

Agenda

Compliance Committee

February 7, 2018 | 9:00 a.m. – 10:00 a.m. Eastern

Hilton Fort Lauderdale Marina
1881 SE 17th Street
Fort Lauderdale, FL 33316

Room name: Grand Ballroom (1st floor)

Introduction and Chair's Remarks

NERC Antitrust Compliance Guidelines

Agenda Items

- 1. Minutes* – Approve**
 - a. November 8, 2017, Meeting
- 2. Follow-up Regarding Action Items from Prior Meeting – Discussion**
- 3. Annual Review of Committee Mandate* – Review**
- 4. Multi-Region Registered Entity Coordinated Oversight Program* – Update**
- 5. Compliance Monitoring and Enforcement Program Annual Report* – Update**
- 6. Adjournment**

*Background materials included.

NERC Antitrust Compliance Guidelines

General

It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers, or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC's antitrust compliance policy is implicated in any situation should consult NERC's General Counsel immediately.

Prohibited Activities

Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference call,s and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information, and participants' expectations as to their future prices or internal costs;
- Discussions of a participant's marketing strategies;
- Discussions regarding how customers and geographical areas are to be divided among competitors;
- Discussions concerning the exclusion of competitors from markets;
- Discussions concerning boycotting or group refusals to deal with competitors, vendors, or suppliers; and
- Any other matters that do not clearly fall within these guidelines should be reviewed with NERC's General Counsel before being discussed.

Activities That Are Permitted

From time to time, decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions

and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC's Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

- Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities;
- Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system;
- Proposed filings or other communications with state or federal regulatory authorities or other governmental entities; and
- Matters relating to the internal governance, management, and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.

DRAFT Meeting Minutes **Compliance Committee**

November 8, 2017 | 10:15–11:15 a.m. Central

JW Marriott New Orleans
614 Canal Street
New Orleans, LA 70130

Janice B. Case, Chair, called to order the duly noticed meeting of the Board of Trustees Compliance Committee (BOTCC) of the North American Electric Reliability Corporation (NERC) on November 8, 2017, at approximately 10:15 a.m. Central, and a quorum was declared present.

Present at the meeting were:

Committee Members

Janice B. Case, Chair
Frederick W. Gorbet
David Goulding
Jan Schori
Roy Thilly

Board of Trustees Members

Gerry W. Cauley, President and Chief Executive Officer
Robert G. Clarke
Kenneth W. DeFontes, Jr.
George S. Hawkins

NERC Staff

Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary
Tina Buzzard, Associate Director to Office of the President and Chief Executive Officer
Andrea Koch, Senior Director of Reliability Assurance
Ken McIntyre, Vice President and Director of Standards and Compliance
Sonia Mendonça, Vice President, Deputy General Counsel, and Director of Enforcement
Tobias Whitney, Principal Critical Infrastructure Protection

NERC Antitrust Compliance Guidelines

Ms. Case directed the participants' attention to the NERC Antitrust Compliance Guidelines.

Minutes

Upon motion duly made and seconded, the BOTCC approved the August 9, 2017, meeting minutes as presented.

Follow-up Regarding Action Items from Prior Meeting

Ms. Case provided an overview of the November 7, 2017, Executive Session.

Policy Input Regarding ERO Enterprise Compliance Monitoring and Enforcement Program Alignment Efforts

Mr. McIntyre updated the BOTCC on the ERO Enterprise Compliance Monitoring and Enforcement Program (CMEP) alignment efforts, noting that issues have been submitted through the new Consistency Tool. He discussed policy input received from the Member Representatives Committee, noting strong support for the program alignment design. He explained the continued outreach to industry and transparency efforts.

Mr. McIntyre stated that quarterly updates will continue to be provided to the BOTCC. The quarterly updates will discuss the effectiveness of the CMEP alignment efforts in 2018.

Ms. Case agreed to conduct an evaluation of the program and Consistency Tool in one year.

Critical Infrastructure Protection Activities

Mr. Whitney presented on the activities and observations to date of industry's implementation of the new cyber and physical Reliability Standards. He explained that NERC worked with the Regional Entities to conduct a study, which was submitted to the Federal Energy Regulatory Commission (FERC) in July 2017 that identified the strengths and challenges of the Critical Infrastructure Protection (CIP) Version 5 remote access controls. NERC also performed an analysis of whether High Impact Control Centers should receive the CIP-014 protections in response to a FERC Order and filed the report in October 2017.

Mr. Whitney discussed NERC's annual report on the effectiveness of the Technical Feasibility Exception (TFE) Program filed with FERC. The report identified a significant reduction in the quantity of TFEs as the result of Version 5 of the CIP Reliability Standards taking effect.

CMEP Quarterly Report

Ms. Mendonça and Ms. Koch discussed highlights regarding third quarter CMEP activities. Ms. Mendonça explained that NERC staff began its oversight process review to evaluate the effectiveness of Regional Entity practices associated with the mitigation of noncompliance with Reliability Standards. Ms. Mendonça also updated the BOTCC on the Consolidated Hearing Process, noting that revisions to the proposed hearing process will be posted for public comment in November 2017 and for NERC Board of Trustees approval in February 2018. She also reviewed new metrics related to the severity of noncompliance and repetitiveness of serious and moderate risk noncompliance.

Ms. Koch updated the BOTCC on various NERC compliance activities. She reported on Regional Entity Inherent Risk Assessment (IRA) completion, noting IRAs are complete for all Reliability Coordinators, Balancing Authorities, and Transmission Operators. Ms. Koch described the enhanced Internal Controls Guide and reported on additional outreach efforts, including a survey related to the coordinated oversight program.

Adjournment

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

Submitted by,



Sonia Mendonça
Acting Corporate Secretary

Annual Review of Committee Mandate

Action

Review

Summary

The Compliance Committee Mandate (Mandate) was reviewed by the Corporate Governance and Human Resources Committee (CGHRC) at its December 7, 2017, meeting. The CGHRC approved the transfer of certain responsibilities associated with appeals from the Standards Oversight and Technology Committee to the Compliance Committee. The revised Mandate is pending approval by the Board of Trustees.

Multi-Region Registered Entity Coordinated Oversight Program

Action

Update

Background

In 2014, the Electric Reliability Organization (ERO) Enterprise initiated the process of developing a comprehensive Coordinated Oversight Program (Program) for Multi-Region Registered Entities (MRREs). The Program is designed to improve administrative efficiency and reduce duplicative activities for the registered entities that use, own, or operate assets in areas covering more than one Regional Entity's (RE's) territory.

As the ERO Enterprise continues to implement the Program, it refines and enhances the Program based on feedback and experiences from registered entities in the Program, including from surveys or issues reported from the Program Alignment process. In June 2016, MRREs within the Program participated in a survey to provide feedback on implementation. The survey identified themes around communication and consistency. In response to that feedback, NERC and the REs initiated several activities. For example, in 2017 the ERO Enterprise:

- Updated and posted a Frequently Asked Questions document for industry;
- Developed a standardized periodic data submittal schedule;
- Developed a procedure that addressed expectations for Lead REs and Affected REs and trained Compliance Monitoring and Enforcement Program (CMEP) staff on the procedure;
- Developed a MRRE Spot Check and Audit notification letter template;
- Developed a MRRE Compliance Engagement Schedule; and
- Conducted outreach, including a presentation at the Standards and Compliance Workshop.

The ERO Enterprise issued a follow-up survey to participants in the Program in October 2017 to understand the overall effectiveness of the program and further opportunities to improve the Program. Ninety-eight percent of the MRRE groups indicated that they are satisfied with the Program and support continued participation. The stakeholders also indicated in their responses appreciation for continued improvement of the Program as a result of the ERO Enterprise activities in 2017. The comments also indicate further opportunities for improvement in coordination of Inherent Risk Assessments, data submittals, self-report processes for the participating MRREs, continued focus on training ERO Enterprise staff, and education and outreach activities for registered entities. The ERO Enterprise believes the CMEP Technology Project will further enhance the Program as the single interface and application for CMEP activities.

Summary

The presentation will discuss the current state of the Program and progress on continued enhancement.

