Force (IRPTF) and the NERC SPIDERWG review of standards
- Revise requirements to provide clarity, or in some cases, expand the scope of requirements when considering the performance of DERs to ensure the accuracy of Transmission System Planning Assessments
- Revise MOD-032-1 to address gaps in data collection for the purposes of modeling aggregate levels of DERs in planning assessments
- The comment period and nomination period : February 01, 2022– March 02, 2022

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x				

Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination

- **Standard(s) Affected – BAL, EOP, IRO, TOP, or Other Standards as Identified in the SAR**
- **Address nine recommendations for new or enhanced NERC Reliability Standards proposed by the FERC, NERC and Regional Entity Staff Report (Inquiry into the February 2021 Cold Weather Grid Operations)**
- **Staged Timeline:**
  - New and revised Reliability Standards to be submitted for regulatory approval before Winter 2022/2023: development completed by September 30, 2022 for the Board's consideration in October 2022;
  - New and revised Reliability Standards to be submitted for regulatory approval before Winter 2023/2024: development completed by September 30, 2023 for the Board's consideration in October 2023
- **The Standards Committee Executive Committee accepted the SAR on February 25, 2022**

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x				

Project 2020-05 Modifications to FAC-001 and FAC-002

- **Standard affected** - FAC-001-3 **and** FAC-002-3
- **Primarily based on the "**IRPTF Review of NERC Reliability Standards White Paper**" that was approved by the Operating Committee and the Planning Committee in March 2020**
- **Modify FAC-001-3 and FAC-002-3 to clarify the use of "materially modifying", particularly as it relates to compliance with the standards**

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x	4/13/22-4/22/22			

Project 2021-08 Modifications to FAC-008

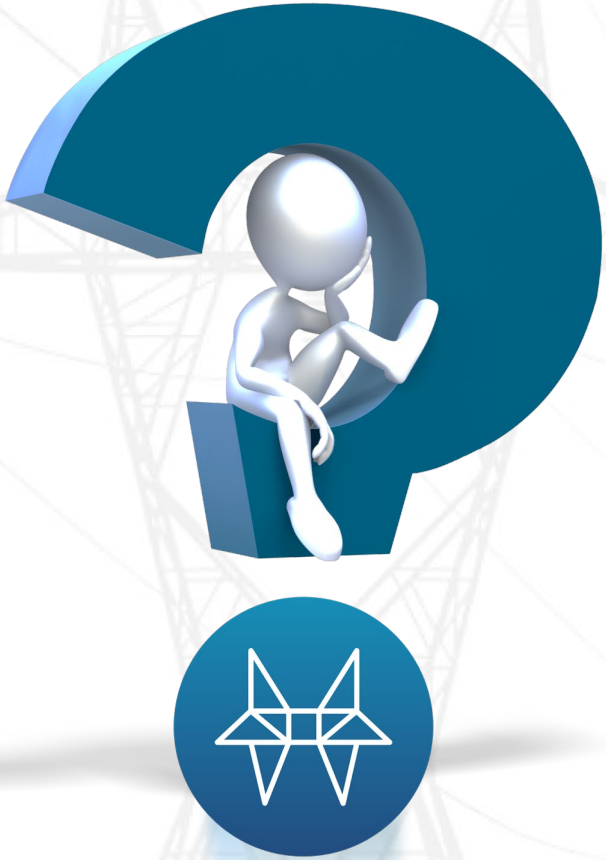
- Standard(s) Affected – FAC-008-5
- Produce Generator Owner Facility Ratings that accurately reflect the real power capability of the facility and are therefore useful for reliability-related activities (such as in contingency analysis, SOL determination, etc.)
- Provide clarification around the phrase “jointly owned" and the level of individual component ratings that are required to be shared with the other entity
- The formal comment period and nomination period : December 09, 2021 – January 27, 2022

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x				

Project 2021-06 Modifications to IRO-010 and TOP-003

- **Standard(s) Affected** – IRO-010-2 and TOP-003-3
- **Enhance the effective and efficient administration of operational data exchange for the purpose of focusing operating personnel on safe, secure and reliable operations**
- **Comment Period – January 11,2022 – February 09, 2022**

