Agenda
Regulatory Oversight Committee Meeting

February 14, 2024 | 8:30-9:30 a.m. Central
In-Person

The Houstonian Hotel Houston
111 North Post Oak Lane
Houston, TX 77024
Conference Room: Grand Ballroom (lower level)

Virtual Attendees
Webcast Link: Join Meeting

Committee Members
Robin E. Manning, Chair
George S. Hawkins
Susan Kelly
Suzanne Keenan
Larry Irving
Kenneth W. DeFontes, Jr., *ex officio*

Introduction and Chair's Remarks

NERC Antitrust Compliance Guidelines

Agenda Items

1. **Minutes* – Approve**

   a. August 16, 2023 Compliance Committee Meeting

2. **Standards Indicators* — Update**

3. **Compliance Monitoring and Enforcement Program Implementation Plan* — Update**

4. **Compliance Monitoring and Enforcement Program and Organization Registration and Certification Program Annual Report* — Update**

5. **Other Matters and Adjournment**

*Background materials included.

DRAFT Minutes
Compliance Committee Meeting

August 16, 2023 | 9:45-11:00 a.m. Eastern
Hybrid

Westin Ottawa Hotel
11 Colonel By Dr.
Ottawa, ON K1N 9H4, Canada

Mr. Robin E. Manning, Chair, called to order the duly noticed meeting of the Board of Trustees Compliance Committee (CC or Committee) of the North American Electric Reliability Corporation (NERC) on August 16, 2023, at approximately 9:45 a.m. Eastern Time, and a quorum was declared present.

Present at the meeting were:

Committee Members	Board of Trustees Members
Robin E. Manning, Chair	Jim Piro
George S. Hawkins	Kristine Schmidt
Larry Irving	
Susan Kelly	
Suzanne Keenan	
Kenneth W. DeFontes, Jr., *ex officio*	

NERC Staff
Tina Buzzard, Assistant Corporate Secretary
Manny Cancel, Senior Vice President and CEO of the E-ISAC
Howard Gugel, Vice President, Compliance Assurance & Registration
Kelly Hanson, Senior Vice President, Chief Administrative Officer
Stan Hoptroff, Vice President, Business Technology
Mark Lauby, Senior Vice President and Chief Engineer
Kimberly Mielcarek, Vice President, Communications
Lonnie Ratliff, Director, Compliance Assurance & Certification
Sônia Rocha, Senior Vice President, General Counsel, and Corporate Secretary
Janet Sena, Senior Vice President, External Affairs
Andy Sharp, Vice President, Chief Financial Officer
Teri Stasko, Assistant General Counsel and Director of Enforcement

Introduction and Chair's Remarks
Mr. Manning welcomed the members of the CC to the meeting. Mr. Manning provided a brief summary of the August 15, 2023 Committee closed meeting.

NERC Antitrust Compliance Guidelines

Ms. Buzzard directed the participants' attention to the NERC Antitrust Compliance Guidelines included in the advance agenda package and indicated that all questions regarding antitrust compliance or related matters should be directed to Ms. Rocha.

Minutes

Upon motion duly made and seconded, the CC approved the May 10, 2023 Open Meeting minutes.

Proposed Amendments to the Compliance Committee Mandate

Chair Manning noted that, considering the current volume and complexity of Reliability Standards-related projects and issues, the Board has recognized that an increased focus and Board oversight of Standards development is needed. The CC aids the Board in its oversight of the Compliance Monitoring and Enforcement Program (CMEP) and Organization Registration and Certification Program (ORCP), which work in concert to reduce risks to the reliability and security of the electric grid. Integrating Standards oversight into the existing CC responsibilities associated with the ORCP and CMEP would enhance the Board's oversight of NERC's core regulatory processes along the entire continuum of activities, from standards development, to registration, through compliance and enforcement actions. If approved, the CC will be renamed as the Regulatory Oversight Committee. Upon motion duly made and seconded, the CC approved the proposed amendments to the CC mandate and recommended that the CGHRC approve the proposed amendments to the CC mandate.

Inverter-Based Resources

Mr. Gugel presented on ongoing efforts across the ERO Enterprise to address the rapid integration of bulk power system connected inverter-based resources (IBRs). These efforts include issuing alerts and lessons learned about events involving IBRs, providing input to FERC on ways to improve the interconnection process for IBRs to help ensure reliability, conducting outreach on IBR matters, and looking at updating Standards and registration criteria to account for IBRs. Mr. Gugel provided on overview of IBR Standards enhancements that are underway, updates on NERC's IBR registration work plan, and information shared with industry via the documents posted to the NERC website and webinar series. Attendees had a robust discussion regarding registration and Standards-related questions, prioritization of the work that needs to be done, and ongoing work at the state level regarding IBR matters.

Compliance Monitoring and Enforcement Program (CMEP) and Organization Registration and Certification Program (ORCP) Semi-Annual Report

Mr. Gugel, Ms. Stasko, and Mr. Ratliff presented the 2023 CMEP and ORCP Semi-Annual Report, noting that NERC had incorporated feedback received from industry to make it more useful. NERC staff also provided information and statistics regarding 2023 CMEP and ORCP activities, updates on the transition to the Align Governance Model and the use of Align in several Canadian provinces, CMEP feedback to Standards, various oversight activities, and stakeholder outreach efforts.

Small Group Advisory Sessions

Mr. Ratliff presented on Small Group Advisory Sessions conducted in 2023, noting successful sessions covering CIP-013 supply chain issues and CIP-012 control center communications and the lessons learned by both industry participants and ERO Enterprise staff from these sessions. Mr. Ratliff also reported on cold weather preparedness sessions that had substantial participation by industry. Finally, Mr. Ratliff noted that

future Small Group Advisory Sessions could cover inverter-based resources and CIP Standards supporting virtualization.

Adjournment

There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,

Sônia Rocha
Corporate Secretary

Standards Indicators

Action
Update

Background
In 2023, Standards released a prioritization of projects based on reliability risk and regulatory deadlines. The projects currently in development were then categorized, and it was determined that NERC and the industry would focus on completing the high priority projects in 2024. This presentation will provide the prioritization of Reliability Standards Development projects and the plan for completion for the high, medium, and low priority projects.

- Energy Assurance – Authorize (High)

- Physical Security SAR – Accept (High)

- Third-Party Cloud Services – Accept (Medium Priority)

- Transmission Planning Energy Scenarios Standard Authorization Request (SAR) – Accept (Low/Phase 2)

- Waivers
  - Generator Ride-through
  - Modifications to Disturbance Monitoring and Reporting Requirements
  - Transmission System Planning Performance Requirements for Extreme Weather
  - Cold Weather

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- 2024 Board adoption dates
  - February 2024 – Cold Weather
  - May 2024 – Internal Network, Security Monitoring and Virtualization
  - October 2024 – Inverter-Based Resources performance and disturbance monitoring projects related to FERC Order 901
  - December 2024
    - Extreme Weather
    - Energy Assurance
    - Low Impact Criteria
    - Physical Security
    - Transmission Owner Control Centers

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Completed By the End of 2024		
2020-02 Modifications to PRC-024 (generator ride-through)	2021-03 Modifications to CIP-002 (TOCC)	2021-07 Extreme Cold Weather
2021-04 Modifications to PRC-002 (data sharing)	2016-02 Virtualization	2023-07 TPL-001 Extreme Weather
2023-02 Performance of IBRs	2023-03 Internal Network Security Monitoring	2022-03 Energy Assurance (Operations)
	2023-04 CIP-003 Low Impact Criteria	
	2023-06 Physical Security	

- SARs also submitted by feedback loops are expected
- 5 SARs on the horizon being drafted by Engineering and RSTC working groups to address:
  - Ensure the reporting of aggregate loss of DER is sent to NERC for large disturbances
  - Ensure consistent DER Accounting
  - Establish telemetry requirements for DERs and/or Distribution Providers (DPs)
  - Clarity on imbalance equations
  - OPA/RTA definition revision to enumerate aggregate DER
  - Identify abnormal performance issues have the authority to seek corrective actions for resources not meeting their established interconnection requirements

Questions and Answers

Compliance Monitoring and Enforcement Program Implementation Plan

Action
Update

Background
The Electric Reliability Organization (ERO) Enterprise Compliance Monitoring and Enforcement Program (CMEP) Implementation Plan (IP) is the annual operating plan used by the ERO Enterprise in performing CMEP responsibilities and duties. The ERO Enterprise executes CMEP activities in accordance with the NERC Rules of Procedure (including Appendix 4C), the Regional Delegation Agreements, and other agreements with regulatory authorities in Canada and Mexico. The rules of procedure requires development of an annual CMEP IP.

The 2024 CMEP IP describes the risks that will be priorities for the ERO Enterprise's CMEP activities in 2024. Collectively, NERC and the Regional Entities have worked collaboratively throughout the IP's development to evaluate reports of NERC committees (especially the Reliability Issues Steering Committee (RISC)), ERO Enterprise analysis of events, NERC reliability assessments, CMEP data to identify the existing and emerging risks to reliable and secure operations.

This strategic IP highlights the focus of our monitoring and enforcement efforts in 2024 on the risk elements identified within. The IP gives guidance to the employees of the ERO Enterprise involved with monitoring and enforcement, and through public posting informs the ongoing conversations with industry about the risks we all seek to mitigate. The risk elements described herein relate to the four risks designated "manage" and the four risk profiles, all identified in the RISC ERO Reliability Risk Priorities Report (RISC report). The risks designated "manage" in the RISC report: 1) Changing Resource Mix, 2) Cybersecurity Vulnerabilities, 3) Resource Adequacy and Performance, and 4) Critical Infrastructure Dependencies. In addition, the report focuses on the four risk profiles discussed in the RISC report: 1) Grid Transformation, 2) Security Risks, 3) Extreme Natural Events, and 4) Critical Infrastructure Interdependencies. While compliance with Reliability Standards is evaluated as part of continual monitoring, the main focus of a mature CMEP is on how the ERO Enterprise and industry proactively identify and mitigate risks to the bulk power system.

The IP represents the ERO Enterprise's high-level priorities for its CMEP activities. While the ERO Enterprise will decide how to monitor each registered entity based on its unique characteristics, registered entities should consider the risk elements and their associated areas of focus as they evaluate opportunities and priorities to enhance their internal controls and compliance operations to mitigate risks to reliability and security.

- CMEP Implementation Plan
  - Dictated by Appendix 4C Section 3.0.
  - Identified risk elements and related NERC Reliability Standards and Requirements to be considered for oversight activities of registered entities.
  - NERC uses these risk elements to identify and prioritize continent-wide risks to the reliability of the bulk power system.

2023	2024
Remote Connectivity	Remote Connectivity (Additional Standards)
Supply Chain	Supply Chain (No Change)
N/A	**Physical Security**
Incident Response	Incident Response (Additional Standards)
Stability Studies	Stability Studies
Inverter-Based Resources	Inverter-Based Resources (Additional Standards)
Facility Ratings	Facility Ratings
Cold Weather Response	**Extreme** Weather Response (Additional Standards)

- Highlights the ERO Enterprise monitoring and enforcement focus

- Identifies risks that need to be mitigated
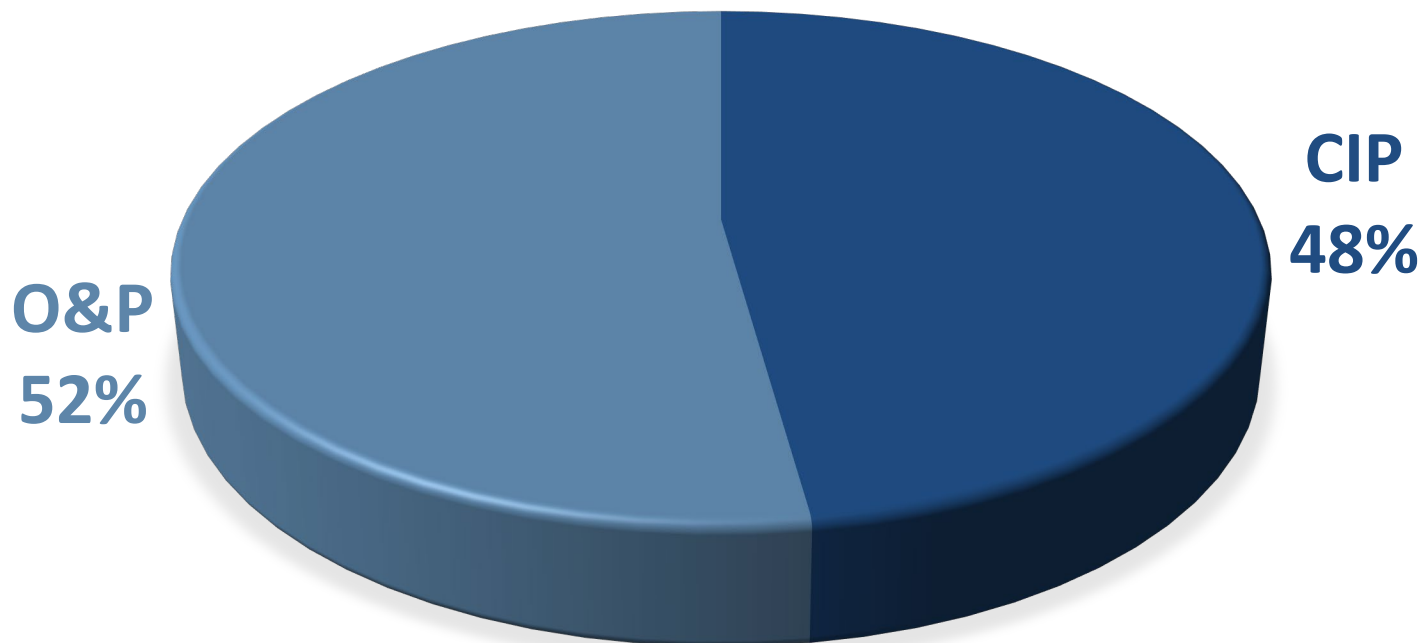
- Collaborative effort across the ERO Enterprise

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2023 AUDIT ENGAGEMENTS

2023 CMEP IP Standards

2023 Standards Reviewed
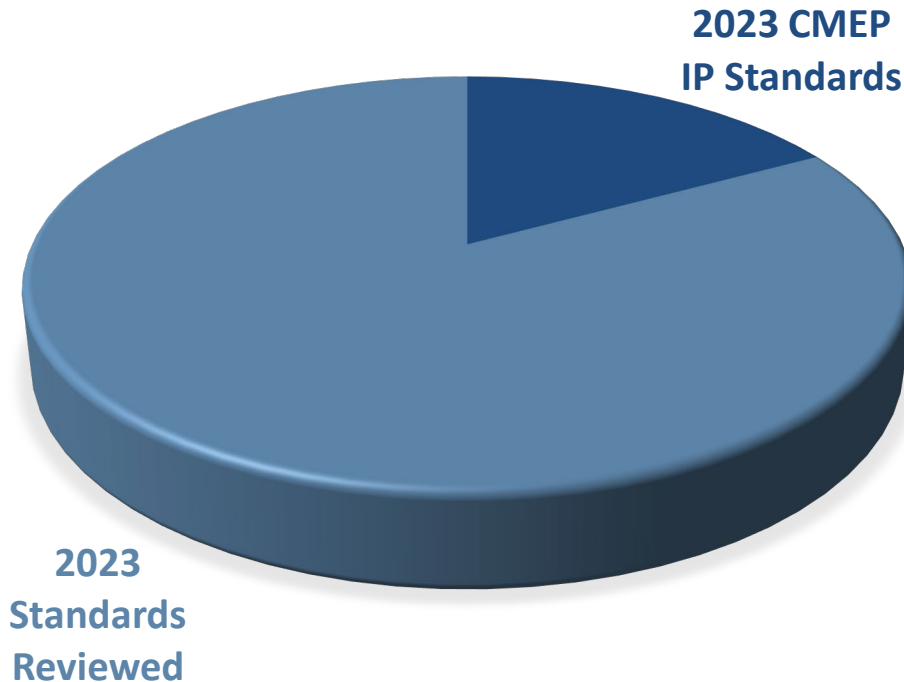
21% of all Standards evaluated were part of 2023 CMEP IP focus areas

2023 ENGAGEMENT FOCUS AREAS

CIP 48%

O&P 52%

Questions and Answers

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Compliance Monitoring and Enforcement Program and Organization Registration and Certification Program Annual Report

Action
Update

Background
NERC staff will present an overview of the Compliance Monitoring and Enforcement Program and Organizational Registration and Certification Program 2023 annual report.