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Agenda Item 5

2017 ERO Enterprise Compliance Monitoring and Enforcement Program Annual Report

February 7, 2018

RELIABILITY | ACCOUNTABILITY



3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Table of Contents

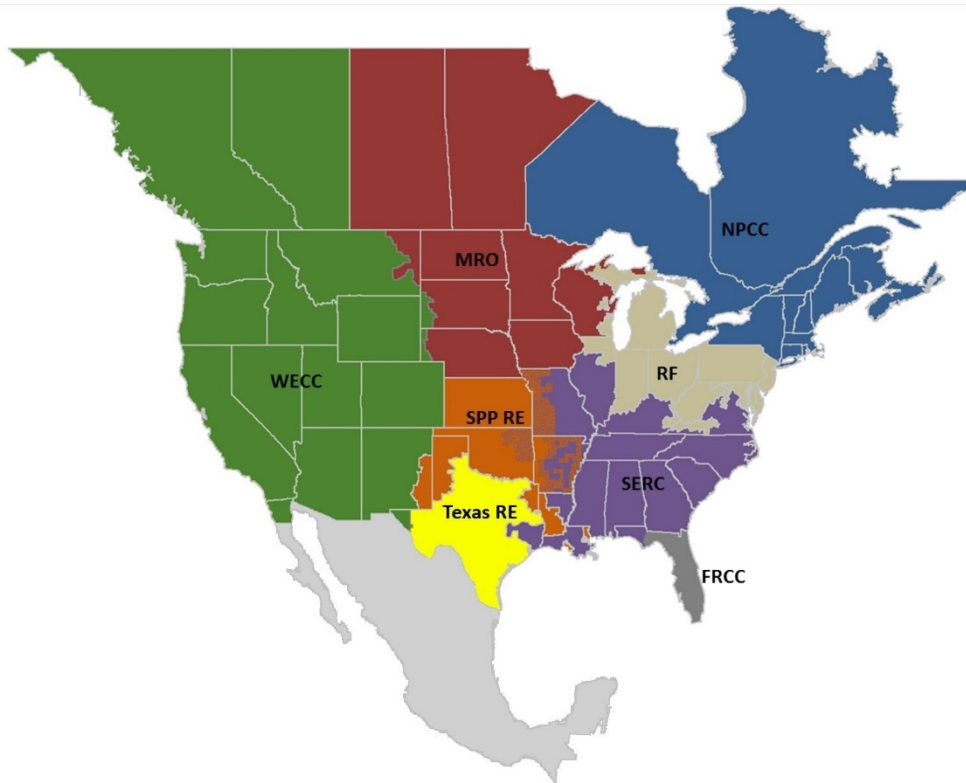
- Preface..... iv
- Executive Summary v
 - Program Alignment..... v
 - CMEP Technology Project..... vi
 - NERC 2017 Filings to FERC vi
- Chapter 1: CMEP Activities 1
 - Program Alignment..... 1
 - CMEP Technology Project..... 2
 - Mitigation Process Review..... 3
 - CMEP IP..... 3
 - Coordinated Oversight Program 4
 - 2017 MRRE Coordinated Oversight Effectiveness Survey 4
 - CCC Self-Certification 4
 - ERO Enterprise Staff Training and Industry Outreach 4
 - NERC Standards and Compliance Workshop 5
 - ERO Enterprise CMEP Staff Training 5
 - Industry Outreach via Webinar and Regional Workshops 5
- Chapter 2: Enforcement Oversight..... 7
 - Enforcement 2017 Metrics Highlights 7
 - Focus on Serious Risk Issues 7
 - Spreadsheet Notices of Penalty 7
 - Continued Success of Streamlined Disposition..... 7
 - Penalty Alignment..... 10
 - Mitigation Completion 10
 - Caseload 10
 - Vegetation-Related Transmission Outages..... 10
 - Compliance Severity Risk Index..... 11
 - Reduced Repeat Moderate and Severe Risk Violations..... 11
 - Self-Assessment and Self-Identification of Noncompliance 12
- Chapter 3: Compliance Monitoring Oversight..... 13
 - NERC Oversight Priorities..... 13
 - Supporting Activities 13
 - Results by Oversight Priority 13

Other Oversight Activities.....	15
NERC ROP Compliance	15
Continuous Monitoring	16
IRA Summary Reports	17
ANLs for 2017 Scheduled Audits and Spot Checks.....	17
Technical Feasibility Exceptions	17
CIP-014-2 Filing on High Impact Control Centers	17
Year-end Compliance Monitoring Metric Updates.....	18
Compliance Guidance	18
RSAWs	18
IRA and ICE Completion	19
Review of RE Implementation of the Complaint Process.....	19
Chapter 4: Certification and Registration.....	20
Certification	20
2017 Certification Completions	20
Registration.....	20
SPP RE Registration Changes.....	20
January 2017 Informational Filing.....	21
NERC-Led Review Panel	21
Centralized Entity Registration Process	22
2017 Registration Changes.....	22
Chapter 5: Looking Ahead to 2018.....	23
Priorities for 2018	23
2018 Metrics	23
Self-Identification.....	23
Serious Risk Violations	24
Appendix A: Enforcement	25
Appendix B: Compliance Assurance	37
Appendix C: Registration	39

Preface

The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority whose mission is to assure the reliability and security of the bulk power system (BPS) in North America. NERC develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the BPS through system awareness; and educates, trains, and certifies industry personnel. NERC’s area of responsibility spans the continental United States, Canada, and the northern portion of Baja California, Mexico. NERC is the Electric Reliability Organization (ERO) for North America, subject to oversight by the Federal Energy Regulatory Commission (FERC) and governmental authorities in Canada. NERC’s jurisdiction includes users, owners, and operators of the BPS, which serves more than 334 million people.

The North American BPS is divided into eight Regional Entity (RE) boundaries as shown in the map and corresponding table below.



The North American BPS is divided into eight RE boundaries. The highlighted areas denote overlap as some load-serving entities participate in one RE while associated transmission owners/operators participate in another.

FRCC	Florida Reliability Coordinating Council
MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
SPP RE	Southwest Power Pool Regional Entity
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Executive Summary

This report highlights key ERO Enterprise¹ Compliance Monitoring and Enforcement Program (CMEP) activities that occurred in 2017, provides information and statistics regarding those activities, and identifies the ERO Enterprise's 2018 CMEP priorities. In 2017, CMEP activities throughout the ERO Enterprise reflected continuing implementation of a risk-based approach that has allowed the ERO Enterprise to focus resources on risks to the reliability of the BPS, entity-specific risks, and serious risk noncompliance. NERC and the REs also collaborated on various compliance monitoring activities to identify lessons learned and provide additional insight and information to industry stakeholders. Most significantly, the ERO Enterprise focused in 2017 on the continued alignment of core CMEP activities.

Alignment of CMEP activities in 2017 included a focus on penalties, education and training, coordinated oversight, RE compliance activities, and technology enhancements that would provide a more effective method to continue a unified ERO Enterprise CMEP implementation. The ERO Enterprise focused on alignment of these activities in part through continued collaboration and exchange of ideas with the members from the Compliance and Certification Committee (CCC) and Member Representatives Committee (MRC) on the ERO Enterprise Program Alignment Process and CMEP Technology Project. In 2017, NERC collaborated with FERC on compliance monitoring activities, including focus areas for regional audits based on audit observations, risk elements, implementation guidance, and events.

Program Alignment

The ERO Enterprise developed the [ERO Enterprise Program Alignment Process](#) (Program Alignment) to track (identify and capture), triage (classify, analyze, and prioritize), and provide transparency on (post and report) alignment areas where the ERO Enterprise could improve or increase alignment. In 2017, related activities included developing processes for issue classification and tracking; identifying roles and responsibilities of NERC, the REs, and industry stakeholders; and continuing to consolidate information sources from across the ERO Enterprise.

Over the course of 2017, NERC and the REs continued to align disposition methods and penalty determinations into a single enforcement philosophy that focuses resources according to risk to the reliability of the BPS. The ERO Enterprise has done so using targeted enforcement actions for higher risk noncompliance and through the analysis of moderate and serious risk noncompliance to identify emerging trends, patterns, and areas of focus. Oversight of enforcement activities included an annual review of noncompliance posted as Find, Fix, Track, and Report issues (FFTs) and Compliance Exceptions (CEs). NERC also continued its oversight of REs' adherence to the CMEP and NERC Rules of Procedure (ROP). NERC used the information and analysis gathered through its oversight of the implementation of the risk-based CMEP to identify additional enhancements to the program. Finally, in fulfilling its obligations to oversee and monitor RE adherence to the CMEP and NERC ROP, NERC completed an oversight review to evaluate the mitigation processes across the ERO Enterprise. This oversight activity focused on effective mitigation of noncompliance, which reduces the immediate risk to reliability and reduces the likelihood that the noncompliance will recur. NERC will provide additional information regarding the results and recommendations stemming from this activity in 2018.

Alignment of compliance monitoring aspects of the CMEP focused on how the ERO Enterprise identified and monitored risks to the BPS, as well as how REs consider registered entity internal controls to inform monitoring.

¹The "ERO Enterprise" refers to the affiliation between NERC and the eight REs 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 compliance monitoring and enforcement performed in connection with United States registered entities. ERO Enterprise activities outside of the United States are not specifically addressed.

Oversight activities, like sampling of Inherent Risk Assessment (IRA) documentation and audit observations, identified focus areas for 2018 oversight activities. These oversight activities include the development and use of risk elements to inform compliance monitoring; annual planning for compliance monitoring and development of Compliance Oversight Plans (COPs); understanding registered entities and their internal controls; and documenting technical justifications and conclusions.

In 2017, the ERO Enterprise, in coordination with the CCC, enhanced its [ERO Enterprise Guide for Internal Controls](#). The revised guide incorporates principles for how the use of internal controls supports the reliability and security of the BPS. These enhancements will clarify expectations around registered entity internal control documentation and how the ERO Enterprise provides feedback to registered entities on internal controls.

Certification alignment activities in 2017 included an improved oversight approach and the addition of program areas to the work plan. The ERO Enterprise also began analyzing certification program performance data to evaluate processes and identify trends and significant or emerging risks (corporate and BPS reliability) affecting certification program performance. To ensure alignment of registration activities, in 2017 the ERO Enterprise continued its research on how the ERO Enterprise handles and maintains Coordinated Functional Registrations (CFRs) and implemented a unified CFR portal. In addition, the ERO Enterprise identified possible revisions to the NERC ROP, coordinating with the industry Organization Registration and Certification Subcommittee (ORCS) of the NERC CCC on various topics, and supporting the entity registration centralized database effort (xRM Entity Registration). Outreach and training on the xRM Entity Registration efforts continued throughout 2017.