In Draft	Final Ballot	Nerc Adoption	FERC Approval	US Effective
x				



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MIDWEST RELIABILITY ORGANIZATION

Proposed Revisions to NERC Rules of Procedure

Tasha Ward, J.D., CCEP

Director of Enforcement and External Affairs

Purpose

- **Provide CMEP staff with an understanding of**
  - The proposed revisions to the NERC Rules of Procedure;
  - The impact of the proposed revisions on Compliance Monitoring and Enforcement tasks

Background

- **NERC filed proposed revisions to Rules of Procedure with FERC on September 29, 2021**
  - FERC Docket No. RR21-10, still pending Commission action
  - Comments in support from a group of trade associations
- **Reasons for changes**
  - Enhance the ERO Enterprise's risk-based approach to monitoring and enforcing compliance with the NERC Reliability Standards
  - Clarify and simplify unduly burdensome administrative business practices

Proposed Compliance Audit Revisions

- **Provide the Compliance Enforcement Authority (CEA) discretion as to when to conduct Compliance Audits and whether they will occur on the registered entity's site**
  - Removes three-year audit cycle requirement for BA, RC, and TOP functions
- **Remove the requirement to post an Annual Audit Plan**
  - CEAs would provide registered entities with at least 270 days' notice of an upcoming Compliance Audit
  - CEAs would continue to provide notification 90 days before the commencement of the Compliance Audit
- **Clarify the shift from Compliance Audits examining all Reliability Standards to risk-based Compliance Audits**

Proposed Evidence Retention Revisions

- **Implementing recommendations from Standards Efficiency Review**
- **Activities occurring at least once every three years**
  - Three years of evidence
- **Activities occurring less often than once every three years**
  - Evidence of last performance
  - Evidence of the intervals for performance

Proposed Self-Certification and Anonymous Complaints Revisions

- **Self-Certification**
  - Eliminate the posting of a Self-Certification schedule
  - Allow flexibility to initiate Self-Certifications as needed based on identified emerging risks
- **Anonymous Complaints**
  - Clarify that NERC can share the identity of an anonymous complainant with Regional Entities, but not other third parties

Proposed Compliance Exception and Self-Logging Revisions

- **Compliance Exceptions**
  - Remove the requirement for the CEA to submit Compliance Exceptions to NERC for a 60-day review by NERC and FERC
  - Clarify the treatment of Compliance Exceptions in a registered entity's compliance history
- **Self-Logging**
  - Exempt self-logged items from the Preliminary Screen and subsequent reporting and disposition processes
  - Continue review by the CEA and, upon request, by NERC and FERC

Proposed Mitigation Revisions

- **Encourage increased use of informal mitigation submission (mitigating activities)**
  - Require Mitigation Plans only upon request by CEA, generally for complex, higher risk violations
  - Extending the CEA and NERC review periods for Mitigation Plans
- **Reporting upon completion of milestones**
  - Replaces regimented quarterly reporting
- **Eliminates provisional acceptance of Mitigation Plans**

Other Proposed CMEP Revisions

- **Explicitly state there is only one Compliance Monitoring and Enforcement Program**
  - Eliminate the concept that each Regional Entity has its own CMEP
  - Eliminate references to Regional Entity CMEP Implementation Plans
- **Remove provisions regarding monitoring Regional Entity compliance with Reliability Standards**
  - Reliability Standards are not applicable to the Regional Entities or to NERC
- **CEAs can offer settlement at any time, even if the registered entity has not requested settlement negotiations**

Questions

MIDWEST RELIABILITY ORGANIZATION

HEROs

Lee Felter, Principal Risk Assessment and Mitigation Engineer, CIP

Summer Stephens, Senior Risk Assessment and Mitigation Specialist, O&P

(H)ighly (E)ffective (R)eliability (O)rganization

HERO's are organizations that have succeeded in avoiding catastrophes in environments where accidents can be expected due to complexity, interdependence, and risk. MRO has translated this theory for application to reliable operations of the bulk power system. Implementing high standards of operational excellence supports our vision of 'A highly reliable and secure North American bulk power system.'