- Purpose of 2023 Compliance Monitoring and Enforcement Program (CMEP) and Organization Registration and Certification Program (ORCS) Annual Report

  - Highlight key accomplishments

  - Outline ERO Enterprise 2023 ORCP and CMEP priorities

  - Provide information and statistics regarding ORCP and CMEP activities

- 2023 Oversight Activities

- Continuous improvement in ORCP and CMEP

- CMEP Feedback to Standards

- Registration Changes and IBR

- Stakeholder Outreach

- Facility Ratings

- Reduction of older noncompliance inventory
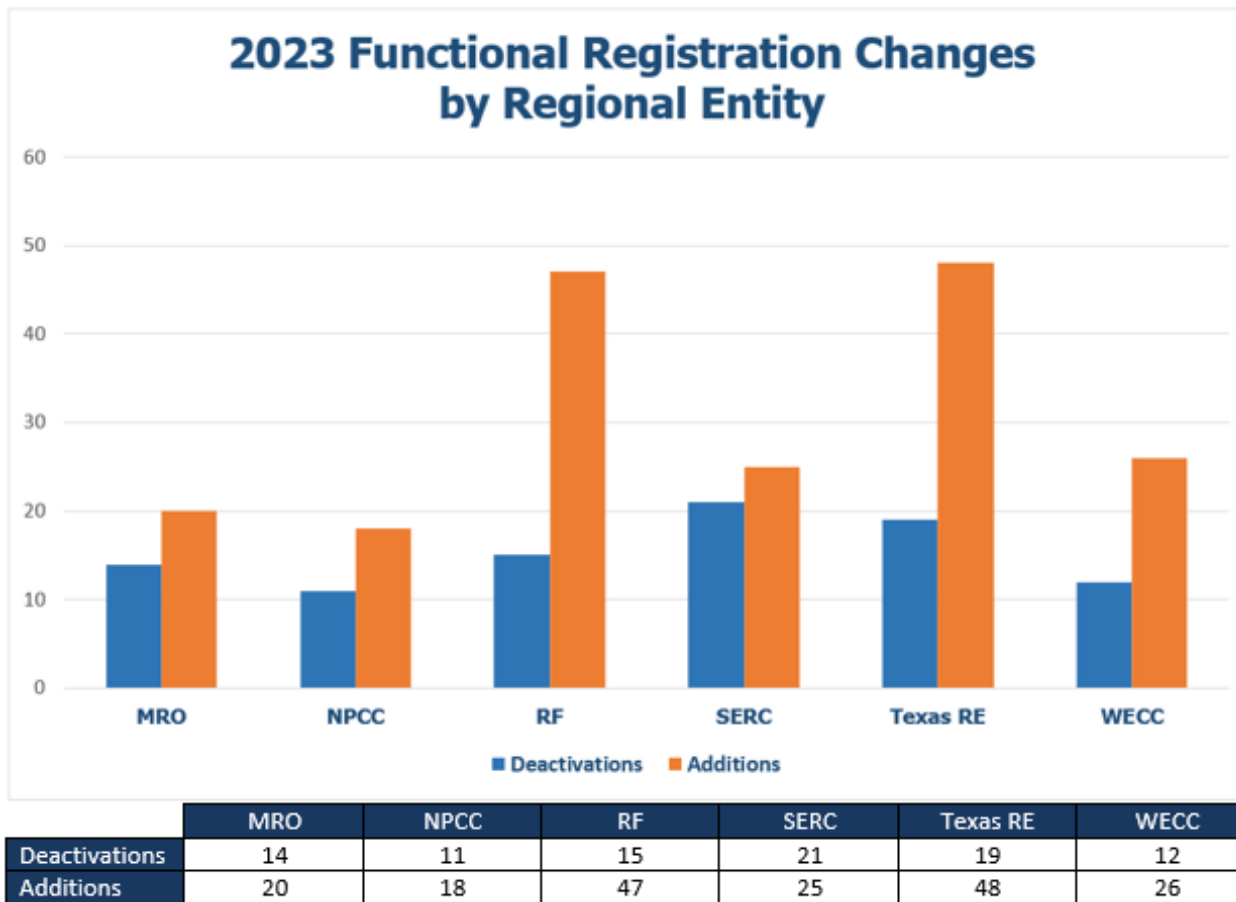
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- Continuous monitoring activities

- Align and SEL Oversight Activity (ongoing)

- Annual FFT-CE Review (conducted jointly with FERC staff)

- Self-Logging Program Review

- Management Action Plans for ORCP and CMEP Findings
- Clear expectations and/or objectives with Regional Entities
- Implemented additional controls to ensure effectiveness

- Facility Ratings (FAC-008)
- Incident Reporting and Response (CIP-008)
- Supply Chain Risk Management (CIP-013)
- Physical Security (CIP-014)
- Internal Network Security Monitoring Standards Modifications and Feasibility Study

Registration Changes

2023 Functional Registration Changes by Regional Entity

	MRO	NPCC	RF	SERC	Texas RE	WECC
Deactivations	14	11	15	21	19	12
Additions	20	18	47	25	48	26

15% increase in registration activity over 2022.
All but one Regional Entity saw increased registration activity in 2023
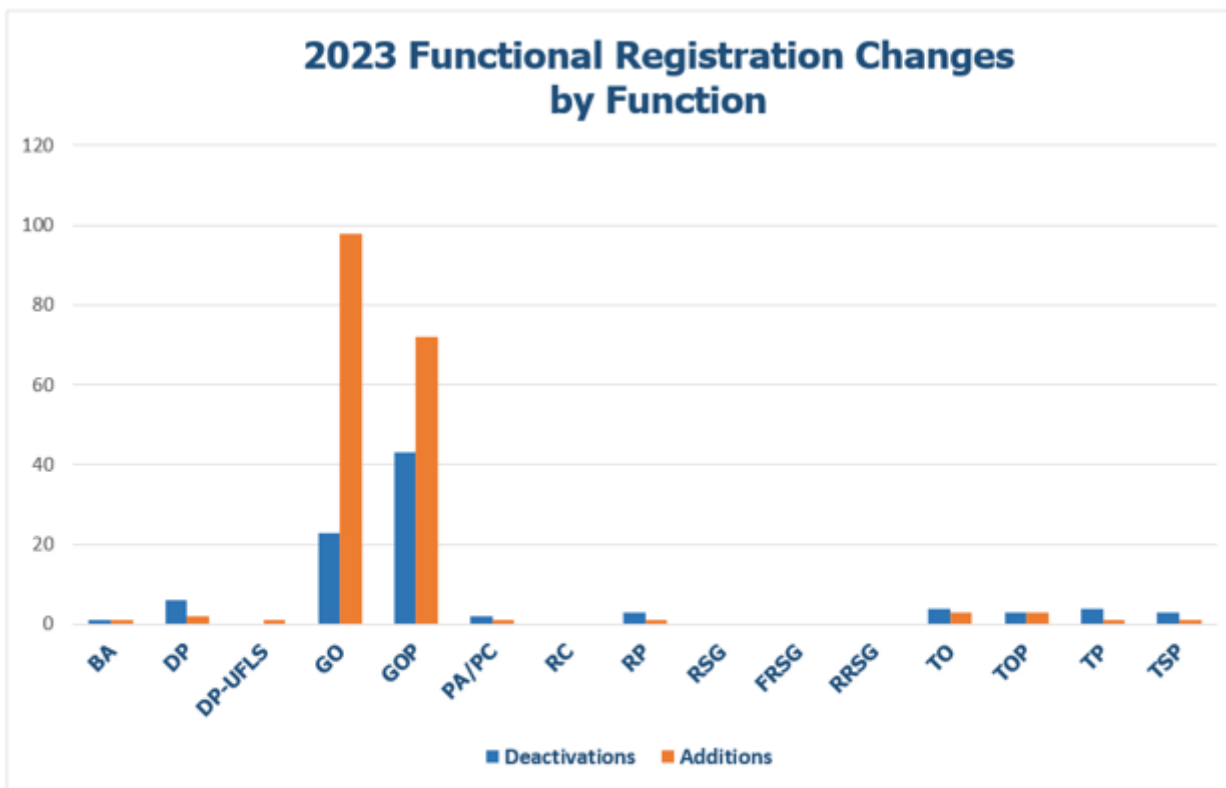
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2023 Functional Registration Changes by Function

	BA	DP	DP-UFLS	GO	GOP	PA/PC	RP	TO	TOP	TP	TSP
Deactivations	1	6	0	23	43	2	3	4	3	4	3
Additions	1	2	1	98	72	1	1	3	3	1	1

Registration changes concentrated in GO and GOP functions
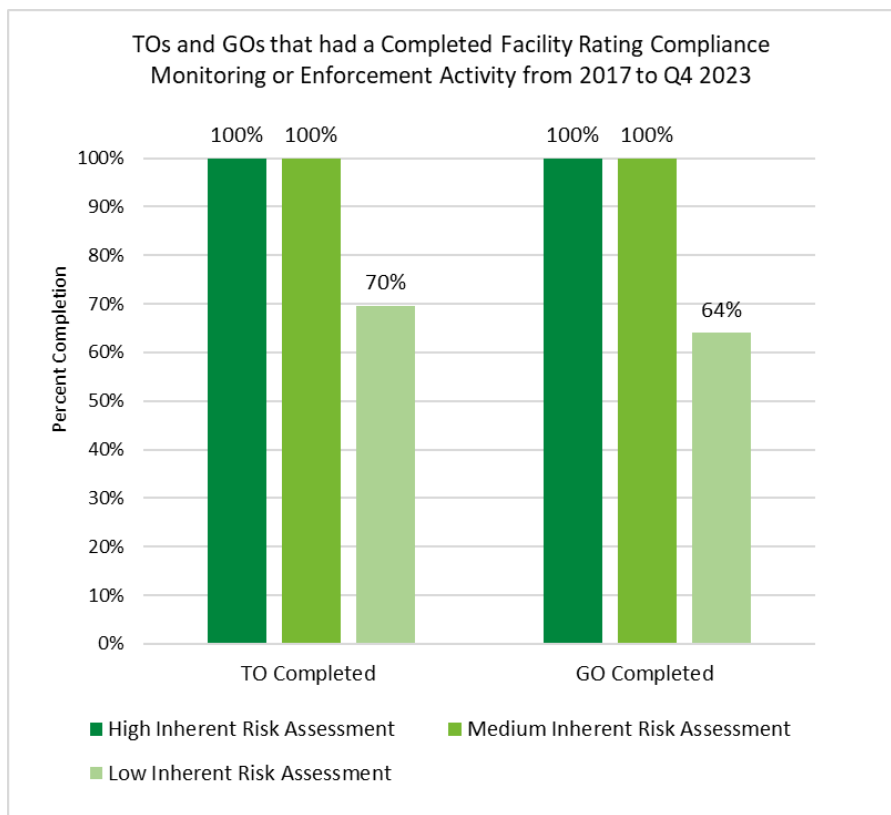
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Stakeholder Outreach

- Facility Ratings
- Program Alignment Tool
- Cold Weather and Winterization
- Cold Weather Level 3 Alert
- Physical Security

Facility Ratings

Impact of November 2021 Call to Action

TOs and GOs that had a Completed Facility Rating Compliance Monitoring or Enforcement Activity from 2017 to Q4 2023
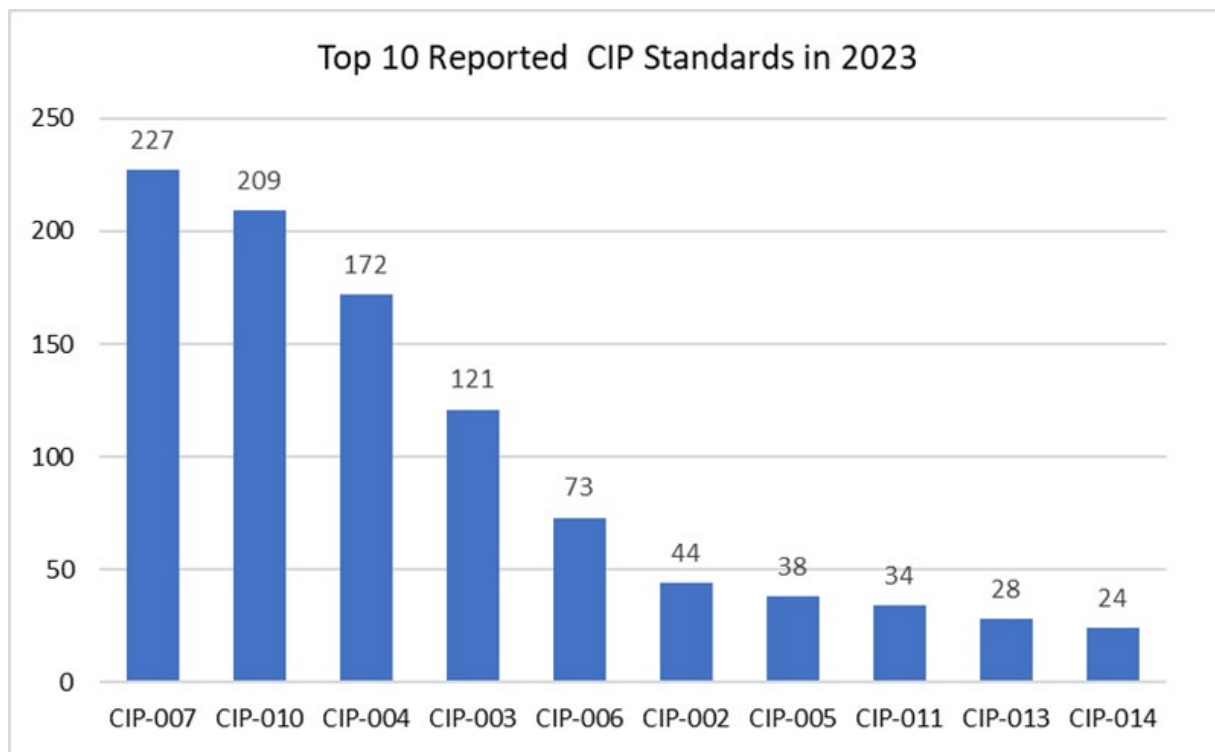
ERO Enterprise has performed Facility Rating-related CMEP activities on all high and medium inherent risk TOs and GOs.