CMEP Technology Project

The ERO Enterprise also developed the CMEP Technology Project in 2017. The ERO Enterprise provided outreach regarding the program to CCC subcommittees as well as at various RE and NERC workshops—similar outreach opportunities will continue throughout the project duration. NERC and RE Compliance and Enforcement subject matter experts met for roundtable discussions to identify those areas where there was consensus on the required capabilities of any possible future support tools and consistency in use and implementation. NERC engaged a stakeholder team that includes members from the CCC Alignment Working Group and industry to provide input on the CMEP Technology Project. The NERC Board of Trustees approved the investment in the CMEP Technology Project in November 2017.

NERC 2017 Filings to FERC

In 2017, NERC and the REs addressed a variety of FERC-identified issues and questions through technical filings and analysis of information from across the North American BPS.

To address Critical Infrastructure Protection (CIP) issues and questions raised by FERC, NERC filed its [2017 Annual Report on Wide-Area Analysis of Technical Feasibility Exceptions](#) (TFEs). The report identified a significant reduction in the quantity of TFEs as the result of Version 5 of the CIP Reliability Standards taking effect. NERC also filed with FERC its analysis of the [Physical Security Protection for High Impact Control Centers](#) under the CIP Reliability Standards.

NERC also responded to a FERC directive to report on the effect of the removal of the Load-Serving Entity (LSE) function on the next-day studies of Transmission Operators (TOPs) and Balancing Authorities (BAs)² in January 2017.

² <http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/RBR%20LSE%20Informational%20Filing.pdf>

Chapter 1: CMEP Activities

Program Alignment

NERC is enhancing alignment of CMEP activities under a broader Program Alignment intended to enhance efforts to identify, prioritize, and resolve alignment issues across the ERO Enterprise. Greater alignment across the ERO Enterprise maintains focus on the most significant risks to reliability using aligned practices in the monitoring and enforcement of compliance with the Reliability Standards. While implementation of the risk-based CMEP and related oversight activities have promoted a greater degree of alignment in enforcement and compliance monitoring activities, enhanced focus under Program Alignment is an opportunity to identify new approaches to consistency and leverage ongoing efforts across the ERO Enterprise.

The CCC also has a role in identifying potential misalignments and framing issues for the ERO Enterprise to consider when planning its Program Alignment activities. NERC and the CCC are working together to inform industry about the acceptable differences between REs in the CMEP implementation and the Organization Registration and Certification Program (ORCP) programs.

Among other things, activities in 2017 included developing processes for issue classification and tracking; identifying the roles and responsibilities of NERC, the REs, and industry stakeholders such as the CCC; and continued consolidation of various information sources from across the ERO Enterprise. In addition to other activities in 2017, the CCC formally established a CCC Alignment Working Group responsible for executing the CCC's role within the process to address potential concerns with consistent implementation of the CMEP and ORCP. These issues stem from stakeholder reporting and survey responses, regional input, and areas identified through NERC's oversight activities. The CCC Alignment Working Group will support the ERO Enterprise in executing certain components of Program Alignment.

To assist registered entities in understanding where acceptable differences exist and to increase overall transparency across the ERO Enterprise, NERC, with the support of the REs, has developed the [Regional Program Information Matrix](#). To inform the Regional Program Information Matrix, the ERO Enterprise gathered and consolidated a description of regional processes for program areas such as CMEP implementation, ORCP, and Self-Logging.³

Finally, as a part of Program Alignment in 2017, NERC implemented the [Consistency Reporting Tool](#) using a third party vendor, which allows stakeholders to submit consistency issues anonymously, if desired. NERC's Consistency Reporting Tool takes the place of the Regional Consistency Process and Tool.

During 2017, NERC launched the [ERO Enterprise Program Alignment Process](#) web page. This web page provides industry information on the CMEP Alignment process, the CCC Alignment Working Group's participation, a link to the [Consistency Reporting Tool](#), as well as other resources and reference documents. The web page provides transparency on issues the ERO Enterprise has received and the recommendations/resolutions of those issues through a regularly updated [Issues and Recommendations Tracking](#) spreadsheet.

In 2017, the ERO Enterprise Program Alignment Process addressed four reported consistency issues. These issues related to various topics, including Reliability Standard Audit Worksheets (RSAWs), penalty determinations, IRA approaches, and understanding of phased implementation plans for Reliability Standards. The [Issues and Recommendations](#) tracking spreadsheet summarizes the details of these issues.

³ NERC ROP and ERO Enterprise guidance are the governing documents. Any differences in regional processes should not cause material effects on ERO Enterprise programs and should support the fair and reasonable treatment of registered entities.

The ERO Enterprise is still in the process of addressing six issues. Of those six issues, registered entities submitted two via the Consistency Reporting Tool. NERC Compliance and Enforcement identified the other four. The [Issues and Recommendations](#) tracking spreadsheet summarizes the details of these issues.

CMEP Technology Project

The CMEP Technology Project is a culmination of strategic efforts with the goal of improving and standardizing processes across the ERO Enterprise. The CMEP Technology Project is one of four strategic vision and technology programs within the broader ERO Enterprise Systems Initiative. The proposed scope of the CMEP Technology Project includes supporting a common ERO Enterprise-level CMEP system built from aligned business processes and data integration. The CMEP Technology Project would ensure alignment with the needs of the larger ERO Enterprise and provide services that span functional areas and regional boundaries. This effort would also help ensure the dissemination of information in a manner that would both increase efficiency and help accomplish the ERO's reliability mission. The project focuses on the following key objectives:

- Implement auditing best practices and professional standards, where applicable, across planning, fieldwork, reporting, and quality assurance;
- Align common CMEP business processes across the ERO Enterprise, increasing consistency for registered entities and improving ERO Enterprise operational efficiency and effectiveness;
- Increase ERO Enterprise capabilities in support of the Risk-Based Compliance Oversight Framework, including enhanced quality assurance and oversight to ensure consistent application of the CMEP;
- Automate workflows and enhance collaboration between registered entities and the ERO Enterprise, further supporting the improvement of ERO Enterprise operational efficiency and effectiveness;
- Share and analyze data and information supporting risk-informed compliance oversight across the ERO Enterprise within a single-technology platform, eliminating delays between systems, and reducing the need for manual communications;
- Provide a single, common portal for registered entities, enabling consistency of experience; and
- Provide registered entities additional data and services in support of achieving their reliability goals, such as preserving and enhancing compliance data entry, increasing availability of information, and offering standards data and supporting information in ways more easily consumed by third-party compliance tools.

The CMEP Technology Project will provide a comprehensive system to manage and analyze information across the ERO Enterprise. The project will provide a single, common portal for registered entities. NERC and the REs will have real-time access to information that will eliminate delays and procedural inefficiencies and will enable consistent application of the CMEP. This will also improve analytics, including visibility into compliance and reliability risk, improving the capability to support the Risk-Based Compliance Oversight Framework. Standardization and implementation of common business processes and workflows should also increase productivity and reduce the application costs across the ERO Enterprise.

In 2017, NERC engaged a stakeholder team that includes members from the CCC Alignment Working Group as well as MRC to provide input on the CMEP Technology Project based on industry's experiences with current CMEP systems. The team provided input on the CMEP Technology Project request for proposal, and discussed security considerations. The Board approved the investment in the CMEP Technology Project at its November 2017 meeting.

NERC and the REs continue to make progress on the selection and implementation of a new technology solution and process changes for CMEP. The initial phase of the CMEP Technology Project request for proposal (RFP) was

completed, and two vendor finalists were chosen based on the strength of their offerings, capabilities, and overall alignment with the goals of the project. The second phase of the RFP, an in-depth technical evaluation of the two vendors by the CMEP Architecture Team, is in progress. This evaluation includes detailed training on each vendor's products, interactive proof-of-concept configuration workshops, and question and answer sessions. Vendor demonstrations to the Technology Leadership Team were scheduled with final evaluation results expected to be completed by early Q1 2018 after which a final selection will be made and the RFP awarded to the chosen vendor.

Mitigation Process Review

In 2017, NERC Enforcement, in conjunction with NERC Compliance CIP and non-CIP subject matter experts, and after input from FERC staff, initiated an oversight process review of RE Mitigation Plans and mitigation activities. In this oversight capacity, NERC Compliance and Enforcement staff reviewed the REs' evaluation of mitigation to determine if it was technically sound and followed established processes. This oversight activity focused on effective mitigation of noncompliance, which reduces the immediate risk to reliability and reduces the likelihood that the noncompliance will recur and create additional risks. The results of the oversight activity may identify best practices and guidance or additional enhancements for mitigation programs.

The technical review focused on root cause identification and scope of the mitigated noncompliance. In addition, NERC assessed whether mitigation would likely prevent recurrence and future risk to the reliability to the BPS. A part of this assessment was how REs consider a registered entity's internal controls as a part of their verification of completion. The procedural review focused on required contents, timing of review and approval by the RE, tracking of extensions, completion dates, and notifications to NERC.