HEROs@mro.net

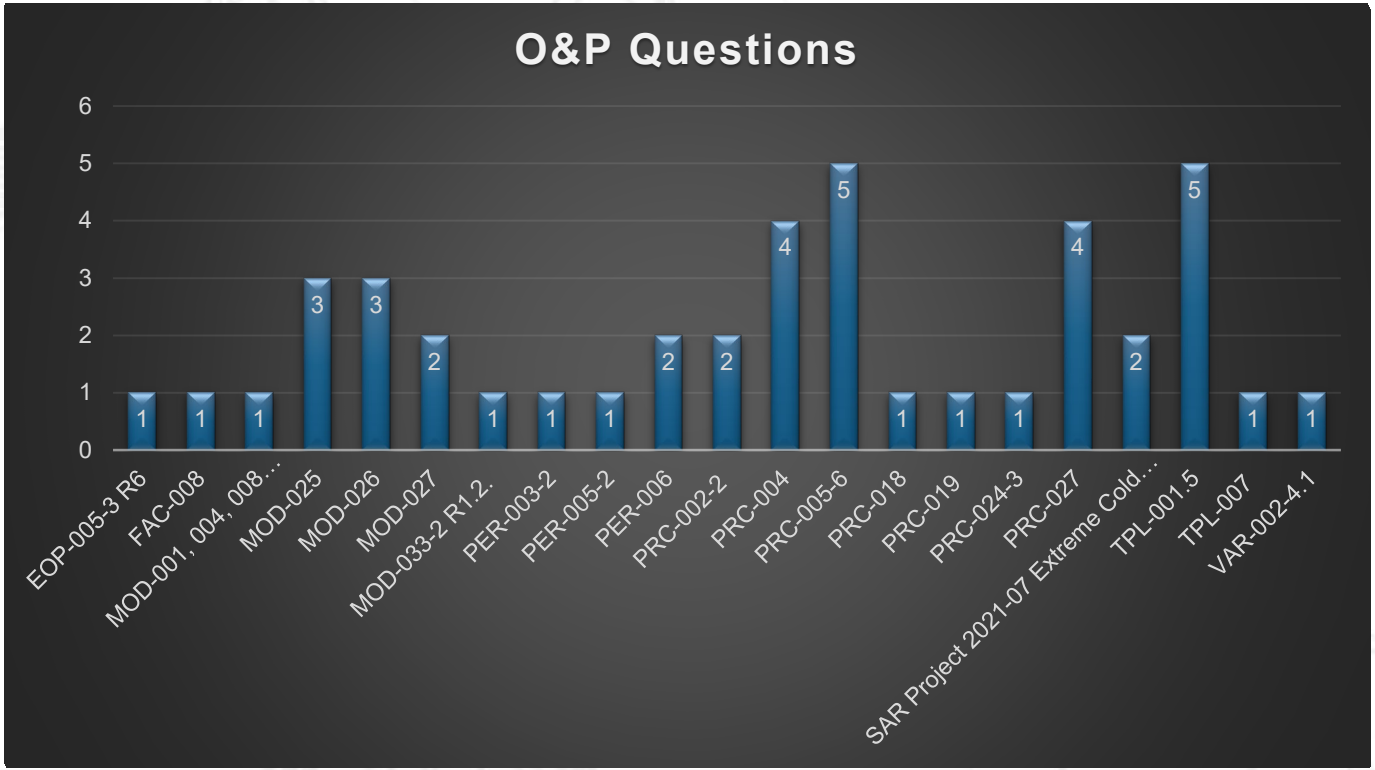
Midwest Reliability Organization is committed to its Mission, which is 'to identify, prioritize and assure effective and efficient mitigation of risks to the reliability and security of the North American bulk power system by promoting Highly Effective Reliability Organizations (HEROs).'

Have a question about a regulatory standard or requirement?
Contact us at HEROS@mro.net.

Benefits of Utilizing HEROs

- Gains new perspective
- Provides opportunity to give feedback
- Demonstrates a positive/ proactive culture
- Helps MRO determine outreach needs
- Fosters a connection between region & entity

What are your peers asking about?



Notable topic frequently questioned:

TPL-001-5.1

Effective: 07/01/2023, TPL-001-5.1, Transmission System Planning Performance Requirements.