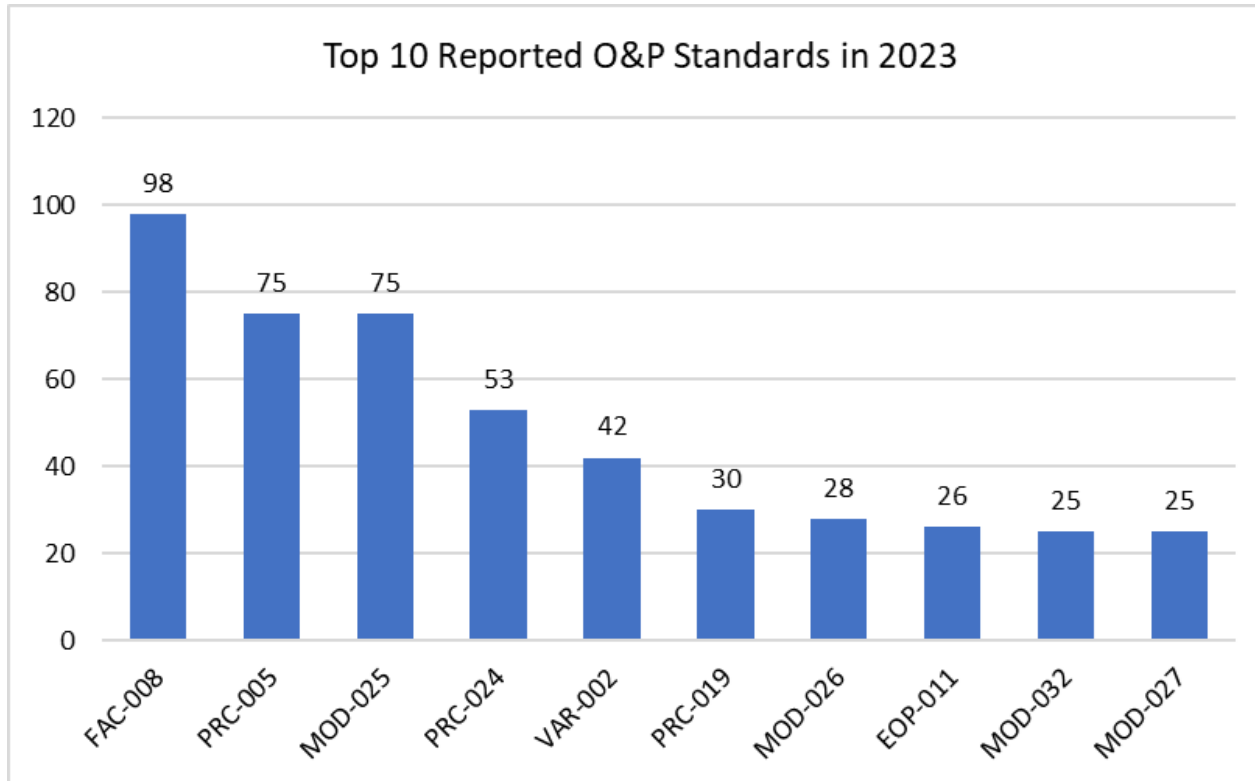# Reduction of Older Noncompliance Inventory

Inventory Reduction in 2023
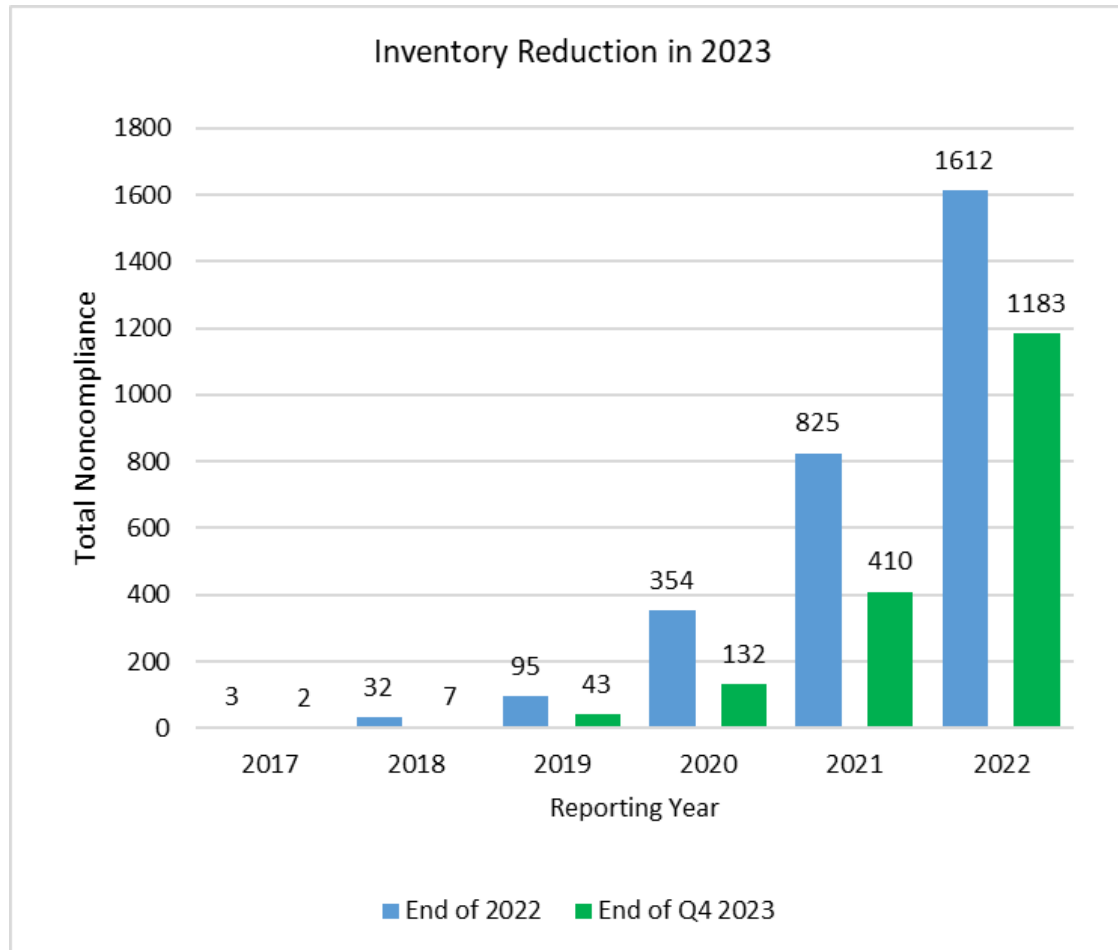
The ERO Enterprise made substantial progress in reducing open noncompliance reported in 2021 and earlier.

Year in Review

Top 10 Reported CIP Standards in 2023

The top three reported CIP Standards all involve high volume and high frequency conduct

Top 10 Reported O&P Standards in 2023

Seeing impact of call to action on Facility Ratings.
Regions and entities are focusing on Cold Weather Standard EOP-011.

- Continued oversight of the ERO Enterprise's ORCP and CMEP activities

- Continued improvement of the Align and Secure Evidence Locker tools in support of the CMEP

- Continued focus on reducing noncompliance inventory, particularly older inventory

- Use data to timely provide insights, trends, and recommendations to prepare for emerging risks to reliability

- Engage with U.S. and Canadian regulators to explore opportunities for greater knowledge sharing and involvement

- Develop a symbiotic relationship between certification, entity risk (as evaluated through IRAs and COPs), and compliance monitoring

- Participate in ERO Enterprise monitoring activities to evaluate potential opportunities to further mature the audit process

Questions and Answers

Organization Registration and Certification Program and Compliance Monitoring and Enforcement Program Annual Report

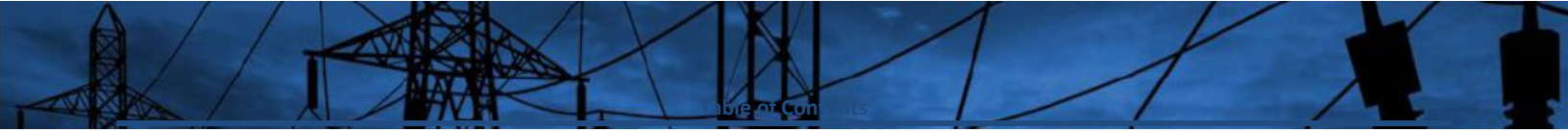February 14, 2024

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Atlanta, GA 30326
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Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities, is a highly reliable, resilient, and secure North American bulk power system. Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American bulk power system is made up of six Regional Entities as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one Regional Entity while associated Transmission Owners/Operators participate in another.
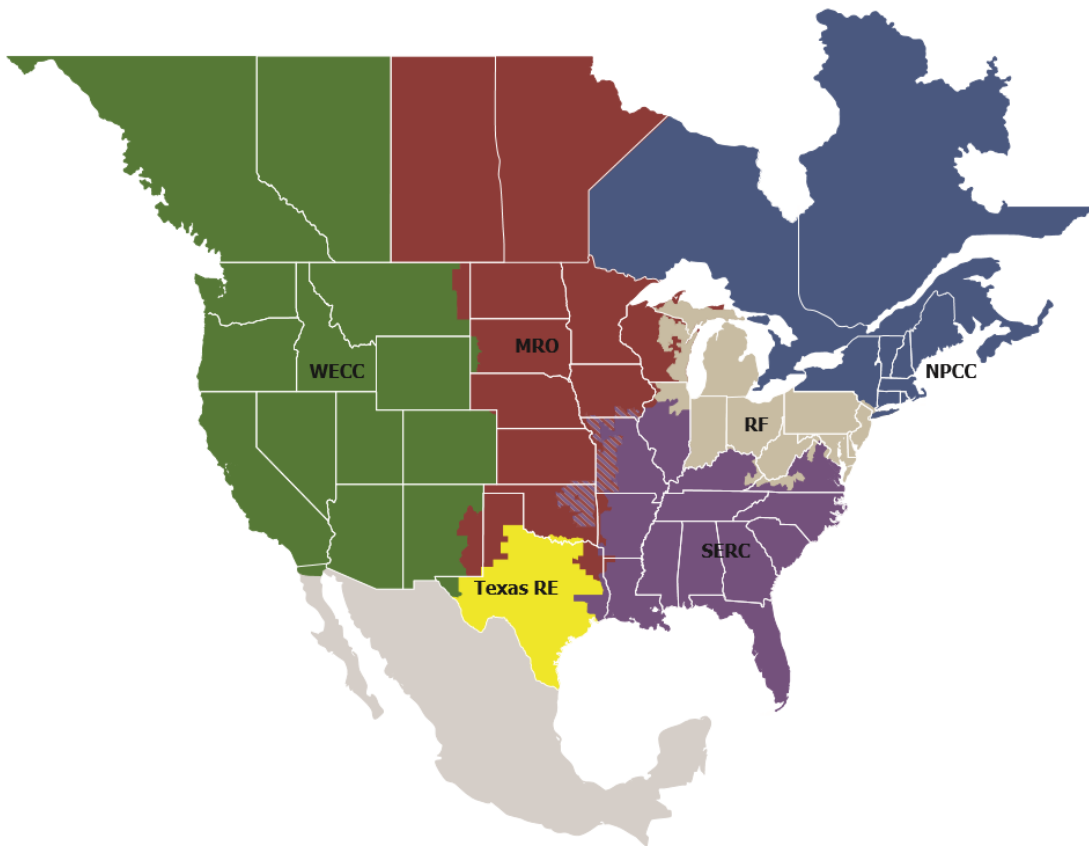
MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Executive Summary

This report highlights key ERO Enterprise[1] Organization Registration and Certification Program (ORCP) and Compliance Monitoring and Enforcement Program (CMEP) activities that occurred in 2023, provides information and statistics regarding those activities, and identifies the ERO Enterprise's 2024 ORCP and CMEP priorities.

In 2023, ORCP and CMEP activities throughout the ERO Enterprise reflected continuing implementation of a risk-based approach that has enabled the ERO Enterprise to focus resources on risks to the reliability and security of the bulk power system and risks specific to registered entities. In 2023, the NERC or the ERO Enterprise:

- Strived for program development, program alignment and continuous improvement in the ORCP and CMEP;

- Conducted oversight activities of the Regional Entities;

- Addressed challenges related to the changing resource mix and worked towards ensuring appropriate registration of various resources; and

- Performed its traditional activities under the ORCP and CMEP.

Specific activities included:

- Completing tasks for the Management Action Plans resulting from the ORCP and CMEP audits, and providing CMEP feedback to Reliability Standards;

- Developing the Inverter-Based Resources Work Plan;

- Making physical and cyber security improvements to Standards (e.g., CIP-014, CIP-008, Internal Network Security Monitoring);

- Completing Winter Storm Elliott report and providing recommendations in conjunction with the Federal Energy Regulatory Commission (FERC); and

- Continuing to make improvements to Align and incorporating Canadian provinces into the Align functionality.

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[1] The "ERO Enterprise" refers to the affiliation between NERC and the six Regional Entities for the purpose of coordinating goals, objectives, metrics, methods, and practices across statutory activities. The operation of the ERO Enterprise does not conflict with obligations of each organization through statutes, regulations, and delegation agreements. The activities discussed in this report relate to registration and certification of registered entities and compliance monitoring and enforcement performed in connection with United States registered entities. A high-level discussion of Oversight of CMEP activities in Canada is included in Chapter 2.

Chapter 1: ORCP and CMEP Program Development and Continuous Improvement

The ERO Enterprise continues to work towards aligning ORCP and CMEP activities across the ERO Enterprise and identifying and addressing risks to the reliability of the bulk power system. Highlights from the year 2023 are discussed in more detail below.

ORCP Activities

Registration of Inverter-Based Resources
During the last several years, the ERO Enterprise has engaged in activities to evaluate and address potential risks to the bulk power system posed by the changing resource mix with the increasing integration of non-BES inverter-based resources (IBRs). In 2021, after NERC published reports on disturbances in California and Texas, NERC began a project to analyze changes to the resource mix and how it compared to NERC's implementation of our jurisdiction. The following year, NERC initiated an ERO Enterprise task force comprised of Registration and Assessment staff to conduct additional analysis and evaluate potential effects to the NERC Rules of Procedure (ROP). In September 2022, NERC presented results to industry at the Reliability and Security Technical Committee, while filings at FERC reflected considerations regarding reliable integration of IBRs.

In November 2022, FERC issued an order directing NERC to file a work plan to identify and register unregistered owners and operators of IBRs that in aggregate materially impact the reliable operation of the bulk power system to be completed within three years from the time of FERC approval of such plan.[2] In Q1 2023, NERC filed the work plan with FERC,[3] which FERC accepted in May 2023. This work plan identified three one-year work periods with specific actions outlined in each, commencing with FERC approval. The work plan called for the following:

1) Revise the ROP to include Generator Owner – IBR (GO-IBR) as a new registered entity function within 12 months of Commission order approving the Work Plan;

2) Identify candidates for GO-IBR registration within 24 months of Commission order approving the Work Plan; and

3) Effectuate registration of GO-IBRs within 36 months of Commission order approving the Work Plan.

NERC has worked closely with Regional Entity staff and industry to develop revisions to the ROP and posted those proposed changes for a 45-day public comment period in Q3 2023. Those comments have been generally positive with suggested improvements. NERC staff is working to submit final proposed changes to the NERC Board of Trustees for approval as quickly as possible.

Section 800 Data Request Regarding Cross-Border Operation of Bulk Power System Elements
Over the past year, NERC has identified instances of cross-border operation or control of bulk power system elements. Technological advancements have enabled distributed energy resource (DER) aggregators to use dispersed management systems, Internet-of-Things (IoT) devices and outage management systems and have increased automation/integration of operational technology networks, thereby expanding the opportunity for cross-border operations.