Based on the results of the process review, NERC Compliance and Enforcement staff are considering whether additional changes to the existing oversight processes are necessary. NERC staff are designing potential enhancements to strengthen oversight and monitoring of the REs, overall quality of Mitigation Plan development and assessment, and root cause identification. NERC will provide additional information regarding the results of its review in 2018.

CMEP IP

In 2017, NERC posted the [2018 ERO Enterprise CMEP Implementation Plan](#) (CMEP IP). The 2018 CMEP IP includes the risk elements, both ERO-wide and RE-specific that prioritize risks related to the BPS for consideration in compliance oversight planning. NERC identifies risk elements through the review of compliance findings; event analysis experience; data analysis; and the expert judgment of NERC and RE staff, committees, and subcommittees (e.g., the NERC Reliability Issues Steering Committee). While the 2018 risk elements are identical to 2017, there are updates to the areas of focus that identify some associated NERC Reliability Standards and requirements. In evaluating and approving each 2018 Regional CMEP IP, NERC considered criteria developed by the CCC.⁴ The updated document also includes lists of registered functions for attention related to the areas of focus and the description of the risk elements. Additional highlights for compliance monitoring and enforcement activities are also within the CMEP IP.

In its review and approval of the 2018 Regional CMEP IPs, NERC emphasized the need to review risk elements holistically to promote enhanced alignment in the way they are developed and used across the ERO Enterprise. Particularly, in documenting how any additional regional risk elements are specific to the RE. NERC will include a focus area in its 2018 oversight activities to review how REs use risk elements, particularly any RE-specific risk elements, to inform their compliance monitoring activities.

⁴ [Criteria for Annual RE Program Evaluation, CCC Monitoring Program – CCCPP-010-4](#), October 2016. The CCC is a NERC Board-appointed stakeholder committee serving and reporting directly to the NERC Board of Trustees. In accordance with Section 402.1.2 of the NERC ROP, the CCC is responsible for establishing criteria for NERC to use to evaluate annually the goals, tools, and procedures of each RE CMEP to determine the effectiveness of each such program.

Coordinated Oversight Program

The Coordinated Oversight Program is intended to increase efficiency and eliminate unnecessary duplication of compliance monitoring and enforcement activities for multi-region registered entities (MRREs). A registered entity operating in or owning assets in two or more REs' jurisdictions with one or more NERC IDs is a potential candidate for inclusion in the Coordinated Oversight Program. The program is voluntary. NERC and the REs base inclusion decisions on reliability considerations like, but not limited to, an entity's registered functions, load and generation capacity, transmission assets, transmission and generation control centers, etc.

In 2017, the ERO Enterprise approved 33 MRREs for entry into the Coordinated Oversight Program, taking the total count of registered entity participation to 231.⁵ Refer to Appendix B for additional supporting details on the Coordinated Oversight Program.⁶

2017 MRRE Coordinated Oversight Effectiveness Survey

The ERO Enterprise initiated a stakeholder survey in 2016 as one measure of the effectiveness of the ERO Enterprise in executing coordinated oversight of MRREs. The ERO Enterprise issued a follow-up survey in Q4 2017, to identify progress and effectiveness of the program as well as opportunities to improve the Coordinated Oversight Program. Ninety-eight percent of the MRRE groups indicated that they are satisfied with the program and support continued participation. The stakeholders indicated in their responses that they understand the work conducted to improve the processes related to coordinated oversight activities. Nevertheless, there remains opportunity to ensure increased regional cooperation. The comments also indicate further opportunities for improvement may lay in refining IRAs, data submittals and self-report processes for the participating MRREs along with continued training for ERO Enterprise staff, and education and outreach activities for registered entities. The CMEP Technology Project should address several of these issues.

CCC Self-Certification

On a triennial basis, the CCC audits NERC's adherence to the NERC ROP, CMEP, ORCP, and Standard Processes Manual. During the remaining two years between audits, NERC self-certifies its adherence to these guiding documents. On March 31, 2017, the CCC issued a Self-Certification request to NERC that focused on activities performed by the ERO Enterprise relating to the CMEP and ORCP. CCC procedure documents CCCPP-01 and CCCPP-07 require the self-certifications. They are executed in years where formal CCC audits are not conducted and require NERC to attest that it and the REs either adhere to, or deviate from, certain sections of NERC ROP. Throughout 2017, NERC's CMEP and ORCP staff provided responses to the CCC self-certification and to NERC's Internal Audit department for review.

NERC provided consolidated ERO Enterprise Self-Certification responses on June 12, 2017. The CCC reviewed the responses and found that the deviations identified therein do not reveal pervasive problems or unacceptable risks for future significant non-adherence with the ROP related to CMEP and ORCP. Further, the ROP deviations appear to have been limited and mitigated, or are currently in the process of being mitigated by NERC and the REs.

ERO Enterprise Staff Training and Industry Outreach

NERC CMEP staff provide CMEP training to ERO Enterprise staff through workshops, instructor-led training events, eLearning opportunities, and oversight of the training and education activities of the REs. These opportunities focus on identifying gaps in staff knowledge and capabilities related to the risk-based CMEP. Training and

⁵ This report reflects the total number of registered entities participating in the program regardless of whether the NERC Compliance Registry number is unique or identical across the REs.

⁶ Information on the Coordinated Oversight of MRRE Program is available at:

<http://www.nerc.com/pa/comp/Reliabilitypercent20Assurancepercent20Initiative/Coordinatedpercent20Oversightpercent20MRREpercent20FAQ.pdf>

educational opportunities concerning reliability standards, the compliance monitoring and enforcement processes, and other supporting reliability functional areas are provided to NERC and RE staff and industry participants at various events through the year. These programs are intended to enhance the knowledge and capabilities of the ERO Enterprise and industry in identifying and addressing risk, thereby improving the reliability of the BPS.

NERC Standards and Compliance Workshop

NERC held the Standards and Compliance Workshop in July 2017, which included outreach on several CMEP topics including a panel discussion on operationalizing internal controls.⁷ In addition, the workshop included updates on the Coordinated Oversight Program, CIP Version 5, and CIP-014 Physical Security. NERC and RE Enforcement staff presented on risk assessment and root cause evaluations. Approximately 400 participants attended the two-day workshop in-person and via webinar.

ERO Enterprise CMEP Staff Training

NERC conducted a workshop for CMEP staff in April 2017. Approximately 175 RE staff attended the workshop in person. The workshop theme was “From Theory to Field Application,” and participants could select courses on controls around reliability standards, penalty calculations, CIP auditing of high and medium impact Bulk Electric System (BES) Cyber Systems, and Transmission Operations/Interconnection Reliability Operations and Coordination NERC Reliability Standards. In addition, participants attended additional breakout sessions on either CIP or non-CIP topics.

NERC staff also provided CIP auditor training on network security reviews in July 2017 in Atlanta, Georgia. Approximately 21 RE staff attended the training in person and 21 attended remotely.

In addition to the workshop, webinar, and conferences, NERC and the REs hold two sessions a year on audit team leadership skills. This course ensures that audit team leaders and certification team leaders possess the requisite skills to lead a Compliance Audit or certification team. Finally, NERC and the REs have access to computer-based training in the Learning Management System.

Industry Outreach via Webinar and Regional Workshops

The ERO Enterprise held Implementation Guidance webinars in the spring and fall of 2017 and presented on Implementation Guidance at its July 2017 Standards and Compliance workshop. The spring [industry webinar](#) took place on May 31, 2017. The webinar was open to all of industry and there were 303 industry participants. The fall webinar took place on December 6, 2017. This webinar focused on providing Pre-Qualified Organizations and Standards Drafting Teams (SDTs) with feedback on developing successful Implementation Guidance. The ERO Enterprise provided outreach for the Program Alignment Process during regional fall workshops and via webinar.

NERC hosted its second Emerging Technology Roundtable, a two-day event with in-depth discussions about the integration of technologies to improve the reliable operation of the BES while addressing and mitigating cyber and physical security risks. The roundtable took place from June 7 through June 8, 2017, in San Diego, California. Vendor and industry presenters discussed *Cloud Computing and Internet of Things* security threats to weigh the reliability benefits, business case matters, cyber and technology risks, and regulatory implications. The objective was to make participants aware of strategies and considerations related to technology integration they could use to improve operations and reliability in a secure manner that supports compliance with the NERC Reliability Standards.

⁷The agenda for the 2017 Standards and Compliance Workshop describing the topics is available at: http://www.nerc.com/pa/Stand/Workshops/Agenda_Final.pdf

REs provided additional outreach throughout 2017 through workshops, monthly newsletters, assist visit programs, and other events with industry stakeholders.

Chapter 2: Enforcement Oversight

Enforcement 2017 Metrics Highlights

The following enforcement metrics updates are current as of the end of 2017 (December 31, 2017):⁸

Focus on Serious Risk Issues

NERC filed 12 Full Notices of Penalty (NOPs) in 2017 with a combined penalty amount of 1.75 million dollars (\$1,753,000). These Full NOPs included 16 serious, 55 moderate, and 31 minimal risk violations. The Full NOPs filed in 2017 included noncompliance posing risk to the BPS ranging from minimal to serious. Among other things, Full NOPs filed in 2017 included a range of serious risk issues that NERC has identified as potential areas for future focus of ERO Enterprise resources:

- Inadequacy of the registered entities' internal controls leading to a delay in detecting and reporting noncompliance, highlighting the need for registered entities to implement internal controls that foster a culture of compliance, reliability, and security to safeguard their critical infrastructure;
- Vegetation contacts for affiliated entities. Two cases provided a holistic view into the parent company's enhancements to its vegetation management programs to remediate the violations of its subsidiary companies. As discussed elsewhere in this report, additional vegetation contact cases were reported in 2017. NERC is considering what additional efforts to undertake to address the increase in these types of cases;
- Repetitive conduct highlighting the need for the ERO Enterprise to ensure registered entities design and implement comprehensive mitigation to prevent recurrence;
- Events on the BES leading to loss of system monitoring, loss of load, and load shedding; and
- Lack of cooperation and failures to submit Mitigation Plans in a timely manner, as well as failures to provide adequate evidence of completion of Mitigation Plans.