- **TPL-001-5.1 contains minor errata changes to version 5 and will replace version 4 (skipping implementation of version 5) on 7/1/2023**
  - Version 5 and 5.1 incorporate modifications that address the study of single points of failure (SPF) of protection systems, as well as more thorough analysis of planned maintenance outages, including stability analysis for spare equipment strategies

TPL-001-5.1

Table 1- Steady State & Stability Performance Footnotes <u>specifically #13c</u>

13. For purposes of this standard, **non-redundant** components of a Protection System to consider are as follows:

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)

TPL-001-5.1

- **Per the NERC glossary of terms the definition of a Protection System "Station dc supply associated with protective functions (including station batteries, battery chargers, and non-battery-based dc supply)"**
  - MRO approach: In order to achieve the redundancy described in TPL-001-5 the exception of footnote 13c must be met or a second dc supply would be required
    - Exception- a single station dc supply that is both monitored and reported at a Control Center for both low voltage and open circuit
    - Each PRC-005-6 table for the station dc supply component types includes maintenance activities for both batteries and battery chargers

TPL-001-5.1

- **Question/concern:** Open circuit alarming is not a standard alarm at the majority of substations
  - How should TPs plan to conduct the assessments given all these SPFs?

TPL-001-5.1

- **The implementation plan for TPL-001-5.1 states that the first annual Planning Assessment must be completed by the effective date of 7/1/2023, with the new P5 contingencies that are expected to produce more severe system impacts**
  - An additional two years are given to develop CAPs for P5 planning events involving single points of failure in Protection Systems 7/1/2025
  - Four years after that are allowed for the system to actually meet the performance requirements 7/1/2029

TPL-001-5.1

- **MRO response:** The new P5 multiple contingency SPF study requirements must be included in the annual Planning Assessment that is completed to comply with the date 7/1/2023
  - Redundancy or the footnote 13c exception is met prior to the time period addressed by the assessment (the SPF event is not included the Planning Assessment)
  - A CAP was developed for the SPF, extra time given (2029)
  - A P5 SPF event is excluded from the contingency list developed under R3.1 (steady state) and R4.1 (dynamic) with a documented rationale
    - The rationale needs to ensure the understanding of the local condition around each SPF

Notable topic frequently questioned:

MOD-025/026/027

- **MOD-025-2** Generator gross and net Real and Reactive Power capability and synchronous condenser Reactive Power capability
- **MOD-026-1** Generator excitation control system or plant volt/var control function (including the PSS model and the impedance compensator model) and the model parameters used in dynamic simulations
- **MOD-027-1** Turbine/governor and load control or active power/frequency control

MOD-025/026/027

- **Question/concern:** With additions & expansions of solar and wind farms when does the 12 month period (Attachment 1) begin for MOD-025 Verifications?
- **MRO response:** The 12 month period begins for each new Facility once the criteria rating under 4.2 is met or exceeded and the commercial operations date has occurred