NERC developed and issued a Section 800 data request to registered Generator Owners (GOs), Generator Operators (GOPs), Transmission Owners (TOs), and Transmission Operators (TOPs) to better understand the extent to which

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[2] FERC Order on Registration of Inverter-Based Resources, Docket No. RD22-4-000 (Nov. 17, 2022), available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20221117-3113.
[3] NERC Request for Approval of the Inverter-Based Resources Work Plan, Docket No. RD22-4-001 (Feb. 15, 2023), available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230215-5191; NERC Amendment to Inverter-Based Resources Work Plan, Docket No. RD22-4-001 (Mar. 13. 2023), available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230313-5249.

non-U.S. entities operate or control U.S. bulk power system assets. Those cross-border operations include activities stemming from Canada and Mexico, as well as outside of North America.

In Q4 2023, NERC issued the data request after discussion at a Reliability Steering Technical Committee (RSTC) meeting. The responses from industry are due by mid-January 2024 and will allow NERC to assess the extent of risk and evaluate next steps, including potential ORCP and CMEP activities.

CMEP Activities
Align and the Secure Evidence Locker
The ERO Enterprise is committed to CMEP effectiveness and invests in the Align and SEL tools to improve security, automation, efficiency, harmonization, and consistency. In 2023, the ERO Enterprise transitioned to the Align Governance Model to support and improve the impact of these tools on the entire CMEP program, fostering collaboration on functionality, business value, and integration with existing CMEP committees.

To improve transparency and communication, NERC retired the webpage for the Align Project and developed a new webpage for Align and the Secure Evidence Locker to communicate information on status of the systems, upcoming outages, links to important documentation, and Release Notes.[4]

In 2023, Align and SEL key initiatives included Canada implementations, release deployments, and legacy data migration and system retirement.

Canada Implementations
Throughout 2023, NERC incorporated Canadian provinces into the Align functionality, addressing the additional jurisdiction responsibilities of MRO, NPCC, and WECC. NERC implemented the MRO Canadian functionality in Q2 2023, with the data migration in Q3 2023. NERC implemented the NPCC Canadian functionality for the relevant province in Q3 2023 and the WECC Canadian functionality in Q4 2023.

Release Deployments
In addition to data migration and adding Canadian provinces, the ERO Enterprise deployed five other releases throughout 2023 (Release 4.5.1, Release 4.5.2, Release 4.5.3, Release 5.0.0, Release 5.1.0). Releases addressed several module improvements for the Align system, including Enforcement, Mitigation, Inherent Risk Assessments, Compliance Oversight Plans, Audits and Spot Checks, Self-Certification, Periodic Data Submittals, Technical Feasibility Exceptions, Internal Controls Assessments, and Request for Information functionality across several areas. The releases include fixes to functionality or improvements to the system. Some of the improvements to the Align system include: CEA being able to create the filing records for submission to FERC; creation of print-style reports for the Enforcement and Mitigation modules; and a complete overhaul of the Request for Information (RFI) functionality. In the Release 5.1.0 deployment, the RFI functionality for Release 1 (Enforcement and Mitigation modules) and Release 2 (Periodic Data Submittal (PDS), Self-Certification (Self-Cert), and Technical Feasibility Exception (TFE)) was improved. The RFI forms included additional data fields to inform the user of the applicable standard, validation rules, and a place for Regional Entities to document internal notes. The portlets were modified for users to better understand where in the process the RFI was by including additional data columns and updated statuses. The RFIs were also modified to allow users to save draft versions prior to sending the RFI as well as allow Regional Entities to cancel an RFI if needed. The My Align dashboard was also updated to refer to the applicable standards as well as the RFI source.

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[4] Align and SEL Resource Center, available at https://www.nerc.com/ResourceCenter/Pages/Align-SEL.aspx.

Legacy Data Migration and System Retirement

The ERO Enterprise migrated historical data from legacy CMEP systems into the Align tool.[5] This migration included data associated with violations that NERC and the Regional Entities closed or dismissed within the five-year retention period. The migration of legacy data provides relevant historical context of violations for the registered entities, Regional Entities, NERC, and FERC. In 2023, four Regional Entities migrated their open enforcement action noncompliance from their legacy system into Align.

Established Individual Regional Entity and CCC Discussions for Prioritized Align Feedback

In October 2023, the Align User Group chairs initiated individual meetings with each Regional Entity and CCC representatives to discuss feedback with using Align, focusing on their input related to efficiency, work arounds, pain points, and showstoppers within Align and SEL. These discussions will continue to occur regularly throughout 2024, identifying potential focus areas for future prioritization discussions with the AUG and Product Management Team. These meetings will help NERC better engage with Regional Entities and registered entities to help with prioritizing potential improvements to the Align experience.

CMEP Audit Management Action Plans

In 2022, NERC Internal Audit conducted CMEP audits of NERC and each of the six Regional Entities. The audits sought to assess the effectiveness of the Regional Entities' implementation of the CMEP and determine whether they meet the standards defined in Section 400 of the NERC Rules of Procedure and the corresponding annual CMEP Implementation Plan.

The scope of the audit engagement for NERC Compliance Assurance (NERC CA) included Risk Assessment/Monitoring/Programs/Tools and Training and Learning Programs and Outreach. CMEP IP/Risk Elements; Inherent Risk Assessments (IRAs); Compliance Oversight Plans (COPs); Annual Audit Planning and Reporting; Internal Controls; Compliance Investigations; and Complaints. NERC CA created management action plans to address the findings and recommendations:

- Collaborated with Regional Entities, primarily through the Risk Performance and Monitoring Group (RPMG), to ensure risk management expectations were established. Oversight engagements were established with clear objectives around the usage of the annual CMEP IP/Risk Elements, Inherent Risk Assessments and Compliance Oversight Plans. Additionally, NERC CA, in collaboration with the RPMG, created an ERO Enterprise internal controls vision statement, ERO Enterprise Internal controls maturity model for assessing internal controls, and enhanced the IRA/COP processes.

- Documented its Complaint tracking process, which includes internal controls for ensuring the process performs as expected internally and at the regional level as well as evaluated technology to automate the tracking, trending, and processing of Complaints.

- Enhanced its Regional Entity compliance monitoring schedule tracking process and evaluated technology to automate the tracking of Regional Entity compliance monitoring execution.

- Updated the existing Regional Entity compliance audits and reporting procedure to include additional controls to ensure the process effectiveness. In addition, NERC CA publicly posted delayed reports and evaluated technology to introduce possible automation for tracking, notifications, and visibility.

- Formalized an onboarding checklist, including implementing controls to ensure completion of required training prior to performing oversight responsibilities. In addition to the onboarding checklist, NERC CA developed a periodic training evaluation process to ensure NERC CA staff periodically receive the necessary training to effectively perform bulk power system reliability and security oversight.

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[5] The legacy systems include the Web Compliance Data Management System (CDMS), Compliance Information Tracking System (CITS), and Compliance Reporting, Analysis, and Tracking System (CRATS).

- Formalized its reporting and data access to Technical Feasibility Exceptions process, to include controls to ensure data confidentiality.
- Provided additional awareness of the established Program Alignment Process via NERC Currently Compliant podcast.

During its recent CMEP audits, NERC Internal Audit also reviewed Enforcement activities. The audits observed improvement opportunities in (1) NERC Enforcement oversight of applications to and eligibility for Self-Logging program; and (2) eliminating backlogs of processing potential noncompliance.

In 2023, NERC Enforcement conducted a Self-Logging oversight activity (discussed in further detail in Chapter 2 below and worked with the ERO Enterprise Enforcement Group (EG) to obtain feedback on the Self-Logging program from members of the CCC and to brainstorm potential improvement opportunities for the Self-Logging program. Members of the CCC noted that while the intended benefits of the Self-Logging program had not been fully realized, the entities currently participating wanted to remain in the program and identified benefits of the program and suggested potential opportunities for improvements to the program.

Since the end of Q2 2023, the ERO Enterprise also substantially reduced the number of older open noncompliance in its inventory, as shown in Chapter 4 below. In the second half of 2023, the ERO Enterprise reduced open noncompliance reported in 2021 or earlier by over 300 noncompliances, a reduction of nearly 35% in two quarters. For the full year, the ERO Enterprise processed approximately 60% of the noncompliance open at the start of 2023 that had been reported in 2019 and earlier, and approximately 55% of the noncompliance open at the start of 2023 that had been reported in 2021 and earlier.

CMEP Feedback to Standards

The ERO Enterprise recognizes the importance of providing compliance experiences and practices to assist in evaluating the efficacy of the Standards in supporting continued safe, secure, and reliable operations. In 2023, the ERO Enterprise provided feedback on FAC-008, CIP-013, and CIP-014, CIP-008, and the proposed Requirements within the CIP Reliability Standards regarding Internal Network Security Monitoring.

FAC-008 Standards Authorization Request

On March 22, 2023, NERC and Texas RE submitted a Standard Authorization Request (SAR) to the Standards Committee (SC), proposing a number of improvements to certain requirements of FAC-008-5 to ensure that Facility Ratings, including all equipment that comprises the Facilities, are periodically reviewed for accuracy based on equipment and conditions in the field, drawings, and other data and information.[6]

On April 19, 2023, the SC discussed the proposed stated improvements in the SAR. The SC approved a motion to delay action on the SAR pending the development of further technical justification for the proposed project by the Reliability and Security Technical Committee (RSTC).

On October 19, 2023, the comment period for the draft FAC-008-6 concluded and the SDT is now reviewing all comments and considering next steps.

CIP-013-2 Supply Chain Risk Management

NERC collaborated with the Regional Entities to formulate a CIP-013 sub-team to review FERC feedback and develop an action plan to address supply chain risk management concerns. As result of this collaboration, NERC developed a draft SAR which proposes revisions to CIP-013-2 to require complete and accurate assessments of supply chain

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[6]*See* https://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/SC_Agenda_Package_March%2022_2023.pdf and https://www.nerc.com/comm/SC/Agenda%20Highlights%20and%20Minutes/SC_Agenda_Package_April_19_2023.pdf for the SC agenda and minutes including the SAR and SC decision on the SAR.

security risks that reflect actual threat(s) posed to the entity. Additionally, entities would be required to provide triggers on when the supply chain risk assessment(s) must be performed (i.e., planning for procurement, procurement, and installation) and a response to risks identified. In Q3 2023, the Standards Committee voted to delay action on the SAR pending consultation with the Reliability and Security Technical Committee (RSTC) to determine if there is another approach to addressing the issue raised in the SAR. The SAR is currently under review by the Supply Chain Working Group (SCWG).

CIP-014-3 Physical Security
Due to an increase in reports of physical attacks on electric substations, FERC issued an order in Docket No. RD23-2-000 directing NERC to evaluate the effectiveness of the Physical Security Reliability Standard CIP-014-3 in mitigating the risks to the bulk power system associated with physical attacks.

In April 2023, NERC issued a report assessing CIP-014-3[7] that identified continuing inconsistency in registered entity risk assessments performed to identify critical infrastructure. NERC found that revisions to CIP-014 would assure an adequate and consistent approach in evaluating instability and in identifying infrastructure critical to the operation of the bulk power system. Subsequently, NERC staff submitted a regulatory-initiated SAR with proposed project revisions as detailed in the NERC report on CIP-014-3. On June 22, 2023, the Standards Committee accepted this SAR.

On August 10, 2023, NERC and FERC hosted the Joint NERC–FERC Physical Security Technical Conference as a hybrid event in-person at NERC's Atlanta office and virtually. The NERC and FERC staff-led technical conference was held in response to a recommendation in NERC's April 2023 Evaluation of the Physical Security Reliability Standard and Physical Security Attacks to the Bulk Power System ("CIP-014 Report").

CIP-008-6 Incident Reporting and Attempt to Compromise
ERO Enterprise CMEP staff conducted a study to determine the effectiveness of the current CIP-008-6 Standard and found inconsistencies in the application of the Standard. As a result, the CIP-008 Standards Drafting Team (SDT) (Project 2022-05) convened in Q1 2023 to modify the Reliability Standards and associated definitions to provide a minimum expectation for thresholds to support the definition of attempt to compromise. After further input and collaboration with ERO Enterprise CMEP staff and FERC staff, the SDT submitted a revised CIP-008 SAR to the Standards Committee that recommends minor changes to better guide their efforts going forward. On July 19, 2023, the Standards Committee approved the revised SAR and revisions to CIP-008-6 are currently underway by the SDT.

Internal Network Security Monitoring Standards Modifications and Feasibility Study
NERC convened a team consisting of ERO Enterprise CMEP staff and NERC security engineers to address FERC Order 887,[8] issued in Q1 2023. Order 887 directed NERC to address concerns related to Internal Network Security Monitoring (INSM) by (1) developing requirements within the CIP Reliability Standards for INSM of all high impact BES Cyber Systems and medium impact BES Cyber Systems with External Routable Connectivity (ERC), and (2) conducting a study on the risks of lack of INSM for medium impact BES Cyber Systems without ERC, all low impact BES Cyber Systems, and on the challenges and solutions for implementing INSM for those BES Cyber Systems.

The team drafted and submitted a SAR, which the Standards Committee approved in Q1 2023. Modifications to CIP-007 have been completed and a 35-day formal comment period has been opened through January 17, 2024.
The team also completed a Section 1600 data request in Q3 2023 in connection with the study and NERC will file the related report with FERC in January 2024.

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[7] *NERC Report on the Evaluation of the Physical Security Reliability Standard and Physical Security Attacks to the Bulk-Power System*, Docket No. RD23-2-001 (Apr. 14, 2023).

[8] *FERC Final Rule on Internal Network Security Monitoring for High and Medium Impact Bulk Electric System Cyber Systems* (Order No. 887), Docket No. RM22-3-000 (Jan. 19, 2023).

Facility Ratings – Call to Action Update

Facility Ratings play a significant role in planning and operating the bulk power system. The ERO Enterprise has been actively engaged in identifying and working to mitigate challenges associated with Facility Ratings programs. In November 2021, the ERO Enterprise shared its call to action to address potential risks associated with incorrect Facility Ratings. The call to action supports the development and sustainment of registered entity risk-based Facility Ratings programs and resolution of Facility Ratings noncompliance using existing tools. In the call to action, the ERO Enterprise committed to using a risk-based approach to examine all registered entities with FAC-008 obligations. Since that time, the ERO Enterprise has completed a monitoring engagement or enforcement activity related to Facility Ratings for 100% of High and Medium Inherent Risk Generator Owners and Transmission Owners. The ERO Enterprise continues to process identified noncompliance involving Facility Ratings, has shared common themes of Facility Ratings noncompliance, and will continue to monitor Facility Ratings as part of compliance monitoring engagements to ensure that the call to action results in sustainable Facility Ratings programs.
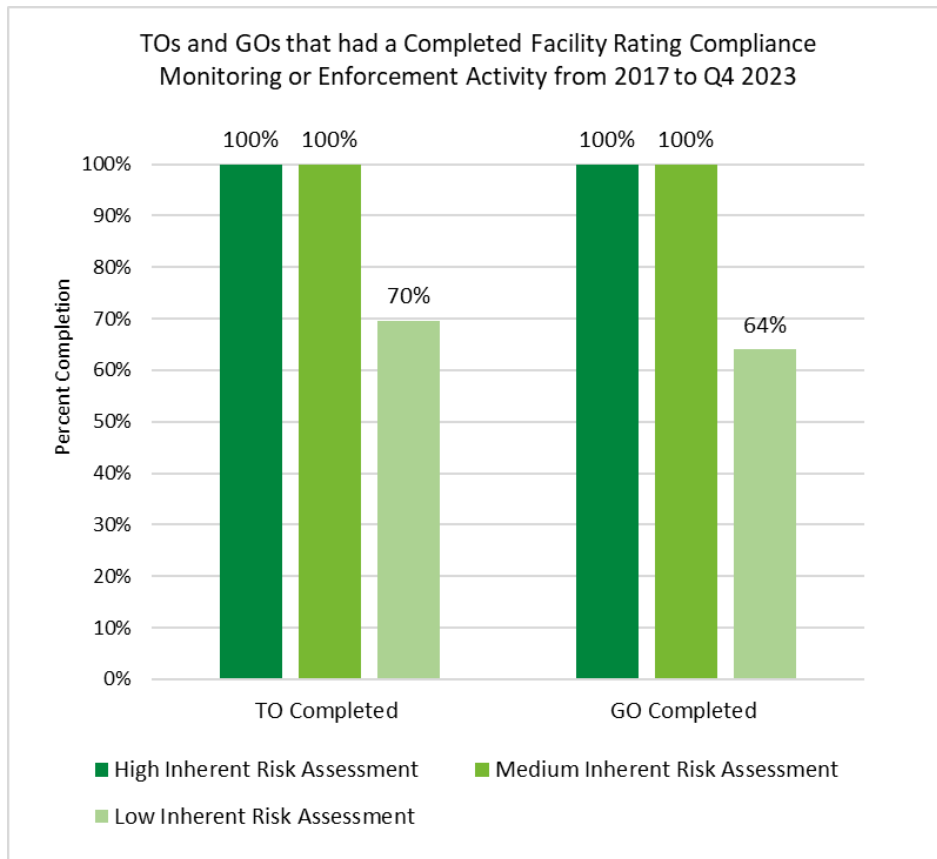

Figure 1: Facility Rating CMEP Activities by Function and Inherent Risk

Chapter 2: Oversight Activities

Overview
NERC considers criteria developed by the Compliance and Certification Committee (CCC) to measure the effectiveness and adherence of the Regional Entities to the CMEP, as detailed in CCC procedure document CCCPP-010-7.[9] As NERC develops the objectives used for performing oversight for the various components of compliance monitoring and enforcement, NERC factors in the criteria identified in CCCPP-010-7.