Spreadsheet Notices of Penalty

In 2017, NERC filed 38 Spreadsheet NOPs (SNOPs) that included 127 violations of the NERC Reliability Standards and carried a total combined penalty of approximately 1.31 million dollars (\$1,310,500).

NERC oversight of SNOPs in 2017 confirmed that the REs continue to use the disposition method appropriately. REs used the SNOP disposition to address penalties for larger groups of minimal and moderate risk noncompliance that did not pose an elevated risk to the BPS but that were not otherwise appropriate for FFT or CE treatment. Other reasons for SNOP treatment in 2017 include lengthy durations, prior violations involving repetitive conduct, "above and beyond" mitigation investments, and cases where it was appropriate to reduce credit for mitigation or self-reporting.

Continued Success of Streamlined Disposition

In 2017, NERC and FERC staff continued to work closely in reviewing and addressing minimal risk issues in an expedited manner. As one example, in 2017, NERC and FERC staff completed their joint annual review of the FFT and CE programs. Both FERC and NERC staff's review determined that registered entities had adequately remediated all 123 instances of noncompliance and that the REs had provided sufficient documentation of that remediation. In its Notice of Staff Review issued June 27, 2017, FERC staff noted significant improvements over the past three years in the FFT and CE program postings' as it relates to information included. The results of the 2017 annual review also show a consistent improvement in program implementation. They indicate significant

⁸ Appendix A includes the NERC enforcement metrics-related graphs and charts.

alignment across the ERO Enterprise, particularly in the processing and understanding of the risk associated with individual noncompliance.

Self-Logging Program

In 2017, NERC staff finalized and provided its findings to FERC and the REs regarding its process review of the REs' self-logging procedures. The purpose of the review was to assess compliance with the NERC CMEP, relevant FERC Orders, and the [ERO Self-Logging Program](#) and to evaluate the consistency of REs' practices.

NERC staff's review confirmed that the majority⁹ of REs are implementing the Self-Logging Program successfully and consistently. NERC staff found that the ERO Enterprise has a more thorough understanding of the risk posed by noncompliance across the BPS because of registered entities' active participation in the program. NERC identified four additional improvements that the ERO Enterprise began incorporating into the Self-Logging Program or CE program over the course of 2017. These improvements include the following:

- Enhanced enrollment – The ERO Enterprise will consider streamlining enrollment for those registered entities that have already had another form of formal review of relevant internal controls. In addition, REs would conduct direct outreach to those registered entities with robust self-reporting that results in regular CEs.
- Mitigating activities – The REs will leverage their success in using mitigating activities for self-logged noncompliance to begin the transition to using mitigating activities instead of formal Mitigation Plans for all CEs.
- Verification sampling – The ERO Enterprise is working on additional improvements to the processes and sampling programs for verifying the completion of mitigating activity for CEs.
- Updated and available documents – The REs will ensure that the process for requesting eligibility is available and understandable by maintaining their updated process documents, log template, and other related documents on their websites.

Self-Logging Surveys for Registered Entities

As one follow-up activity to identify potential areas for enhancement, NERC staff designed two surveys for registered entities. NERC directed one survey to entities that are not in the Self-Logging Program that may nevertheless have constructive feedback for the program. NERC directed the second survey to certain registered entities that are currently self-logging.

The responses aligned with many of the improvements the ERO Enterprise had already been identified and requested in its February petition accompanying its 2016 Annual CMEP Report—additional confidentiality of logged noncompliance and more streamlined oversight.¹⁰ By far the most common refrain, both from participating and non-participating entities, was hesitation surrounding public posting of self-logged noncompliance. While there were still some questions regarding benefits of the program, the majority of entities already self-logging were positive and have noticed improvement in their culture of compliance and cost savings.

Registered entities identified a number of possible improvements to encourage participation and reduce the perceived burden of logging. In 2018, the ERO Enterprise will consider the various enhancements identified by registered entity survey responses as possible future improvements to the Self-Logging Program.

⁹ One RE does not have any registered entities in its Self-Logging Program, and another RE has not received any self-logged instances of noncompliance from its participants. Therefore, NERC staff did not have adequate information to evaluate the consistency of these REs' practices for those portions of the review.

¹⁰ As discussed below, these enhancements were not approved by FERC.

Request for Enhancements to the Risk-Based CMEP

On February 21, 2017, NERC filed its annual informational filing to review the progress of the risk-based CMEP. In its filing, NERC also proposed two enhancements to the risk-based CMEP based on the ERO Enterprise's experience with the implementation of these programs over 2016. The first was providing minimal risk CEs identified through self-logging to FERC non-publicly. The second was expanding the use of CEs to include certain moderate risk noncompliance currently processed under the FFT program.

Industry largely supported NERC's proposal, submitting five sets of comments. PPL Electric Utilities Corporation, Edison Electric Institute, American Electric Power System, and MISO Transmission Owners filed comments in support of NERC's proposed enhancements. Joint commenters American Public Power Association, the Electricity Consumers Resource Council, the National Rural Electric Cooperative Association, and the Transmission Access Policy Study Group, also filed comments in support of NERC's proposal to allow consideration of certain moderate risk noncompliance as CEs. This set of comments raised concerns regarding NERC's proposal to provide minimal risk CEs identified through self-logging to FERC non-publicly.

On November 16, 2017, FERC issued an Order accepting the 2016 CMEP Annual Report¹¹ and terminating the annual informational filing requirement regarding the Reliability Assurance Initiative program. FERC also denied NERC's request for approval of the two proposed changes to the CMEP. Although FERC denied the requested enhancements, FERC encouraged NERC to continue proposing program enhancements in the future. FERC also expressed its continued support of the general direction of NERC's compliance program towards a focus on risk-based compliance.

NERC appreciates the concerns expressed by various parties regarding the potential reduction in transparency resulting from the proposed enhancements. The proposed enhancements were not designed reduce transparency, but rather to align risk and focus. NERC will continue to work with all interested parties on identifying ways to enhance these programs in a manner that addresses the concerns expressed, and is consistent with the implementation of a risk-based compliance monitoring and enforcement program.

Annual FFT and CE Programs Review

In 2017, NERC and FERC staff completed the annual review of the FFT and CE programs. NERC and FERC staff determined that the program is functioning as intended. NERC and FERC staff sampled 23 FFTs and 100 CEs to collect data on the effectiveness and efficiency of the FFT and CE programs, as well as to assess the REs' adherence to the risk-based CMEP, various FERC Orders, and NERC and FERC-issued guidance.

Both FERC and NERC staff's review determined that registered entities had adequately remediated all 123 instances of noncompliance and that the REs had provided sufficient documentation of that remediation. In cases where the posted issues did not address the root cause in the posting, the review found evidence of those root causes in the supporting evidence. In its Notice of Staff Review issued June 27, 2017, FERC staff noted significant improvements over the past three years in the FFT and CE program postings' inclusion of information requested in NERC's Guidance for Self-Reports, such as start and end dates and root causes. Specifically, identification of root causes increased from 62 percent to over 98 percent.

NERC filed the Annual FFT and CE Report with FERC in early October 2017. The report highlights the results of the review and includes additional details about how the program is functioning overall. The results of the 2017 annual review show a consistent improvement in program implementation. They indicate significant alignment across the ERO Enterprise, particularly in the processing and understanding of the risk associated with individual noncompliance.

¹¹ Order on Compliance Monitoring and Enforcement Program 161 FERC ¶ 61,187 (2017).

NERC and FERC staff began planning the 2018 Annual FFT and CE Programs review in Q4 2017.

Increased Use of Streamlined Disposition in 2017

As of the end of 2017, the ERO Enterprise added three registered entities into the Self-Logging Program. There are now 67 registered entities self-logging.

Out of 1,025 instances of noncompliance posing a minimal risk to the reliability of the BPS processed during 2017, the ERO Enterprise treated 939 (92 percent) as CEs. The ERO Enterprise processed the remaining instances of noncompliance posing a minimal risk as FFTs, SNOPs, and Full NOPs.

In 2017, most REs continued to see significant reporting of noncompliance for the newly effective CIP, MOD-025, PRC-019, and PRC-024 NERC Reliability Standards beginning after their mandatory and enforceable date in 2016.¹² These instances of noncompliance have largely been posted as CEs and tend to be the result of registered entities failing to implement the new Reliability Standards. It is likely that the increased reporting of these standards should begin to decrease in the coming year as registered entities become more familiar with these standards.