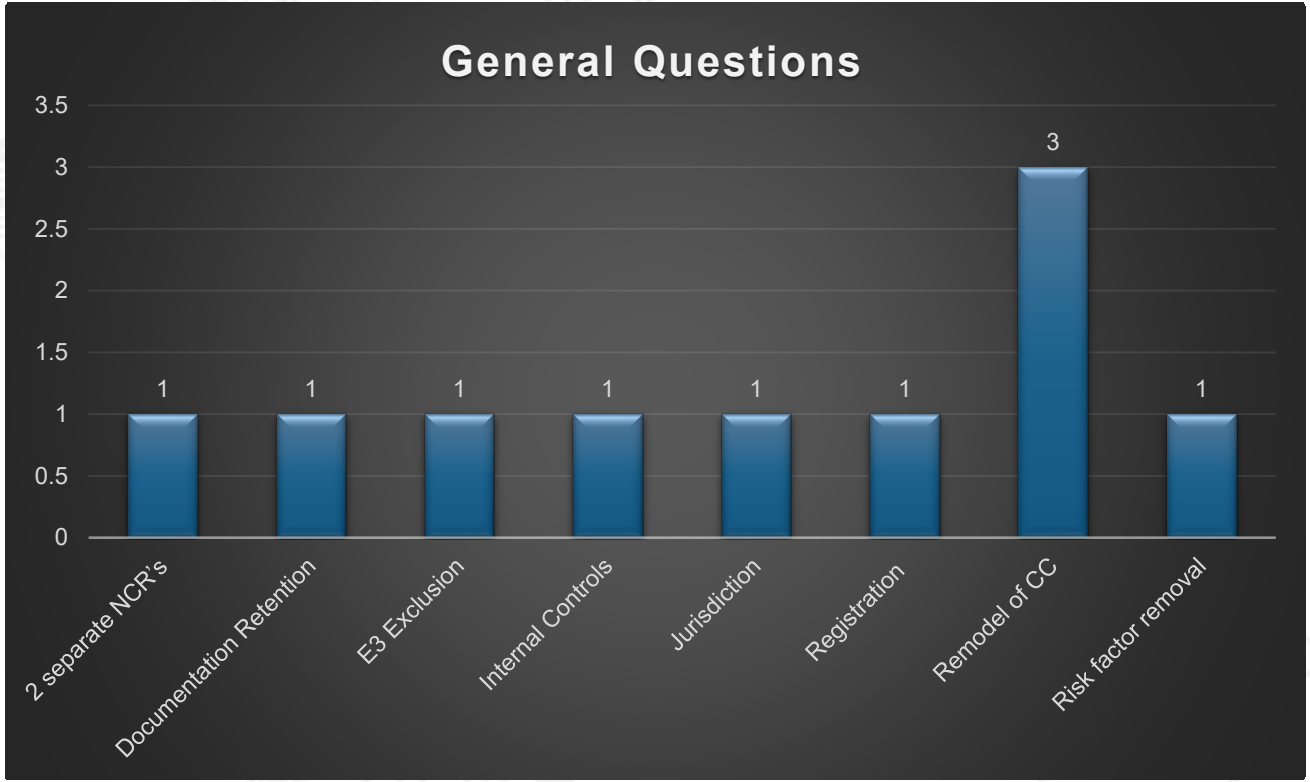
MOD-025/026/027

- **Question/concern:** For expansions through the same interconnection points, can separate studies/reports be supplied for MOD-025/026/027?
- **MRO response:** All the wind generators directly connected at a common BES bus are expected to be aggregated into one plant for the purpose of the verifications required by MOD-025/026/027. MOD-025-2 gives the flexibility on performing the verification either on an individual unit basis or as a group

MOD-025/026/027

- **Question/concern:** Real and reactive power capability testing MOD-025 Attachment 1 section 2.2.2 (verification must be performed with 90% of the site turbines on-line). Are idling turbines considered on-line?
- **MRO response:** Idling turbines are not producing power and therefore considered offline

What are your peers asking about?



Control Center Remodel

Compliance Impacts and Safeguards

EOP-008-2
CIP-006-6
CIP-007-6
CIP-010-3

EOP-008-2

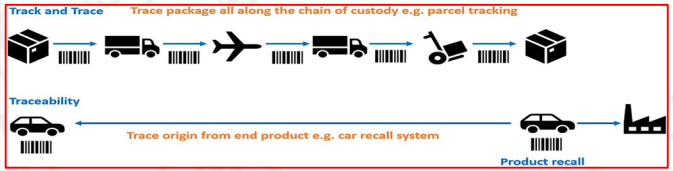
- **Question/concern:** Time allowed ……..
  - Control Center Facilities (R3) & Functionality (R4)
    - Planned outages of the primary or backup facilities of two weeks or less
    - Unplanned outages of the primary or backup facilities