Align and Secure Evidence Locker Oversight Activity
As part of the rollout of Align and the ERO Enterprise Secure Evidence Locker, NERC periodically performs oversight of the tool's usage by the ERO Enterprise and registered entities. In addition to continued monitoring of Align and SEL usage, specific program reviews are deployed to adequately evaluate oversight priorities. In 2023, NERC reviewed implemented processes and procedures for Align and SEL related to access provisioning and maintenance of artifacts. This review evaluated implemented processes and procedures for adequacy and effectiveness to assure the continued security of CMEP data. Based on NERC's review, the ERO Enterprise is establishing consistent access management programs and developing effective controls to ensure data retention. The results of this oversight will also be used to inform CMEP staff training during the 2024 CMEP Spring Workshop. In 2024, NERC will conduct additional reviews of CMEP tool usage to evaluate the incorporation of training delivered.

In 2024, NERC will review Canadian Align implementations. This review will evaluate the roll out, adoption, access management, and artifact retention specific to regions' international responsibilities. NERC will continue to perform oversight activities with objectives to evaluate consistent and appropriate usage of these CMEP tools and will continue to identify opportunities for enhancements to Align and the SEL as well as process improvements.

Annual FFT and CE Programs Review
In September 2023, NERC Enforcement issued the report for the 2022 annual review of the FFT and CE programs.[10] NERC and FERC staff jointly reviewed a sample of 34 out of 223 FFT instances of noncompliance and a sample of 31 out of 944 CE instances of noncompliance posted by NERC between October 2021 and September 2022. Sampling for the 2022 program year indicated that Regional Entities appropriately processed almost all sampled violation IDs as FFTs or CEs[11] and that all sampled noncompliance were adequately remediated, and the root cause of each noncompliance was clearly identified.

NERC agreed with all sampled risk determinations and found the Regional Entities had detailed and thorough descriptions of noncompliance. Based on these findings, NERC concluded that Regional Entities have continued to improve consistency in processing and understanding of the risk associated with individual noncompliance across the ERO Enterprise.

NERC and FERC staff initiated the 2023 Annual FFT and CE Programs review in Q4 2023. NERC issued data requests to the Regional Entities for sampled IDs from the fiscal year 2023 and the Regional Entities provided evidence documents in response. NERC staff will conduct a thorough review of evidence documents in Q1 2024.

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[9] Criteria for Annual Regional Entity Program Evaluation (November 2022), available at https://www.nerc.com/comm/CCC/Related%20Files%202013/CCC%20Criteria%20for%20Annual%20Regional%20Entity%20Program%20Evaluation%20v7.pdf.

[10] *NERC 2023 Annual FFT and CE Report*, Docket No. RC11-6-017 (Sept. 26, 2023), available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230926-5131.

[11] *See N. Am. Reliability Corp.,* Notice of Staff Review of Enforcement Programs, Docket No. RC11-6-015 (Sept. 11, 2023) (where FERC identified one instance where they believed an FFT would have been more appropriately processed as an SNOP, but they agreed with final risk determinations for all 65 sampled IDs), available at https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20230911-3058.

Self-Logging Program Review

NERC Enforcement conducted a Self-Logging Program Review to evaluate the effectiveness of the Self-Logging Program and the consistency of each Regional Entity's practices, and to ensure compliance with the CMEP and the Self-Logging Program User Guide. Some of the goals of the program were to review the application process that the registered entities go through to request enrollment, review eligibility criteria and Regional Entity review practices to approve enrollment, review processes associated with submittal of logs, including timeliness of submittals and review of logs, procedural review for documents associated with the program, and review follow up procedures, training, and other feedback to the entities for program improvements. NERC completed its review in Q4 2023 and is finalizing the results of the review, with plans to share results with the Regional Entities in January 2024.

Compliance Audit Monitoring

NERC Compliance Assurance performed a review of Regional Entities' compliance audits conducted during 2023 to verify compliance results (Findings), ensuring the Regional Entities' effectiveness in implementing the CMEP. NERC staff reviewed a sample of monitoring engagements to verify findings specific to CIP-008-6 R1 and R2 and EOP-011-2 R7 and R8. Objectives of reviewing the compliance monitoring activities included (1) determining if another party could reasonably reach the same conclusions; (2) assessing the use of tools, processes, and procedures; and (3) evaluating audit methodology to ensure consistency of compliance monitoring activities. NERC Compliance Assurance will report results of the review to ERO Enterprise members in early 2024.

Technical Feasibility Exceptions

In September 2023, NERC filed its annual report on wide-area analysis of Technical Feasibility Exceptions (TFEs) with FERC.[12] NERC and the Regional Entities used the Align tool to gather most of the evidence for the 2023 report. The report notes that the number of registered entities engaging in the TFE program decreased from 95 registered entities in 2022 to 92 registered entities in 2023. The percentage of TFE activity, such as requests for new TFEs, modifications of existing TFEs, and terminations of TFEs, slightly decreased across the ERO Enterprise since the previous report. Half of the Regional Entities had a decrease in TFE activity, while the other half had slightly increased activity. Most of the program activity was due to terminations and modifications to existing TFEs.

As the number of registered entities that are engaging in the TFE program continues to decline, so does the total number of TFEs. Accordingly, NERC and the Regional Entities continue to consider alternatives to the current TFE program to increase efficiency and alleviate the administrative burden on registered entities and the ERO Enterprise.

Audit Team Lead and Certification Training Oversight

In July 2023, the NERC Compliance Assurance department performed oversight regarding completion of the NERC Rules of Procedure required[13] training. The required training includes Audit Team Leader (ATL) Training and associated prerequisites. Compliance Assurance compiled a list of 93 CIP and O&P Regional Entity auditors who have led, or would lead, an audit in 2023. The list was validated against individual auditor training records in the ERO Enterprise Learning Management System (LMS). The result of this validation concluded that all identified 2023 ATLs have completed, or would complete, all required training prior to leading audit engagements. NERC Compliance Assurance will continue to provide ROP required auditor training in 2024, as well as periodically perform oversight to ensure Regional Entity audit staff training is adequately documented, tracked, and current. NERC Compliance Assurance also performs oversight of the certification activities and verifies training records of team leads and members through participation in the certification teams and sampling of team member training records.

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[12] *Annual Report of NERC on Wide-Area Analysis of Technical Feasibility Exceptions*, Docket Nos. RR10-1 and RR13-3 (Sept.28, 2023), available at https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/TFE%20Annual%20Report%202023.pdf.

[13] NERC Rules of Procedure, Sections 402.9, 403.7.5, 502.2.2.7, and Appendix 4C (effective date Nov. 2023), available at https://www.nerc.com/AboutNERC/RulesOfProcedure/NERC%20ROP%20effective%2020220825_with%20appendicies.pdf.

Distribution Provider Registration Oversight

As part of its 2023 Oversight Plan, NERC Registration conducted a survey of Regional Entities' registration practices for Distribution Providers (DPs). This effort focused on gaining further insight into Regional Entity practices of data collection and retention, Regional Entity application of the DP registration criteria, and Regional Entity differences, if any. NERC Registration is reviewing the responses to the survey and considering potential action plans to improve effectiveness and consistency of DP registration practices across the ERO Enterprise, including revisions to the ROP and the CMEP Practice Guide (Directly Connected Guideline).

Oversight of Canadian CMEP Efforts

The ERO Enterprise's CMEP activities extend into eight Canadian provinces – British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, and Nova Scotia. NERC and three Regional Entities (WECC, MRO, and NPCC) have agreements with applicable governmental authorities or authorized entities in each province that provide the affected Regional Entities and NERC with province-specific compliance monitoring and enforcement responsibilities. NERC and the Regional Entities with responsibilities in Canada provide the NERC Board of Trustees Compliance Committee with periodic updates on Canadian CMEP activities.

Chapter 3: Outreach and Training

Overview of Outreach

In 2023, the ERO Enterprise provided numerous outreach opportunities to industry stakeholders through workshops, monthly newsletters, assist visit programs, webinars, podcasts,[14] and other events. These outreach events focused on a variety of topics, including – but not limited to – the following:

- Cold weather preparedness and winterization;
- Physical and cyber security;
- Program Alignment Tool; and
- Facility Ratings

Cold Weather Preparedness General Session Webinar and One-on-One Sessions

On March 7, 2023, the ERO Enterprise hosted a webinar for registered entities preparing to implement the Cold Weather Preparedness Standards. The webinar focused on questions and compliance monitoring approaches related to EOP-011-2 R7 and R8, IRO-010-4 R1.3, and TOP-003-5 R1.3. The ERO Enterprise then hosted one-on-one discussions with registered entities preparing to implement the Cold Weather Preparedness Standards. The ERO hosted 26 one-on-one sessions throughout the week, which included entities from every Regional Entity. The webinar and subsequent one-on-one discussions were conducted in early spring to allow registered entities time to digest the information and plan accordingly before cold weather hit later in the year.

Cold Weather Level 3 Alert

On May 15, 2023, NERC issued a Level 3 Essential Actions alert, Cold Weather Preparations for Extreme Weather Events III.[15] The purpose of the Level 3 Alert is to increase the readiness of Reliability Coordinators, Balancing Authorities, Generator Owners, and Transmission Operators for mitigating operational risk for winter 2023–2024 and beyond. This is NERC's first Level 3 Alert, which is the highest severity level in NERC's alert classification structure. The alert contains a set of eight specific actions that NERC determined to be essential for certain segments of owners, operators, or users of the grid to undertake to ensure its reliable operation. Entities registered under the functional groups denoted in the alert must acknowledge receipt of the alert by May 22, 2023, and respond to the Essential Actions and a series of questions related to their preparedness by October 6, 2023. NERC advises that all registered entities – not just those required to respond – review the alert on the NERC's website for applicability to their operations. NERC also posted materials[16] from a May 5 webinar[17] on the topic.

Program Alignment Tool

In response to reports of inconsistency between Regional Entities in CMEP matters, NERC employed EthicsPoint, a third-party program alignment tool used in many industries, to encourage open discussions by providing a venue to communicate anonymously and establishing a workflow tracking reported issues and documenting them so they are not lost or forgotten. NERC has observed and received feedback indicating the tool is underutilized, so NERC conducted outreach to encourage use of the tool. As part of this outreach, NERC presented on the tool to the Compliance and Certification Committee (CCC), providing information on both the tool itself and the process that the tool supports. Additionally, NERC released Episode 5 of the ERO compliance podcast "Currently Compliant," focusing on the ERO Consistency Reporting Tool and how NERC uses the EthicsPoint software to allow the industry to report inconsistency issues within the ERO Enterprise.

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[14] Currently Compliant Podcast, available at https://vimeopro.com/nerclearning/currently-compliant-podcast/.
[15] Level 3 Alert: Essential Actions to Industry: Cold Weather Preparations for Extreme Weather Events III (May 15, 2023).
[16] NERC Webinar Presentation on Level 3 Alert Essential Actions (May 5, 2023).
[17] Recording of NERC Webinar on Level 3 Alert Essential Actions (May 5, 2023).

Facility Ratings

On May 24, 2023, ERO Enterprise hosted a webinar on Facility Rating Management.[18] The webinar highlighted the recent Themes and Best Practices for Sustaining Accurate Facility Ratings report.[19] Various industry and ERO Enterprise speakers discussed management best practices and other facility rating mitigation approaches that could benefit registered entities' facility rating programs.

Regional Workshops and Training

In 2023, the six Regional Entities hosted dozens of workshops and training events for industry in the United States and Canada on a variety of topics, including but not limited to:

- Cold weather preparedness and winterization, including EOP-011 and EOP-012;
- Winter Storm Elliott;
- Cyber and physical security;
- The evolving grid and IBRs;
- Align;
- Internal controls;
- Facility Ratings (FAC-008)
- Establishing and communicating System Operating Limits;
- Communications between control centers (CIP-012);
- BES Cyber System Information in the Cloud; and
- Enforcement training on extent of condition and root cause analyses, mitigation, the most frequently violated Reliability Standards, and the enforcement process in general.

Overview of ERO Enterprise Staff Training

NERC CMEP staff provide training to ERO Enterprise staff through workshops, instructor-led training events, eLearning opportunities, and oversight of the training and education activities of the Regional Entities. These opportunities focus on identifying gaps in staff knowledge and capabilities related to the risk-based CMEP. ERO Enterprise staff provide training and educational opportunities concerning Reliability Standards, compliance monitoring and enforcement processes, and other supporting reliability functional areas to other NERC staff, Regional Entity staff, and industry participants at various events through the year. These programs enhance the knowledge and capabilities of the ERO Enterprise and industry in identifying and addressing risk, thereby improving the reliability of the bulk power system.

CMEP Workshop

In April 2023, NERC conducted the Annual ERO Enterprise CMEP Staff Workshop in Atlanta, with over 200 ERO Enterprise CMEP staff in attendance. The theme for the 2023 workshop was "Are We Agile Enough" with continued focus on the transformation of the CMEP. The workshop included a NERC-led mock audit with a strong focus on entity risk and internal controls, tools, documentation, and examples of agility in the CMEP process. A key focus of the workshop was to ensure CMEP staff clearly understood the need for, and the reasons behind, agility in CMEP monitoring activities. The workshop also covered topics that are essential to the successful implementation of risk-based compliance monitoring such as a focus on entity practices and controls, as well as technical training related to certain Reliability Standards. To receive credit for specific sessions, and associated competencies, the attendees were

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[18] Recording of ERO Enterprise Industry Webinar on Facility Rating Management (May 24, 2023); Presentation for ERO Enterprise Facility Ratings Themes and Best Practices (May 24, 2023) is available here.