Penalty Alignment

Throughout 2017, the ERO Enterprise held various penalty training and alignment exercise opportunities for ERO Enterprise staff. NERC and the REs continued aligning the methodologies applied when assessing penalties across the ERO Enterprise. Based on the accumulated experience with reviewing penalties for noncompliance with the NERC Reliability Standards over the past nine years, NERC and the REs undertook a collaborative effort to conduct a comprehensive review of the approaches the REs use when considering the elements of the Sanction Guidelines in assessing penalties. As such, NERC and the REs agreed that a guiding principle should be to ensure that any enhancements to the processes continue to produce penalties that are consistent with the Sanction Guidelines while incorporating a risk-based focus for violations posing a more serious and substantial risk to the reliability of the BPS.

Mitigation Completion

With respect to noncompliance discovered in 2014 and prior in FRCC, MRO, NPCC, SERC, SPP RE, Texas RE, and WECC, all mitigation has been reported as complete. There is one pre-2014 noncompliance with incomplete mitigation in RF. This noncompliance represents less than one percent of the total noncompliance discovered in 2014 and earlier.

Caseload

The ongoing use of CEs throughout the ERO Enterprise has contributed to the noncompliance average age of 8.0 months. As a comparison, the average age of noncompliance was 12 months at its highest point in 2014. In 2016, it had dropped to 10.8 months. As of the end of 2017, 82 percent of the ERO Enterprise noncompliance inventory is less than one year old and only three percent is over two years old. During 2017, the ERO completed processing of all pre-2014 non-federal noncompliance and all but three outstanding pre-2014 federal entity noncompliance.

Vegetation-Related Transmission Outages

The ERO Enterprise monitors all vegetation contacts and categories of vegetation-related outages that could pose a risk to the reliability of the BPS. Although the overall number of vegetation contacts remains small, there has been an increase in the number of contacts over the last several years. The slight increase has continued through 2017 and has been primarily due to vegetation “fall-ins” to the right-of-way that are not necessarily due to noncompliance with NERC Reliability Standards related to vegetation management. The first three quarters of 2017 saw two Category 1B outages and the first reporting of Category 4B outages. Six additional vegetation

¹² See Appendix A, Figure A.8 for the most violated NERC Reliability Standards discovered in 2017.

contacts were the result of possible violations of FAC-003 in 2017.¹³ The ERO Enterprise will continue to monitor these matters and enforce any noncompliance appropriately. NERC is also considering what additional efforts to undertake to address the increase in these types of cases.

In addition to various requirements, FAC-003-3 requires applicable Transmission Owners and Generator Owners submit a quarterly report to their REs identifying all vegetation-related Sustained Outages, which the REs then provide to NERC. Data regarding vegetation-related outages reported in 2016 is available in the [2016 Annual Vegetation-Related Transmission Outage Report](#). The 2017 Annual Report data regarding vegetation-related outages reported in Q1 through Q3 2017 is available [here](#).¹⁴

Compliance Severity Risk Index

One of the ERO Enterprise's measures of success in the [NERC 2017-2020 Strategic Plan](#) is reduced reliability risk associated with noncompliance. The Compliance Severity Risk Index is a tool to monitor changes in the level of risk associated with noncompliance over time at the ERO Enterprise level based on a similar metric first developed by MRO.

NERC calculates the index by assigning a value to the noncompliance based on the final risk determination and another value for the discovery method. NERC then multiplies these values to determine the index. The indices for each individual noncompliance discovered in a given year are then stacked to create a single index for the ERO Enterprise. While this metric provides a way to identify trends in aggregate risk faced by the ERO Enterprise, NERC will continue to refine the use of this metric during 2018 based on its experience in 2017.

Reduced Repeat Moderate and Severe Risk Violations

As a response to the FERC Five-Year Order¹⁵, NERC has been measuring the effectiveness of the risk-based CMEP on reducing repeat noncompliance. In its Five-Year Order, FERC identified repeat noncompliance as a key indicator of the effectiveness of the CMEP in recognizing, mitigating, and preventing violations.

To measure the effectiveness of the risk-based CMEP on reducing noncompliance, NERC reviews moderate and serious risk violations and includes them in one of three categories: 1) noncompliance with no prior compliance history; 2) noncompliance with prior compliance history that does not involve similar conduct; and 3) noncompliance with compliance history that includes similar conduct. The number of noncompliance with similar prior conduct has remained relatively consistent over the last five years despite the fluctuation in the number of filed violations. Though NERC is still working to analyze the underlying cause of repeats and identifying appropriate mitigation measures, the metric has served to provide NERC with additional visibility into repetitive noncompliance.

This metric focuses on the most significant risks to the BPS. A number of repeat noncompliance stems from high frequency conduct. These typically pose a minimal risk to reliability, particularly if identified promptly. Regardless of the level of risk, it is important to identify and mitigate the underlying cause adequately to prevent repeat conduct that could pose a greater risk.

¹³ These possible violations have not yet been fully processed. NERC anticipates that these violations will be processed in 2018.

¹⁴ Vegetation-related outage information is consolidated on a delayed quarterly basis. Information related to 2017 will be available in Q4 2017.

¹⁵ “[W]e direct NERC to include an analysis of repeat violations in its next Performance Assessment that will allow NERC, the REs, and FERC to evaluate whether NERC’s compliance and enforcement efforts have been effective in improving registered entities’ compliance and overall reliability.” North American Electric Reliability Corporation, [Order on the Electric Reliability Organization’s Five-year Performance Assessment](#), 149 FERC ¶ 61,141 at P 39 (2014).

In 2016, NERC filed 111 violations with moderate or serious risk determinations that had prior noncompliance with similar conduct. The total number of violations with moderate or serious risk determinations with similar conduct was 48 in 2017.

The ERO Enterprise conducted focused reviews in 2017 and 2018 to identify whether failures in mitigation led to repeat noncompliance. The joint Enforcement and Compliance review of mitigation practices is one example of a focused review that will allow the ERO Enterprise to explore further the relationship of prior mitigation to noncompliance involving similar conduct and identify any additional areas of focus and future actions. These reviews will identify potential methods to achieve the goal of reducing repeat noncompliance. These could include actions such as additional training on effective mitigation, as well as expanded review of remediation activities in Mitigation Plans and mitigating activities going forward.

Self-Assessment and Self-Identification of Noncompliance

Registered entities typically self-identify noncompliance for approximately 80 percent of new noncompliance. For purposes of this analysis, self-identification included Self-Reports (and self-logging), Self-Certifications, and Periodic Data Submittals. In 2017, the self-identification rate was 87 percent, of which 94 percent was self-reported. Prompt and accurate self-reporting is integral to identifying, mitigating, and preventing repeat noncompliance. To provide additional insight into better self-reporting practices, NERC staff is performing additional analyses in 2018. Also in 2018, NERC will focus on the percentage of self-reported noncompliance (as opposed to all other types of self-identification).

Chapter 3: Compliance Monitoring Oversight

NERC Oversight Priorities

In 2017, NERC executed its RE compliance monitoring oversight plan to assess implementation of risk-based compliance monitoring activities. Risk-based compliance monitoring aims to identify, prioritize, and assure effective and efficient mitigation of risks to the reliability and security of the BPS. To support this mission, and the ERO Enterprise's goal to have an objective and risk-based compliance monitoring program, NERC prioritized and conducted compliance monitoring oversight activities throughout the year.

NERC focused 2017 activities on the following three oversight priorities:

1. Monitoring reliability and security risk and registered entity compliance with NERC Reliability Standards,
2. Internal controls implementation, and
3. Consistency in compliance monitoring implementation across the ERO Enterprise, including compliance monitoring for MRREs in the Coordinated Oversight Program.

NERC conducted other activities to monitor RE compliance with specific sections of the NERC ROP and designed oversight activities to identify potential risks and changes that could affect the effectiveness of CMEP implementation. These oversight and monitoring activities assess effectiveness of program implementation and inform ongoing ERO Enterprise staff training, industry outreach and education, and other opportunities for program improvements.

Supporting Activities

NERC conducted the following oversight activities designed to support the three foregoing oversight priorities:

- Testing of IRA and COP development: NERC sampled and reviewed 18 IRAs across all eight REs. Review included regional documentation around COP determinations.
- Testing of Internal Control Evaluation (ICEs): NERC sampled 11 completed ICEs conducted in 2015 and 2016 across all eight REs.
- Observing RE Audits and reviewing audit documentation: NERC sampled 22 audits from the 2017 Annual Audit Schedule to observe.
- Executing Key Reliability Standard Spot Checks (KRSSCs): NERC selected FAC-008-3 for a KRSSC, reviewing audit documentation from 16 completed Compliance Audits and Spot Checks across the eight REs.

Results by Oversight Priority

NERC oversight activities identified progress in both executing risk-based compliance monitoring and identifying opportunities for ERO Enterprise guidance and training.

NERC categorized Enterprise-wide results by oversight priority to explain the progress, improvement opportunities, and next steps. For 2018, the Enterprise-wide opportunities identified below will inform oversight priorities and activities.

Priority 1: Monitoring reliability and security risk and registered entity compliance with NERC Reliability Standards

Enterprise-wide Progress

All eight REs implemented the new IRA and COP processes described in the ERO Enterprise Guide for Compliance Monitoring. Current processes include RE use of the common ERO Enterprise risk factors to develop IRAs and inform COPs. By REs following ERO Enterprise Guidance, REs have a consistent approach for applying risk factors

and identifying associated NERC Reliability Standards for the IRA. Further, the REs have begun COP development for registered entities, considering Risk Elements and beginning to apply the concept of performance considerations to make compliance monitoring decisions.