EOP-008-2

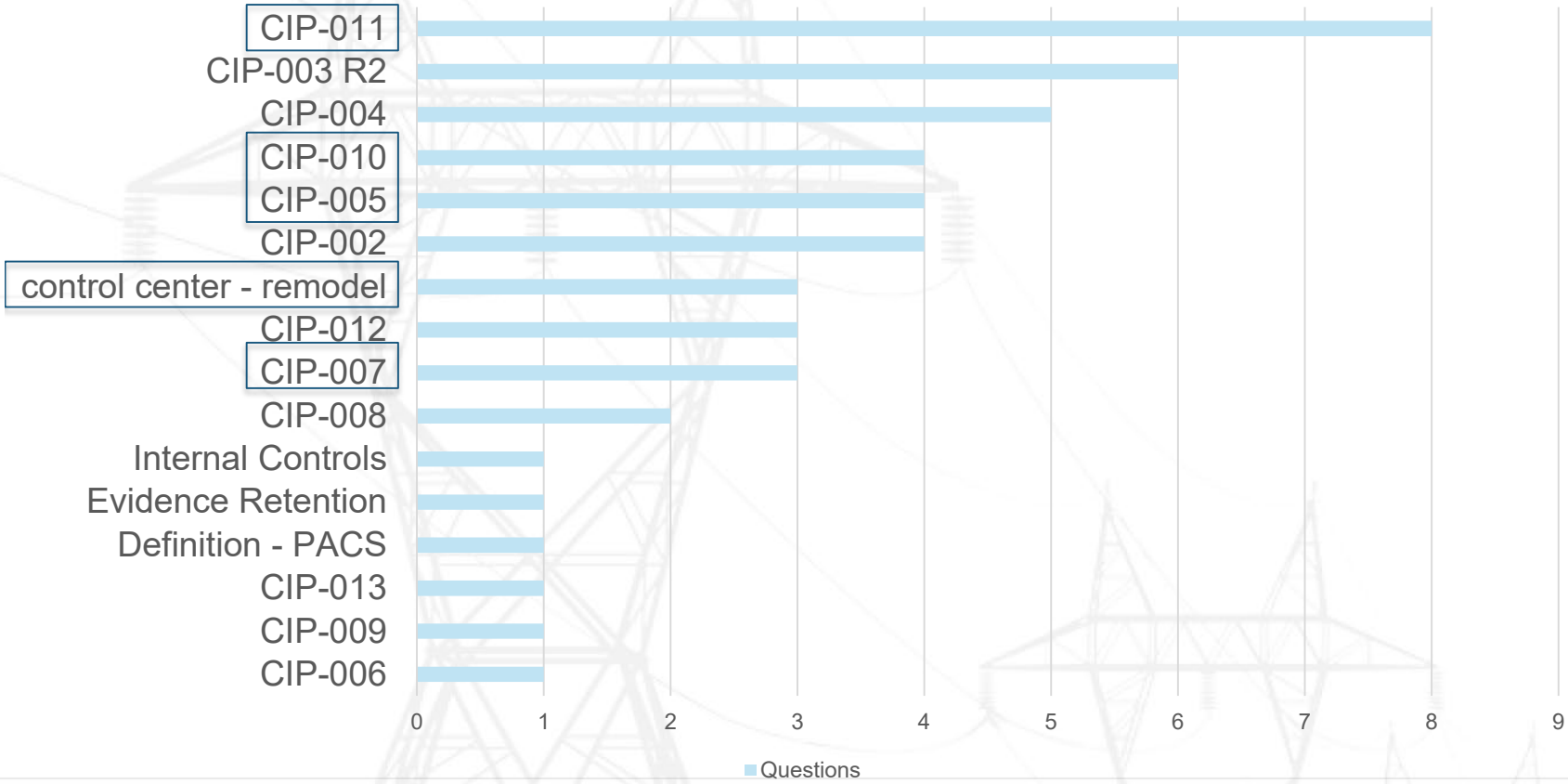
- **MRO response:** Clearly document the planned outage and anticipated duration. Ensure you have implementation details/steps in place to transition to the back up control center
  - Consider alternatives to shutting down all the workstations for the duration of the outage
  - A well-documented plan will allow for revision should unplanned issues arise
  - EOP-008-2 R4 timeline to return functionality
    - Revisions to the existing plan
    - Duration beyond 6 months for functionality loss (E0P-008-2 R8) requires a re-establishment plan be submitted to MRO

CIP-006, 007 and 010

- **Moving BES Cyber Assets within (or reconfigure) a Physical Security Perimeter**
  - Must maintain CIP-006 R1 while applicable Cyber Assets are “cold”
- **Maintaining CIP requirements while affected Cyber Assets are in storage**
  - CIP-007-6 R2 Patch Management
    - Maintain patch evaluation cycle
  - CIP-010-3 R1 Configuration Change Management
    - Authorization of applicable security patches before return to service
  - CIP-010-3 R2 Configuration Monitoring



CIP 2021 - 2022 Questions



CIP-011

Information Protection

"To prevent unauthorized access to BES Cyber System Information by specifying information protection requirements in support of protecting BES Cyber Systems against compromise …"