[19] ERO Enterprise Themes and Best Practices for Sustaining Accurate Facility Ratings (October 20, 2022).

required to demonstrate an understanding of the material by successfully completing learning assessments in the ERO Enterprise Learning Management System (LMS).

Training for Audit Team Lead, Certification Team Lead, and Compliance Investigator

In May and October 2023, NERC staff conducted Team Member Training (TM) and Team Leader Training (TL) in accordance with Sections 402.9, 403.7.5, and 502.2.2.7, and Appendix 4C of the NERC Rules of Procedure. This training is conducted over one week concurrently with Certification Team Leader Training and Compliance Investigator Training. A total of 52 ERO Enterprise CMEP personnel attended these training sessions. To receive course credit, and certificate if applicable, the attendees were required to demonstrate an understanding of the material by successfully completing learning assessments in the ERO Enterprise LMS.

Chapter 4: Year in Review

Overview of Year

NERC has historically provided a variety of ORCP and CMEP information in its quarterly, semiannual, and annual reports to highlight trends and other useful information to industry. Stakeholders have communicated to NERC via the CCC that they use this ORCP and CMEP information for a variety of purposes.

Winter Storm Elliott Report

On November 7, 2023, FERC and NERC released the 2022 Winter Storm Elliott final report,[20] which includes recommendations to complete needed cold weather Reliability Standards revisions initially identified after 2021 Winter Storm Uri, monitor implementation of effective and approved cold weather Reliability Standards for reliability gaps, and conduct a technical review of causes of individual cold-related mechanical/electrical generation outages to inform whether additional Reliability Standards are warranted.

Functional Registration Changes by Region

In 2023, the ERO Enterprise processed 276 registration changes, a 15% increase over 2022, with nearly two-thirds of the changes representing additions and the remainder representing deactivations. All but one Regional Entity saw an increase in registration changes from 2022 to 2023.

	MRO	NPCC	RF	SERC	Texas RE	WECC
Deactivations	14	11	15	21	19	12
Additions	20	18	47	25	48	26

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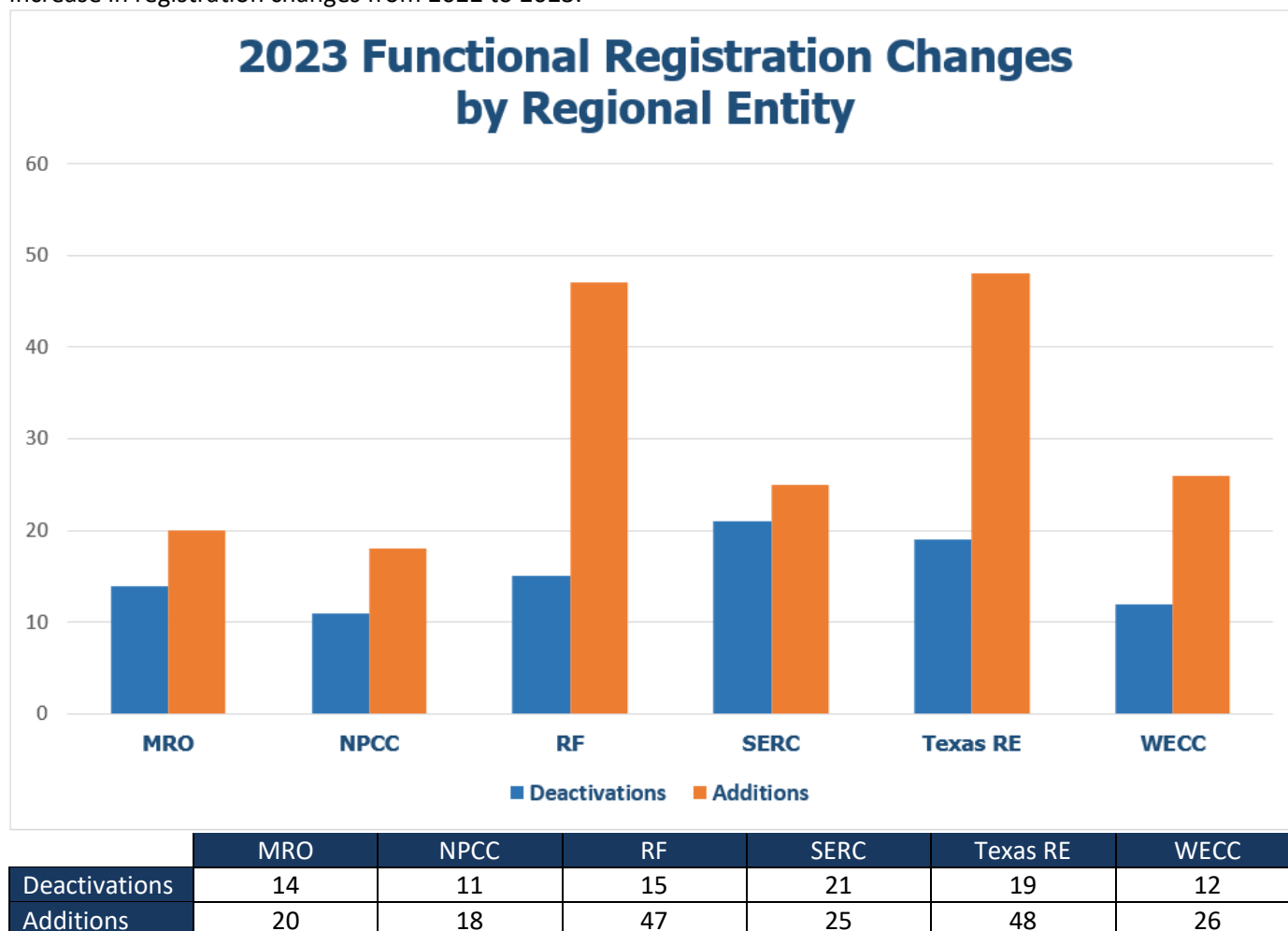
[20] FERC, NERC and Regional Entity Staff Report on Inquiry into Bulk-Power System Operations During December 2022 Winter Storm Elliott (Final Report on Lessons from Winter Storm Elliott) (November 7, 2023).

Figure 2: 2023 Functional Registration Changes by Regional Entity

Functional Registration Changes by Function

In 2023, the ERO Enterprise processed 273 registration changes, a 15% increase over 2022. Most of this registration activity was concentrated in the Generator Owner (GO) and Generator Operator (GOP) functions, consistent with prior years.
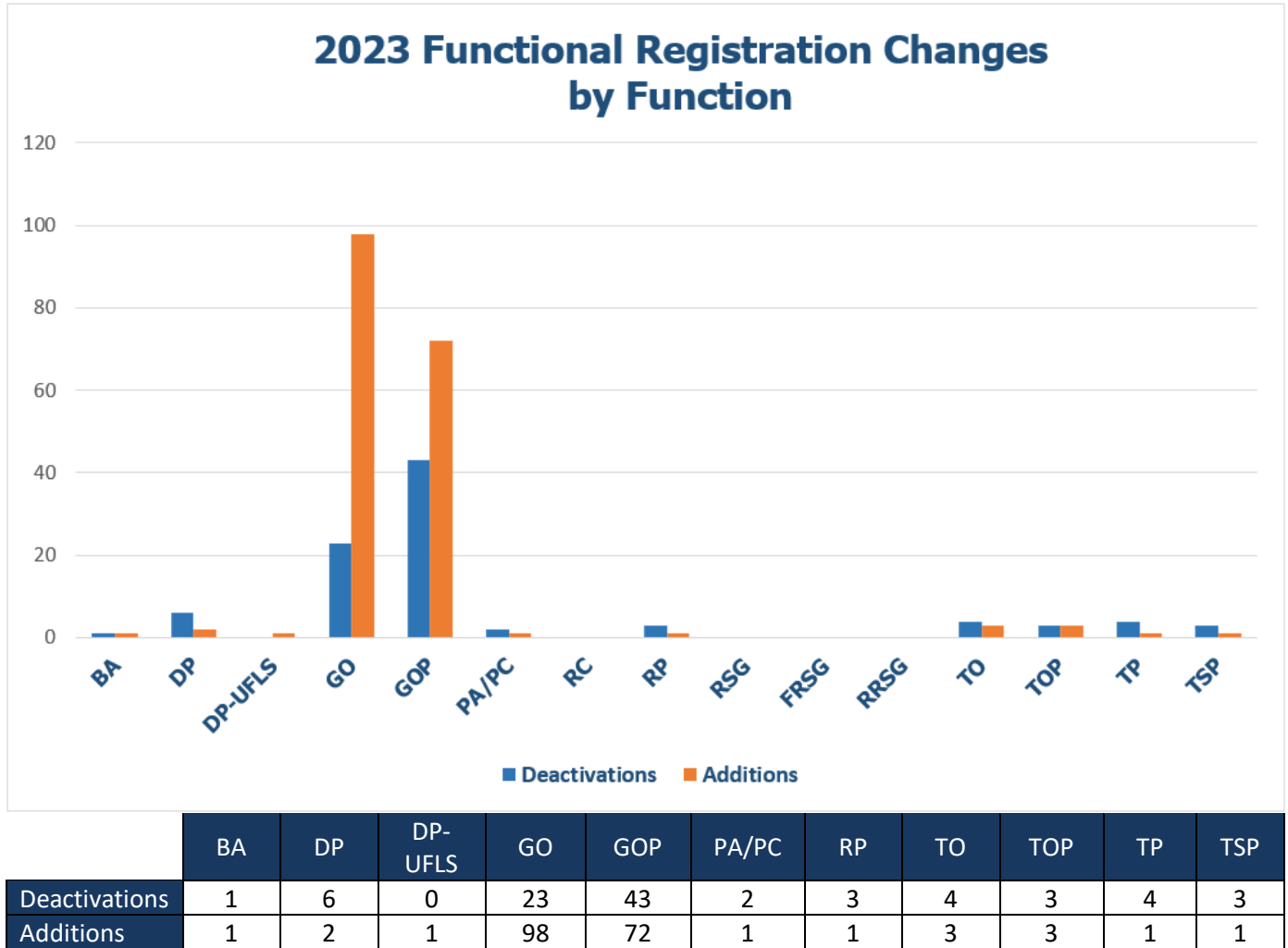

	BA	DP	DP-UFLS	GO	GOP	PA/PC	RP	TO	TOP	TP	TSP
Deactivations	1	6	0	23	43	2	3	4	3	4	3
Additions	1	2	1	98	72	1	1	3	3	1	1

Figure 3: 2023 Functional Registration Changes by Function

Registration Change Basis

In 2023, NERC processed 92 function deactivations. NERC seeks justification from each Regional Entity when approving functional registration deactivations. The table below shows the bases for the 2023 function deactivations.

2023 Bases for Functional Registration Deactivations	
Compliance Responsibility Transferred to Another Registered Entity	30
Determined to Not Meet Registration Criteria	10
Sold to Another Registered Entity	25
Shutdown	9
Consolidated to Another Mutually-Owned Registered Entity	18

Figure 4: 2023 Bases for Functional Registration Deactivations

Noncompliance Discovery Methods

The ERO Enterprise looks for high levels of self-reported noncompliance as an indicator that registered entities have good detective controls and strong cultures of compliance. In 2023, approximately 85% of reported noncompliance was self-identified be registered entities. Over the last five years, registered entities have self-identified approximately 83% of reported noncompliance.

In 2023, approximately 85% of reported noncompliance was self-identified by registered entities.
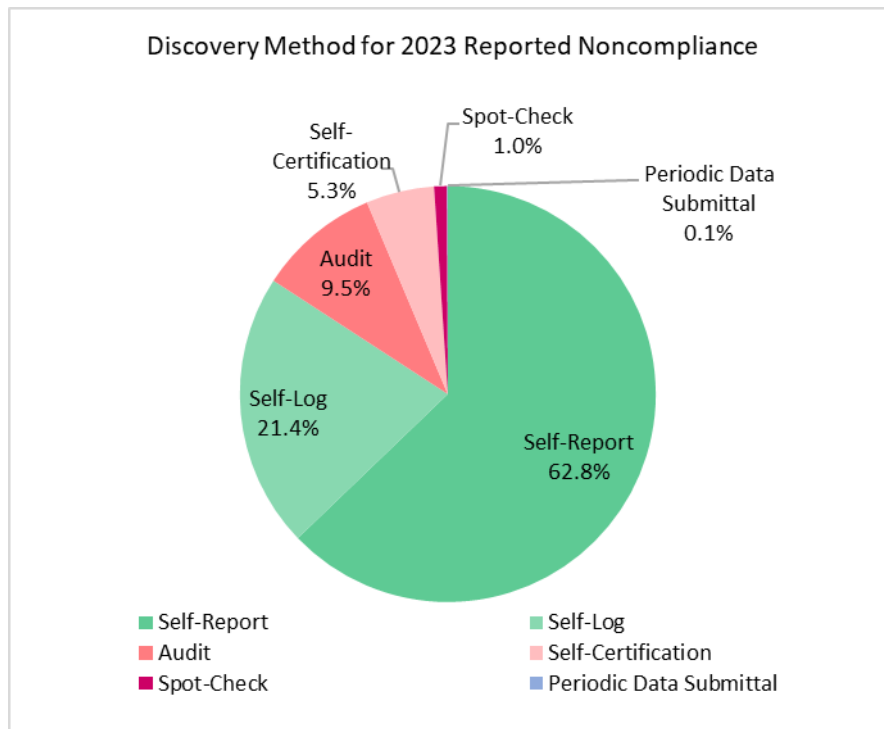

Figure 5: 2023 Noncompliance by Discovery Method

Top 10 CIP Noncompliance Reported in 2023

> In 2023, the most frequently reported noncompliance involving the CIP Standards included CIP-007, CIP-010, and CIP-004, which all involve high volume and high frequency conduct.
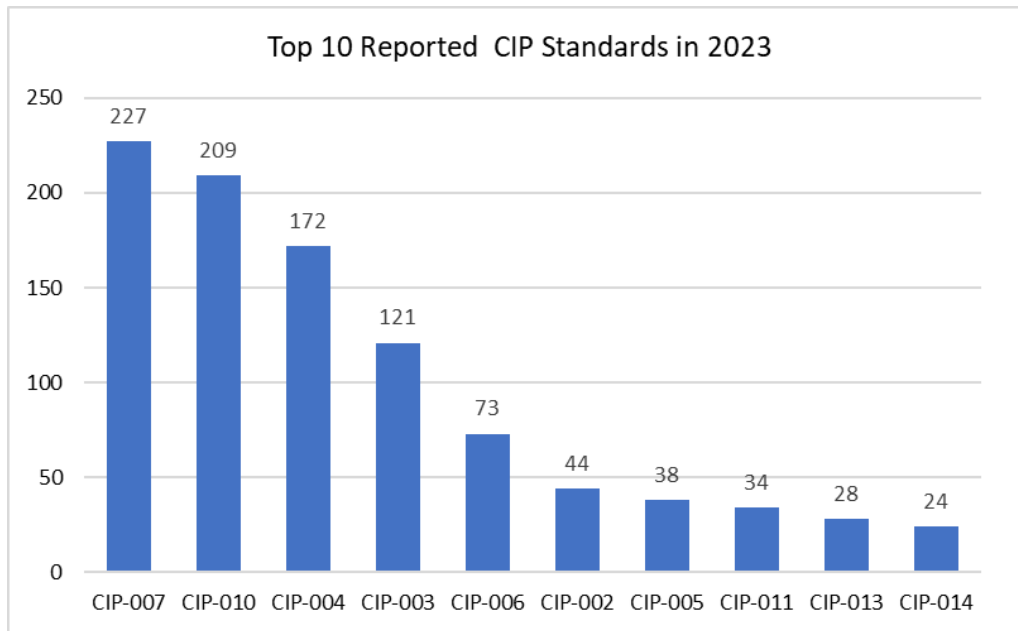
Top 10 Reported CIP Standards in 2023

CIP-007: 227
CIP-010: 209
CIP-004: 172
CIP-003: 121
CIP-006: 73
CIP-002: 44
CIP-005: 38
CIP-011: 34
CIP-013: 28
CIP-014: 24

Figure 6: CIP Noncompliance Reported in 2023

Top 10 O&P Noncompliance Reported in 2023

In 2023, the most frequently reported noncompliance involving the O&P Standards included FAC-008, which has been an ERO Enterprise focus area for several years, PRC-005 and VAR-002, which involve high frequency conduct, and several Standards involving coordination or verification of generator data (e.g., PRC-024, MOD-025, PRC-019, MOD-026, and MOD-027).