NERC's observations and review of audit documentation revealed movement toward more enhanced audit techniques and interviewing to focus testing around risks. Audit scopes, for example, focused on high and medium risks from the IRA results. REs are also not only asking questions about how a registered entity is compliant with the NERC Reliability Standards associated with high risk areas, but also how a registered entity maintains compliance and mitigates risks.

Enterprise-wide Opportunities

Documentation for supporting determinations around risk and monitoring decisions remains an opportunity for ERO Enterprise focus in 2018. Specifically, the ERO Enterprise will work to provide guidance, training, and expectations around the level of detail needed to document professional judgment and technical justifications for IRA, COP, and audit results. For example, there is a need to enhance processes for how REs associate NERC Standards and Requirements with IRA results and COPs. Additionally, NERC identified the need to reevaluate how the ERO Enterprise conducts sampling and documents sampling approaches, methodology, and outcomes.

Additional opportunities exist for assessing risks related to Cyber Security and Physical Security considerations and registered entities with CFRs and Joint Registration Organizations (JROs) in place. The ERO Enterprise will evaluate whether the current IRA and COP process are sufficient to address these risk areas.

Priority 2: Internal controls implementation

Enterprise-wide Progress

NERC reviewed at least one ICE engagement per RE since the implementation of the Risk-based Compliance Monitoring Framework (Framework). NERC determined these ICE activities exposed REs and registered entities to internal controls and management practices that they may not have otherwise reviewed or considered. This exposure initiated discussions between REs and registered entities, allowing both parties to begin thinking more broadly about mitigation of risks and not solely compliance with the NERC Reliability Standards.

Additionally, RE reviews of internal control evidence demonstrated initial steps toward considering internal controls during compliance monitoring. Further, registered entity feedback indicated progress toward considering internal controls as part of their overall compliance programs to reduce risks to the reliability of the BPS.

Enterprise-wide Opportunities

Similar to the documentation opportunity noted above, NERC identified the need for the ERO Enterprise to enhance how it documents internal control reviews during both ICE activities and other CMEP activities like audits. Documentation should demonstrate how REs assess internal control effectiveness, including reviewed evidence and any decisions around internal control design and implementation.

NERC also identified the need to have ERO Enterprise guidance and training for testing implementation of internal controls. NERC ICE reviews and on-site audit observations indicated there is ambiguity around how much testing should occur to determine whether a registered entity has implemented its internal controls effectively. RE documentation indicated how the RE understood and tested the design of internal controls, but documentation often lacked a description of how the RE testing determined whether the registered entities implemented the internal controls effectively.

Priority 3: Consistency in compliance monitoring implementation across the ERO Enterprise, including compliance monitoring for MRREs in the Coordinated Oversight Program

Enterprise-wide Progress

Through audit observations and RE documentation reviews, such as the KRSSC and IRA sampling, NERC assessed consistency in compliance monitoring, including audit findings, testing approaches, sampling, and documentation. By the end of 2017, all REs began using ERO Enterprise-approved templates and implemented RE processes to follow the ERO Enterprise Framework. For example, REs use the IRA Summary Reports, Audit Notification Letters (ANLs), and Audit and Spot Check Reports, as well as templates for these activities occurring in the Coordinated Oversight Program for MRREs. Additionally, all REs are using the ERO Enterprise common IRA risk factors and criteria to support a consistent approach to conducting IRAs.

NERC also identified improvements in how REs evaluate registered entity compliance with FAC-008-3 and CIP-005, including field verifications and facility walkthroughs. For CIP-005-6, REs showed progress in the level of rigor used to evaluate interactive remote access. For example, several REs used tools to evaluate methodically registered entity's complex network configurations to determine if the registered entities documented and considered all remote access.

Enterprise-wide Opportunities

NERC's various oversight activities identified the following opportunities to improve consistency in compliance monitoring across the ERO Enterprise:

- Audit testing for FAC-008-3: REs have different approaches for validating equipment ratings, so an opportunity exists to ensure the ERO Enterprise provides guidance around validation to ensure testing is effective.
- Evaluation of network controls: The ERO Enterprise began using NP-View, a network analysis tool, to evaluate network controls. The use of this tool varies depending on the RE and registered entity audited. NERC has begun coordinating development of an enhanced user guide for 2018 to support increased use of this tool during CMEP activities.
- Level of documentation needed for conclusions: REs have varying degrees of documentation for compliance determinations, as well as conclusions related to IRA and COP results. There is also a need to clarify expectations around documenting sampling approaches and methodology.

Further, NERC reviewed the IRA process for three registered entity participants in the Coordinated Oversight Program. NERC interviewed Lead and Affected REs and reviewed supporting documentation to assess how coordination activities occurred. NERC's review indicated the REs are making progress in how coordination activities occur, but there is opportunity around planning and logistics for conducting activities like gathering and sharing information and clearly designating Lead and Affected RE responsibilities.

Based on the opportunities defined above, NERC and the REs will coordinate to assess guidance and training needs for 2018.

Other Oversight Activities

NERC ROP Compliance

NERC conducted oversight activities to assess NERC and RE compliance with the NERC ROP for completing audits of Reliability Coordinators (RCs), TOPs, and BAs every three years; developing Regional CMEP IPs; and issuing ANLs.

Results

During 2017, NERC and the REs completed audits for RCs, TOPs, and BAs as required by the NERC ROP and posted the NERC and Regional CMEP IPs.

Seven of the eight REs issued ANLs at least 90 days before the commencement of a regularly scheduled audit. One RE process used the targeted completion date for off-site audits to calculate the 90-day notification period. Due to this calculation, NERC determined the RE did not meet the NERC ROP notification requirement for off-site audit notifications. The RE mitigated this error in Q4 2017 by implementing a new process that uses the due date for initial data responses as the commencement date for off-site audits. This process allows for at least 90 days between the ANL, which includes the initial data request and the start date for the off-site activities.

Continuous Monitoring

Throughout 2017, NERC conducted continuous monitoring that consisted of ongoing reviews of RE processes and information to evaluate program effectiveness. These reviews inform NERC oversight, staff training, and guidance needs. NERC's 2017 continuous monitoring activities included the collection and analysis of the following:

- Registered entity post-audit feedback surveys,
- Compliance Audit and Spot Check Reports,
- IRA Summary Reports, and
- ANLs.

Results

Registered Entity Post-Audit/Spot Check Feedback Surveys

As of the end of 2017, registered entities submitted 88 post-audit surveys for audits initiated in 2017 (67 Compliance Audits and 6 Spot Checks) and 2016 (15 Compliance Audits). The surveys involved responses from registered entities under all REs. NERC concluded that, overall, RE audit staff conducted Compliance Audits and Spot Checks in a professional, efficient, and effective manner. From the 88 surveys collected, NERC noted five responses where the registered entity indicated it did not fully understand how its audit scope related to the inherent risks that the registered entity poses to the reliability of the BPS. NERC will continue to monitor this type of registered entity feedback, and through ongoing oversight, NERC will work with the REs to help ensure registered entities understand how risk informs the audit scope.

For IRA Summary Reports collected during 2017, NERC's review indicated that all REs are now using the new ERO Enterprise common risk factors and most REs are using the common criteria to assess low, medium, and high areas for a registered entity. One RE has not yet fully integrated the use of CIP-specific common risk factors and has modified some common criteria for other risk factors. NERC is currently reviewing these items for follow-on mitigation. REs are now using the current IRA processes for any newly completed IRAs and refresher IRAs from prior years.

Compliance Audit and Spot Check Reports

As of 2017, REs completed compliance engagements for 239 registered entities.¹⁶ NERC staff reviewed 46 compliance engagement reports to ensure REs are using a common reporting template and adequately justifying findings and determinations. Through its review, NERC has determined the following:

- The 46 compliance engagements resulted in 35 possible instances of noncompliance and 40 areas of concern as well as 163 recommendations to the registered entities involved in the compliance engagement.
- NERC staff requested additional information from five REs on audit findings and determinations, and they will work with the RE to enhance documentation and adherence to the ROP where appropriate; and

¹⁶ Compliance engagement includes Compliance Audits and Spot Checks. Three hundred six compliance engagements include MRRE audits, CIP, and non-CIP audits for 203 registered entities.

- Overall, REs are using a common reporting template. Nevertheless, NERC staff identified a training opportunity regarding documenting possible instances of noncompliance and areas of concern more clearly in the reports. NERC staff will continue to review Compliance Audit and Spot-Check reports to inform its training and outreach programs.

IRA Summary Reports

NERC reviewed 309 IRA Summary Reports related to the 2017 audit schedule to ensure the REs used the ERO Enterprise IRA Summary Report template and common risk factors and risk factor criteria. By the end of 2017:

- All eight REs are using the ERO Enterprise IRA Summary Report template;
- All eight REs are using the ERO Enterprise common risk factors, with one RE not yet fully integrating the use of the CIP-specific common risk factors; and
- One RE did not coordinate modifications from the ERO Enterprise common risk factor criteria and NERC is working with them to determine whether the modifications are appropriate and technically justified.