R1

Physical protection of electronic data

R2

RMA of storage devices

https://ist.mit.edu/sites/default/files/styles/news_image_node/public/news_images/info_protect_740.jpeg?itok=PcI-ewHH

CIP-011 R1

- **Question / Concern:** Would unescorted physical access to a location that contains the physical (hardware) that stores electronic BCSI need to be identified as “physical access to BCSI”?
- **MRO Response:** It depends on if the data can be considered inaccessible
  - Encryption and Key Management
  - What is the status of the data: in use, or at rest

CIP-011 R2

- **Question / Concern:** A storage device on a BES Cyber Asset failed, and the manufacturer requires us to send it back before they will send out a replacement. This isn't a reuse or disposal scenario, what should we do?
- **MRO Response:** From a risk standpoint, treat this as disposal
  - The device is leaving your control
  - Purge the media

CIP-010

Configuration Change Management

"To prevent and detect unauthorized changes … by specifying configuration change management and vulnerability assessment requirements in support of protecting BES Cyber Systems from compromise …"

R1

Post change authorization

System firmware with operating system

R4

Removable Media – malicious code mitigation

CIP-010 R1

- **Question / Concern:** Is a post-change authorization acceptable?
- **MRO Response:** No, a post-change authorization does not meet the security objective
  - The concept of authorization is pre-executive
  - The authorization documentation doesn't require all the details

CIP-010 R1

- **Question / Concern:** Is system firmware version required on a Cyber Asset's baseline in which the firmware was excluded because the Cyber Asset has an existing independent Operating System?

CIP-010 R1

- **MRO Response:** It depends…
  - All security related patches must be tracked regardless as part of R1.1.5
  - A benefit of tracking system firmware is it is more likely to be captured as part of the baseline when it would become applicable

CIP-010 R4

- **Question / Concern:** A primary documented control for malicious code control failed, is the undocumented secondary control adequate?
- **MRO Response:** Compliance is dependent on the plan – does it meet R4 Attachment 1 Section 3.2 and the security objective?
  - Undocumented controls can reduce risk, but the primary control must be working
  - Consider aligning your primary control with CIP-007 signature update periodicity

CIP-005

Electronic Security Perimeters

R2.1 – 2.3: Interactive Remote Access

"Rather than allowing all the protocols … only the protocol required for remotely controlling the jump host is required. The use of an Intermediate System also protects the Cyber Asset from vulnerabilities on the remote computer."

Cyber Asset Classification – not certain

CIP-005 R2

- **Question / Concern:** What are considerations for a Cyber Asset that communicates inbound system-system (from outside an ESP) to a BCA, but using what could be typical human initiated actions?

CIP-005 R2

- **MRO Response**
  - Be wary of inadvertent Interactive Remote Access
  - Detective control to alarm for inadvertent IRA
  - Classify the Cyber Asset as an Intermediate System
  - Change the direction of session initiation

CIP-007

System Security Management

R5: Account Management

"To help ensure that no authorized individual can gain electronic access to a BES Cyber System until the individual has been authenticated, i.e., until the individual's logon credentials have been validated. Requirement R5 also seeks to reduce the risk that static passwords, where used as authenticators, may be compromised".

Application level (installed software) accounts

Accounts only accessible via Ethernet; no External Routable Connectivity

CIP-007 R5

- **Question / Concern:** Does R5 apply to user accounts for software installed on BCS beyond ones on from base firmware or operating system?
- **MRO Response:** Yes
  - Capture nested accounts
  - Read only devices are an exception

CIP-007 R5

- **Question / Concern:** For a BES Cyber Asset that is only connected serially, but it has an Ethernet port; must we manage the accounts accessible only via the Ethernet port?
- **MRO Response: Yes.** Partially. R5.2, R5.4, and R5.5 apply to all medium impact BCS

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Thank you all for attending this event!

Your feedback is very important to us.
Please provide your feedback here or with the QR Code below:

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WEBINAR CLOSING

Thank you all for attending this event!

Your feedback is very important to us. Please provide your feedback using the link or QR Code below or the link below:

MRO RAM Virtual Webinar 04/28/2022 Survey (surveymonkey.com)