EOP-011-2, which became effective on April 1, 2023, and incorporated new Requirements for cold weather preparedness plans for generating units and training on the same, also made the most frequently reported list, with the bulk of the noncompliance involving the new Requirements R7 and R8. Most of these R7 and R8 noncompliances were self-identified or reported as part of self-certifications.
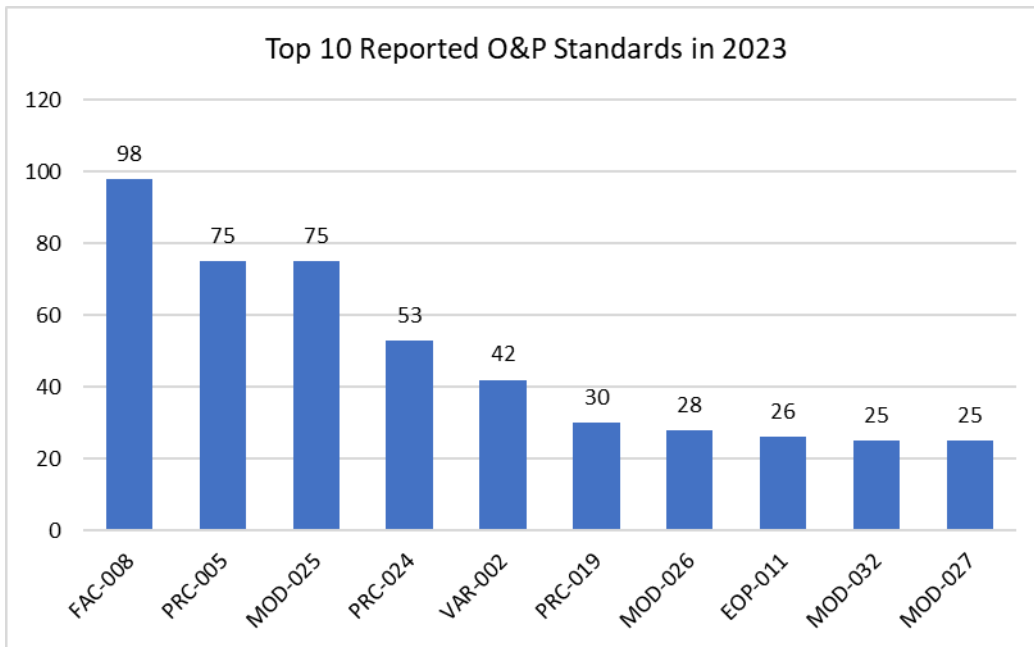

Figure 7: O&P Noncompliance Reported in 2023

Top 10 Serious and Moderate Risk Noncompliance Filed in 2023

Of the serious and moderate risk noncompliance filed in 2023, CIP Standards represented six of the top ten most filed serious and moderate risk Standards. Violations of CIP-007, CIP-004, and CIP-010 filed in 2023 had the most serious and moderate risk issues, consistent with prior years. Violations of FAC-008 and FAC-009, both related to Facility Ratings, and PRC-005 filed in 2023 had the most serious and moderate risk O&P issues.
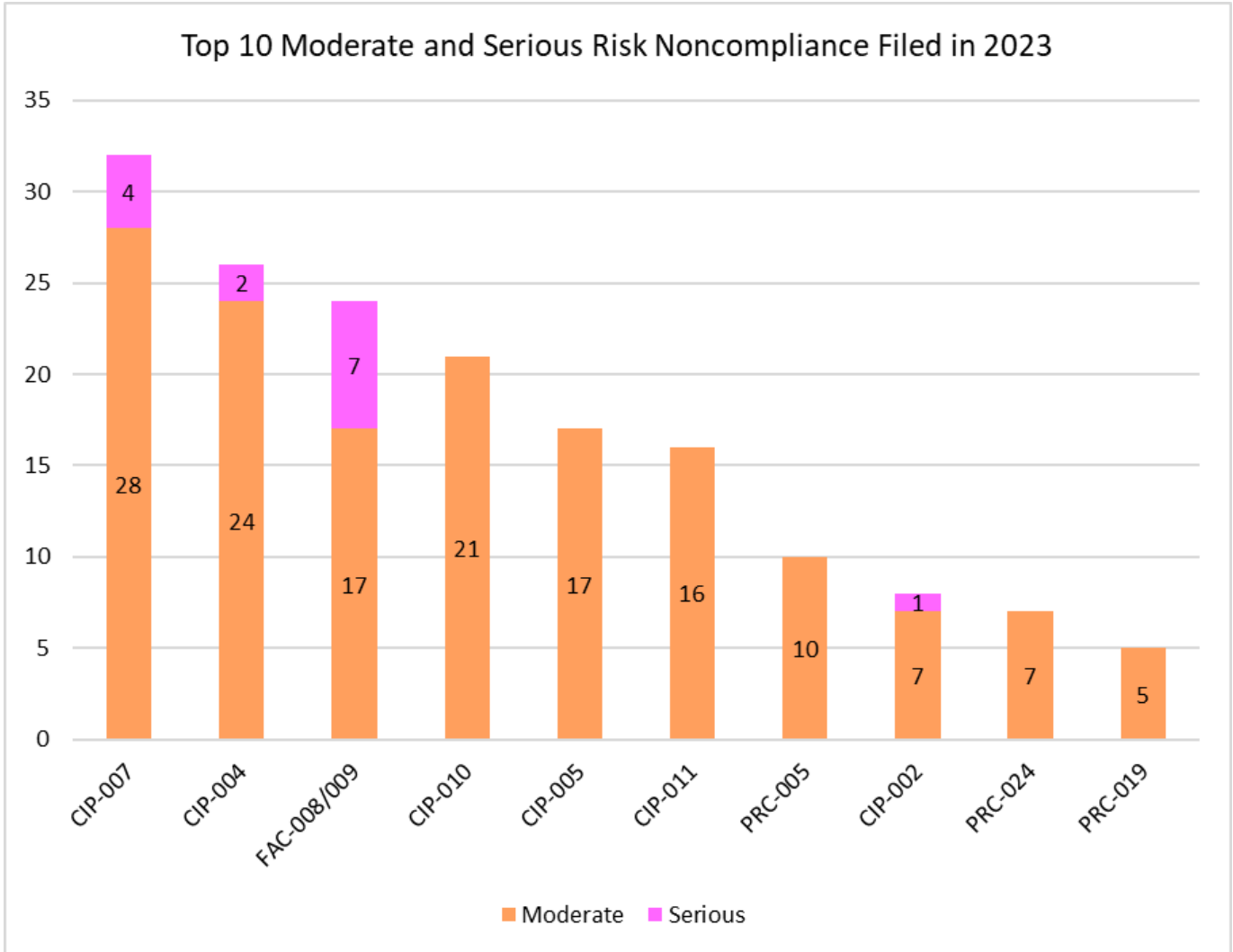
Top 10 Moderate and Serious Risk Noncompliance Filed in 2023

Standard	Moderate	Serious
CIP-007	28	4
CIP-004	24	2
FAC-008/009	17	7
CIP-010	21	
CIP-005	17	
CIP-011	16	
PRC-005	10	
CIP-002	7	1
PRC-024	7	
PRC-019	5	

Figure 8: Serious and Moderate Risk Noncompliance Reported in 2023

Focus on Reducing Older Inventory

The ERO Enterprise's open noncompliance inventory consists of noncompliance reported to or identified by the Regional Entities or NERC that has not yet been processed by filing with FERC (Full NOPs and SNOPs), submission to FERC (FFTs and CEs), or being dismissed. The ERO Enterprise strives to process noncompliance in a timely manner such that its open noncompliance older than two years old is kept to a minimum. In 2023, the ERO Enterprise focused on reducing the volume of its oldest open inventory and made substantial reductions, as noted below.

> In 2023, the ERO Enterprise processed approximately 60% of its remaining open noncompliance from 2019 and earlier, and approximately 55% of its remaining open noncompliance from 2021 and earlier.
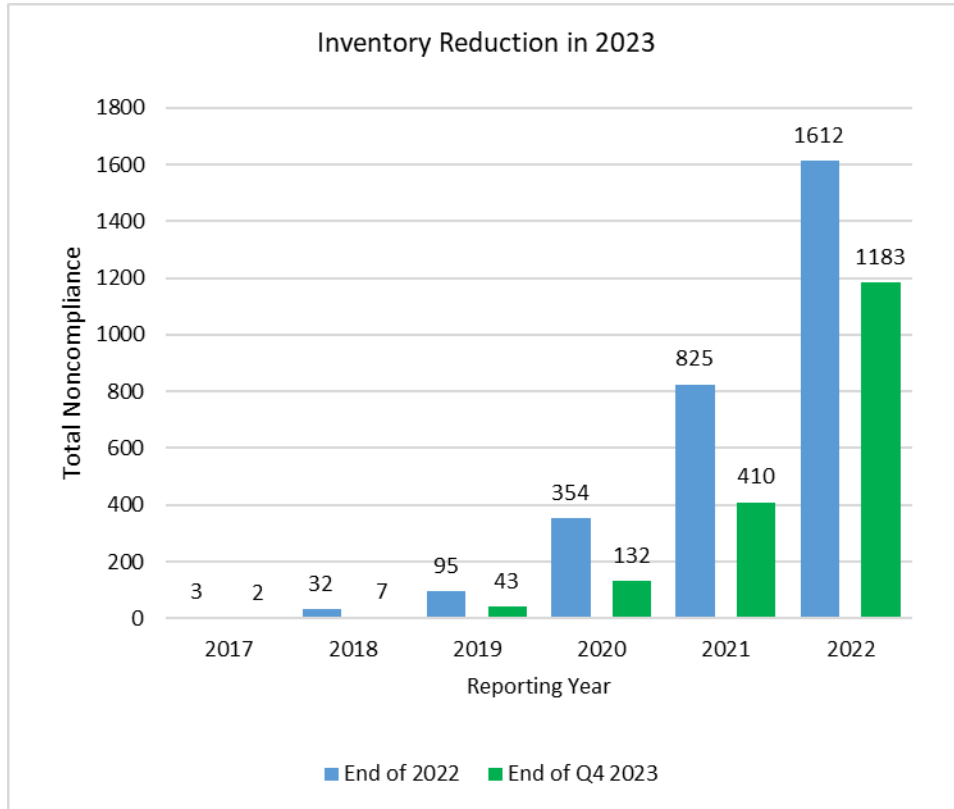

Figure 9: Reduction in Older Inventory at End of 2023

Slightly more than 80% of the current ERO Enterprise inventory was submitted in 2022 and 2023. Approximately 6% of the current inventory is greater than three years old.
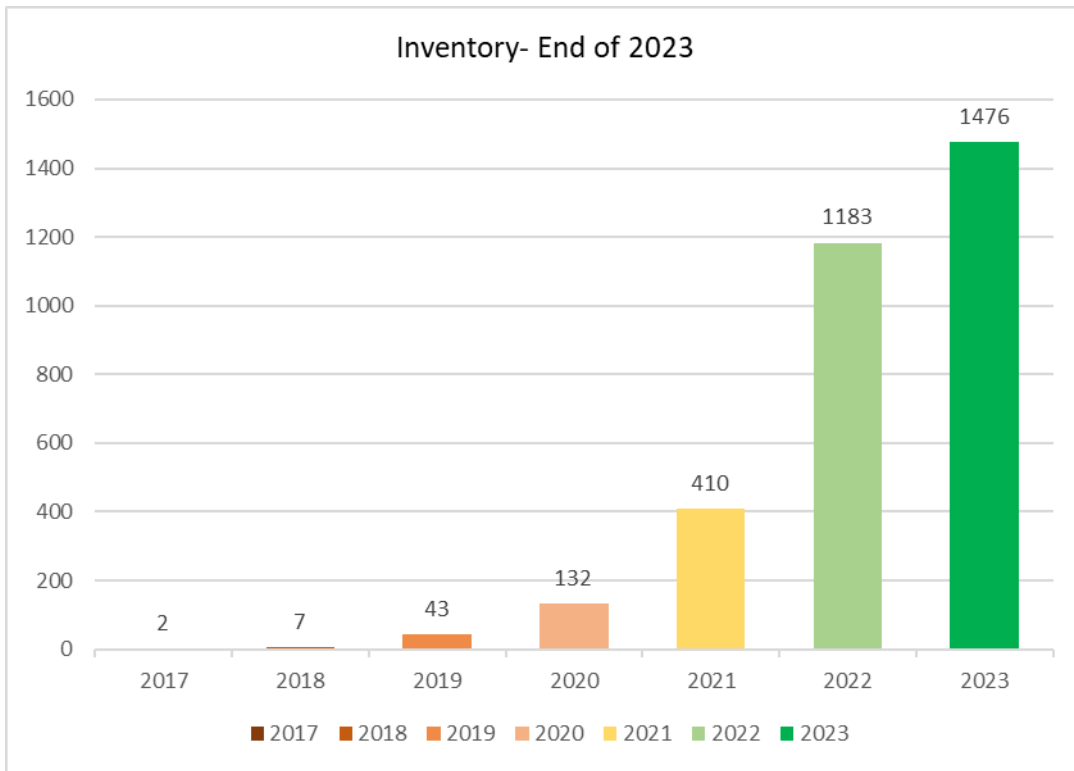

Figure 10: Open Inventory at End of 2023

Disposition of Noncompliance

The ERO Enterprise continues to use a risk-based enforcement approach to process noncompliance. In 2023, the ERO Enterprise processed approximately 76% of filed or submitted noncompliance as CEs and 17% as FFTs, disposition methods involving minimal and moderate risk noncompliance that do not involve settlement agreements or monetary penalties. This is slightly higher than compared with prior years, in which the combined percentage of CEs and FFTs ranged from approximately 80% to 90%. The remaining 7% of processed noncompliance was resolved using the SNOP and Full NOP disposition methods, which address more significant noncompliance and usually involve settlement agreements and monetary penalties and/or non-monetary sanctions.
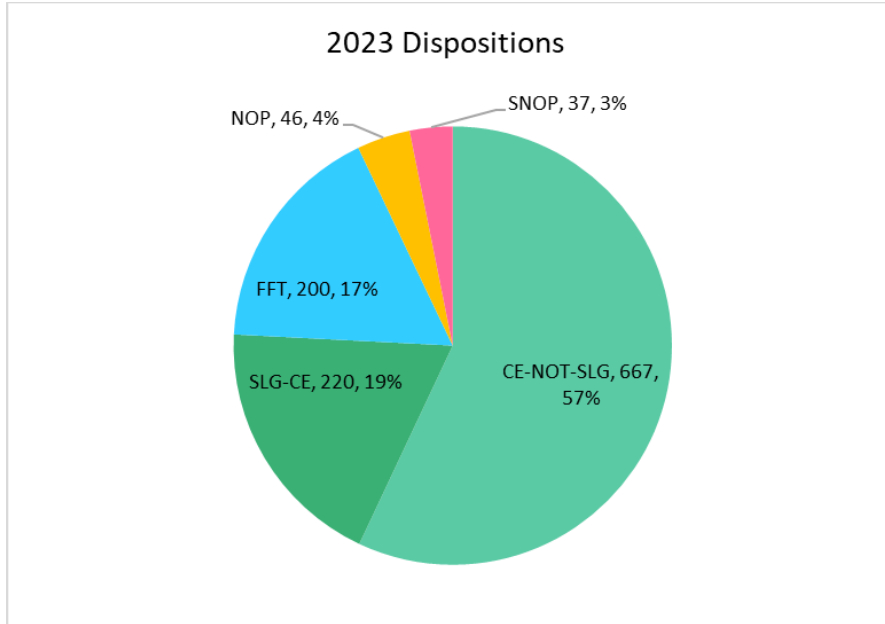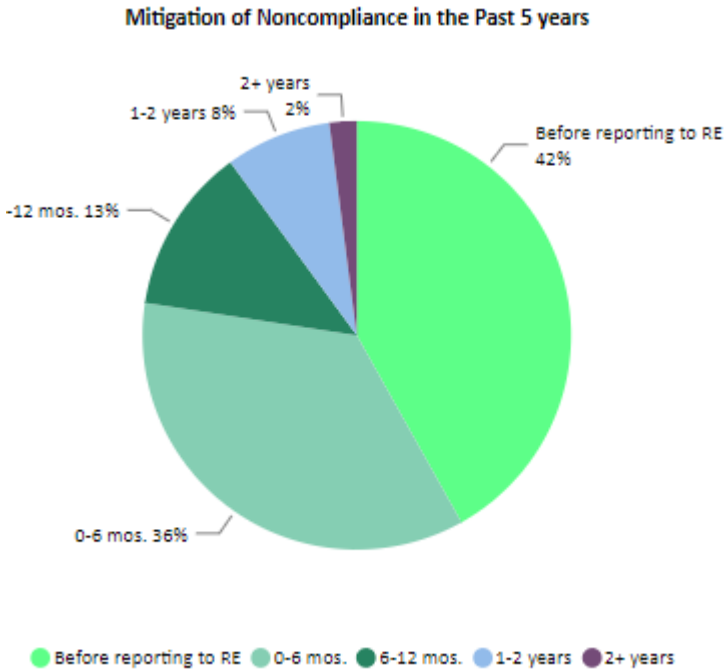

In 2023, the ERO Enterprise processed approximately 93% of all filed or submitted noncompliance via the Compliance Exception (CE) or Find, Fix, Track and Report (FFT) methods.

Figure 11: Disposition of Noncompliance Processed in 2023

Mitigation of Noncompliance

Mitigation of noncompliance involves both the correction of the immediate issue that led to the noncompliance as well as steps to minimize future recurrence. All noncompliance prior to 2017 have completed mitigation. Approximately 99.4% of noncompliance reported in 2019 or earlier have completed mitigation and nearly 90% of noncompliance reported in 2020 and 2021 have completed mitigation. Entities with noncompliance with ongoing mitigation have measures in place to reduce risk to the bulk power system while the entities are working to remediate the issue and implement controls to minimize future recurrence.

The chart below shows the time it took to mitigate noncompliance for noncompliance that have completed mitigation over the last five years.

Mitigation of Noncompliance in the Past 5 years

- 2+ years 2%
- 1-2 years 8%
- -12 mos. 13%
- 0-6 mos. 36%
- Before reporting to RE 42%

Legend: Before reporting to RE | 0-6 mos. | 6-12 mos. | 1-2 years | 2+ years

Approximately 80% of completed mitigation occurs within six months of a noncompliance being reported to a Regional Entity, and 90% of completed mitigation occurs within one year of the noncompliance reporting date.

Figure 12: Mitigation of Noncompliance

Compliance History

The ERO Enterprise monitors compliance history (defined as a prior noncompliance of the same or similar Reliability Standard and Requirement) and aggravating noncompliance with similar conduct (defined as a prior noncompliance that stemmed from similar actions or conduct). The ERO Enterprise monitors these cases to further explore the relationship of prior mitigation to repeat noncompliance and to identify any additional areas of focus and future actions.

The figure below shows all filed moderate and serious risk noncompliance in the past five years including those with relevant compliance history and those with aggravating compliance history involving similar conduct. Noncompliance with similar conduct is a subset of the wider group of repeat noncompliance, in which the entity's current noncompliance involves similar conduct or a similar cause as prior noncompliance of the same or similar Standard and Requirement. Such situations could result in aggravation of the disposition method or aggravation of a penalty for the current noncompliance.

The ERO Enterprise will continue to analyze the information as the year progresses and highlight any notable trends in future reports.

> Moderate and serious risk noncompliance with aggravating compliance history remains a small percentage of all filed moderate and serious risk noncompliance, averaging approximately 19% over the last five years.
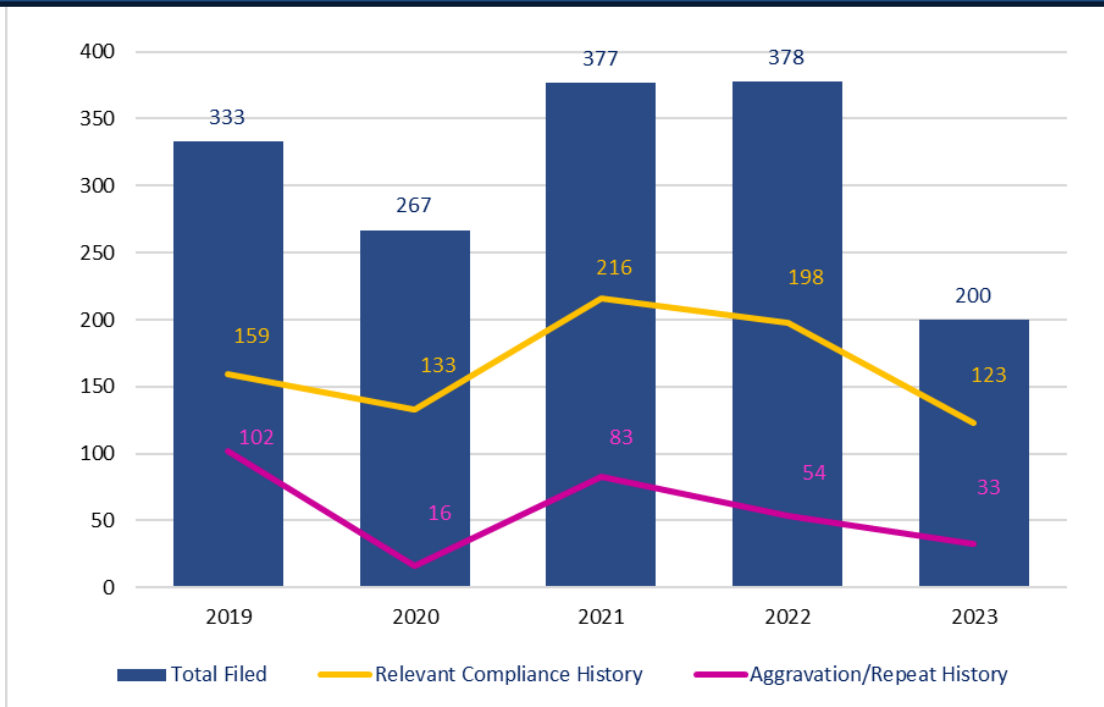

Figure 13: Compliance History for Moderate and Serious Risk Noncompliance

Reliability Standard Audit Worksheets

During 2023, NERC issued announcements for six Reliability Standard Audit Worksheets (RSAWs) available on the NERC website.[21]

Certification Completions

During 2023, two full certifications were completed and three remain in process. ERO Enterprise staff performed eight certification reviews of already certified and operational entities, including four control room relocations and four Energy Management Systems (EMS) upgrades. There were no footprint changes requiring certification reviews. For six certification review triggers, the Regional Entities and NERC made a mutual decision to pursue a lesser activity.

Program Alignment Process

The ERO Enterprise Program Alignment Process is intended to enhance efforts to identify, prioritize, and resolve alignment issues across the ERO Enterprise. This is a repeatable, transparent process that registered entities (or other relevant industry stakeholders) may use to report any perceived inconsistency in the approach, methods, or practices implemented and executed by the Regional Entities.

Using this process, NERC will capture identified issues from the various resources in a centralized repository. NERC will classify the issue through an initial screening process to ensure the appropriateness for this process, then work with Regional Entities and stakeholders (Compliance and Certification Committee) to analyze the issues and determine the scope and material impact. The ERO Enterprise will develop recommendations and determine the priority of the activities taking into consideration all ERO Enterprise efforts. Finally, NERC will post the issue along with the recommendations/results in the Program Alignment – Issues and Recommendations Tracking document and provide status updates on its activities.

The ERO Enterprise Program Alignment Process relies on input from NERC's oversight and monitoring, regional observations, and registered entity reporting. The program aims to strengthen the ERO Enterprise's collaborative and transparent approach to resolving consistency issues.

There was one issue submitted by an anonymous submitter during 2023. The submitter reported that a Regional Entity requested a registered entity to complete CIP Evidence Request Tool (ERT) as part of their audit scoping process. The submitter believed that there was an inconsistency since other Regions were not requesting this information for the purpose of audit scoping process. This issue was resolved after the Regional Entity modified its internal process documents to clarify the ERT submission is optional as a part of audit scoping process.

FERC Filings and Orders and Other Developments of Note

In 2023, FERC issued several orders impacting the CMEP and ORCP programs. Of note are issuances related to Reliability Standards, Transmission Planning, Generator Interconnection, and inverter-based resources (IBRs). These issuances, related petitions by NERC and the Regional Entities, and joint responses to Notices of Proposed Rulemaking (NOPRs) address the reliability and security needs of the bulk power system presented by the transforming grid, evolving resource mix, and extreme weather.[22] Some of these issuances and related ERO Enterprise responses

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[21] Reliability Standard Audit Worksheets (RSAWs), available at https://www.nerc.com/pa/comp/Pages/Reliability-Standard-Audit-Worksheets-(RSAWs).aspx.

[22] Final Rule (Order No. 896) directing NERC to develop a new Reliability Standard or modifications to TPL-001-5.1 addressing concerns pertaining to transmission system planning for extreme weather, RM12-10, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230615-3100; Final Rule (Order No. 2023) on Improvements to Generator Interconnection Procedures and Agreements, RM22-14, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20230728-3060; Order on motions and addressing limited arguments raised on rehearing and setting aside Order No.2023, in part (certain deadlines), RM22-14, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_Number=20231025-3056; Order approving Extreme Cold Weather Reliability Standards EOP-011-3 and EOP-012-1, RD23-1, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230216-

address new registration requirements of IBRs,[23] new or modified Reliability Standards,[24] and modifications to generator interconnection procedures and agreements. On June 30, 2023, NERC submitted its Compliance Filing on 4A audits.[25]

On October 19, 2023, FERC issued Order 901, directing NERC to develop new or modified Reliability Standards that address reliability gaps related to IBRs in the following areas: data sharing, model validation, planning and operational studies, and performance requirements.[26] FERC also directed NERC to submit an informational filing within 90 days of the issuance of the final rule that includes a standards development plan, providing that NERC should submit all new or modified Reliability Standards necessary to address the IBR-related reliability gaps identified in the final rule to the Commission by November 4, 2026.

Newly Enforceable NERC Reliability Standards in 2024

In 2024, several new and updated Reliability Standards will become enforceable.

On January 1, 2024, CIP-004-7 and CIP-011-3 became effective and enforceable. These Reliability Standards were updated to clarify the CIP requirements related to both managing access and securing BES Cyber System Information.

On January 1, 2024, FAC-001-4 and FAC-002-4 became effective and enforceable. These Reliability Standards were updated to establish the Planning Coordinator as the entity responsible for defining the types of changes to existing interconnected Facilities that would need to be addressed in interconnection procedures and studies for its area. This resolves uncertainty and confusion over the meaning of "materially modify" under prior versions of Standards.

On April 1, 2024, FAC-003-5, FAC-011-4, FAC-014-3, IRO-008-3, PRC-002-4, PRC-023-5, PRC-026-2, and TOP-001-6 will become effective and enforceable. These Reliability Standards were updated to support changes made due to revisions to the definition of System Operating Limit (SOL).

On October 1, 2024, EOP-012-1 will become effective and enforceable. This Reliability Standard was developed in response to cold weather events and require Generator Owners to implement freeze protection measures, develop enhanced cold weather preparation plans, implement annual trainings, draft and implement corrective actions plans to address freezing issues, and provide cold weather operating parameters to other entities.

3062; Order addressing arguments raised on rehearing regarding Extreme Cold Weather Reliability Standards (EOP-011-3 and EOP-012-1) approved by FERC on February 16, 2023, RD23-1, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230629-3066; NERC petition for approval of revisions to NERC ROP regarding Reliability Standards Development, RR23-4, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230915-5151; Order approving revisions to the NERC ROP regarding Reliability Standards Development, RD23-4, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231128-3056.

[23] Order approving NERC IBRs Work Plan, RD22-4, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230518-3051; Final Rule (Order No. 901) directing NERC to develop new or modified Reliability Standards that address reliability gaps related to inverter-based resources in data sharing, model validation, planning and operational studies, and performance requirements, RM12-12, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231019-3157.

[24] Order directing NERC to develop and submit Reliability Standards that require internal network security monitoring (INSM) within a trusted CIP networked environment for high and medium impact Bulk Electric System (BES) Cyber Systems and directing NERC to perform a study of all low impact BES Cyber Systems with and without external routable connectivity and medium impact BES Cyber Systems without external connectivity, RM22-3, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230119-3085; Order approving Reliability Standard CIP-003-9, RD23-3, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230316-3034; Letter Order approving Reliability Standard PRC-002-4, RD23-4, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230414-3051; Letter Order approving Reliability Standards IRO-010-5 and TOP-003-6.1, RD23-6, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20231102-3021; Final Rule (Order No. 902) approving NERC's request to retire the MOD A Reliability Standards and requirements, RM19-17, available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231026-3127.

[25] NERC Compliance Filing in response to FERC's January 10, 2021 Order on the 5-year Performance Assessment , RR19-7, https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230630-5498.

[26] Final Rule on Reliability Standards to Address Inverter-Based Resources under RM22-12 (Order 901) (Oct. 19, 2023), available at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20231019-3157.

Chapter 5: CMEP and ORCP Priorities for 2024

Priorities for 2024

To guide registration, certification, compliance monitoring, and enforcement, activities in 2024, NERC has identified the following priorities:

- Continued oversight of the ERO Enterprise registration, certification, compliance monitoring, and enforcement activities.

- Continued improvement of the Align and Secure Evidence Locker tools in support of the CMEP.

- Continued focus on reducing noncompliance inventory, particularly older inventory.

- Use data to timely provide insights, trends, and recommendations to prepare for emerging risks to reliability.

- Engage with U.S. and Canadian regulators to explore opportunities for greater knowledge sharing and involvement.

- Develop a symbiotic relationship between certification, entity risk (as evaluated through IRAs and COPs), and compliance monitoring.

- Participate in ERO Enterprise monitoring activities to evaluate potential opportunities to further mature the audit process.

- Continue to engage with the CCC, and other stakeholders as appropriate, to understand, among other things, industry perceptions of the policies, practices, and effectiveness of the ORCP and CMEP.