NERC's review also indicated some REs are not providing entity specific explanations for risk factor rating explanations. NERC is providing guidance on the IRA risk factors explanation field to align RE justifications for risk factor criteria determinations.

ANLs for 2017 Scheduled Audits and Spot Checks

NERC reviewed 315 ANLs related to the 2017 audit schedule to ensure the REs were following the NERC ROP process and using the ERO Enterprise ANL template to include important audit and spot-check information such as communication of monitoring scope, onsite dates and personnel. By the end of 2017, all eight REs are using the new ERO Enterprise ANL template. All eight REs also included all pertinent audit information for all audit and spot checks on the 2017 schedule. NERC noted that REs issued revised ANLs when monitoring activity information changed, such as onsite date, personnel, and or scope.

Technical Feasibility Exceptions

In September 2017, NERC filed its [2017 Annual Report on Wide-Area Analysis of TFEs](#) with FERC. The report identified a significant reduction in the quantity of TFEs as the result of Version 5 of the CIP Reliability Standards taking effect. In addition, the report describes feedback during audits and outreach events that indicate that Version 5 of the CIP Reliability Standards has enabled an effective means of identifying and protecting critical systems. The breadth of the number and types of assets will make it increasingly important to analyze effectively the BES Cyber Systems given TFE treatment. NERC will continue to assess the value of the TFE program and the benefits it provides to industry.

CIP-014-2 Filing on High Impact Control Centers

On October 2, 2017, NERC filed with FERC its [CIP-014 Report](#) that assessed whether the CIP-014 Reliability Standard should include all Control Centers with High Impact BES Cyber Systems, as identified and categorized under Reliability Standard CIP-002-5.1a. In Order No. 802, FERC directed NERC to make an informational filing that "addresses whether there is a need for consistent treatment of 'High Impact' control centers for cyber security and physical security purposes through the development of Reliability Standards that afford physical protection to all 'High Impact' control centers."¹⁷ Essentially, FERC requested NERC to assess whether to protect all High Impact Control Centers under Reliability Standard CIP-014-2, not just those primary control centers that physically operate a critical transmission station/substation. NERC analyzed whether backup control centers and control centers other than those that operationally control critical transmission stations and substations need physical security protection under Reliability Standard CIP-014-2.

¹⁷ Order No. 802, *Physical Security Reliability Standard*, 149 FERC ¶ 61,140 at P 57 (2014).

Consistent with FERC’s directive, the report provided NERC’s determination that if a High Impact Control Center with operational control of BES facilities – whether a primary or backup – would be subject to a physical attack, it could have a direct and significant impact on real-time operations and might result in instability, uncontrolled separation, or cascading within an Interconnection. Due to this concern, NERC will initiate its stakeholder processes, including the CIP Committee, to address the findings and recommendations in this report.

The ERO Enterprise will also continue to emphasize the evaluation of physical security controls during compliance monitoring engagements, both under CIP-014-2 and CIP-006-6. Further, the ERO Enterprise will conduct monitoring activities of registered entities with CIP-014 applicability to determine adequacy and appropriateness of resulting risk assessment methodologies and security controls. In addition, the ERO Enterprise will continue to emphasize the evaluation of physical security controls during compliance monitoring engagements, both under CIP-014-2 and CIP-006-6. Furthermore, the ERO Enterprise will conduct monitoring activities of registered entities with CIP-014 applicability to determine adequacy and appropriateness of risk assessment methodologies and security controls. Further, the monitoring activities will identify the physical security controls in place and opportunities for improvement. This is the next important step toward identifying actions needed to address this risk.

The security threat landscape is constantly changing and requires adaptation and information sharing on how best to address these issues in an effective manner. The ERO Enterprise will continue working with industry through the development of Reliability Standards, increased information sharing through the Electricity Information Sharing and Analysis Center, the development of security guidelines, and training exercises to enhance the security of the BES.

Year-end Compliance Monitoring Metric Updates

The following year-end compliance monitoring metrics are current as of the end of Q4 2017.¹⁸

Compliance Guidance

In late 2015, the NERC Board of Trustees approved the Compliance Guidance policy, which includes Implementation Guidance and CMEP Practice Guides. Pre-Qualified Organizations or SDTs develop Implementation Guidance, which provides industry-vetted and ERO Enterprise-endorsed examples and approaches to illustrate how registered entities could comply with a Reliability Standard. The ERO Enterprise develops the CMEP Practices Guides to address how ERO Enterprise CMEP staff execute compliance monitoring and enforcement activities, rather than how to implement the Reliability Standard.

During 2017, the ERO Enterprise received 13 proposed Implementation Guidance documents from Pre-Qualified Organizations and SDTs. The ERO Enterprise reviewed and endorsed seven Implementation Guidance documents and declined to endorse three Implementation Guidance documents. The ERO Enterprise also developed and posted one CMEP Practice Guide on Phased Implementation Completion Percentages. Additionally, one new Pre-Qualified Organization became effective and the ERO Enterprise received another application for a new Pre-Qualified Organization in December 2017 for consideration in 2018.

RSAWs

During 2017, NERC issued announcements for 19 RSAWs available on the NERC public website under [Reliability Standard Audit Worksheets \(RSAWs\)](#). NERC also provided draft RSAWs for draft Standards, which are typically found on the project pages under [Reliability Standards under Development](#).

¹⁸ Appendix B includes the NERC compliance monitoring metrics-related graphs and charts.

IRA and ICE Completion

During 2017, RE progress toward completion of initial IRAs continues on track according to regional plans within RF, SERC, Texas RE, and WECC.¹⁹ All REs have completed IRAs for all entities registered as RCs, BAs, or TOPs. All REs are also assessing the need to review and refresh existing IRAs and have been updating them where needed. Completion plans for four REs remain unchanged with expected completion as follows: SERC and Texas RE completed in 2017, WECC by the end of 2018, and RF by the end of 2019. Completion plans consider the total number of registered entities, registered functions, risk priorities, and regional resources. At the end of 2017, REs had completed four ICEs. REs continue to conduct internal control review activities and implement processes for conducting reviews of internal controls during CMEP activities, such as audits.

Review of RE Implementation of the Complaint Process

Starting in Q3 2017, and continuing into Q4 2017, NERC engaged with REs to understand their respective complaint handling process. The purpose of this review will be to evaluate RE alignment with processes described in the NERC ROP.²⁰ NERC will share the outcome of this review with respective REs along with proposed revisions of existing procedures in early 2018.

¹⁹ Additional information regarding the percentage of IRAs completed for all registered entities within each RE across the ERO Enterprise is available in Appendix B. REs will continue to prioritize IRA completions based on registered functions and registration changes throughout the year.

²⁰ NERC ROP Section 402-1.2 and Appendix 4C, Section 3.7.

Chapter 4: Certification and Registration

Certification

The purpose of the Organization Certification Program (OCP) is to ensure that RCs, BAs, and TOPs have the tools, processes, training, and procedures to demonstrate their ability to become certified and then operational. The OCP includes review activities to certify changes to an already operating and certified registered entity. In 2017, the OCP continued to observe a trend of registered entities consolidating their TOP footprints, and individual Energy Management Systems expanding to include greater visibility into neighboring systems. The trend of registered entities updating their primary and back-up control center facilities continues. Plans for these transitions initiate a review of the already certified and operational entity and constitute the bulk of current OCP activity.

2017 Certification Completions

During 2017, NERC and the REs completed 12 certification reviews.

To ensure consistency and fairness in the implementation of the ORCP,²¹ NERC and the REs developed processes described in the ERO Certification and Review Procedure, guidelines, and templates accessible on the NERC website. These design features have undergone a program review in 2017, and certain aspects were identified for revision to better describe expectations and align with the ERO Enterprise Strategic and Operational plans.

In 2017, the work plan added the following four program activities that support ORCP performance:

1. Development of a Certification Oversight Plan;
2. Development of certification templates that focus on evaluating the capabilities of a registered entity to perform the reliability functions of each registered function within the ORCP;
3. Development of Certification Review program documents; and
4. Review of training requirements for personnel engaged in certification activities.

Registration

SPP RE Registration Changes

On July 27, 2017, NERC issued a letter to entities registered in the SPP RE footprint that NERC and SPP RE had mutually agreed to terminate their *Amended and Restated Delegation Agreement*. As part of the transition of SPP RE's delegated authority, NERC informed each SPP RE registered entity that it might submit a written request to NERC stating its preference for transfer to another RE within the Eastern Interconnection.

NERC received 122 transfer requests from entities registered in the SPP RE footprint. NERC reviewed and carefully considered each registered entity's transfer request. As described in the December 1, 2017, posting, NERC reviewed each registered entity's transfer request and considered it under the criteria in ROP Section 1208, as well as other entity specific circumstances that could affect the decision for the recommended RE.²² Where NERC's recommendations differed from the registered entities' requests, NERC contacted the registered entities and explained its rationale for the recommendations. NERC also considered input from the REs. During its review, NERC remained committed to ensuring an effective and efficient transfer of SPP RE registered entities and providing for the reliable operation of the BPS.

²¹ See Section 502.2 of the NERC ROP.

²² <http://www.nerc.com/pa/comp/RegistrationNewsDL/SPP%20RE%20-%20Public%20Posting20171130a.pdf>

On December 15, 2017, NERC provided additional information regarding its proposed transfers²³. NERC extended the timeline for submission of comments until January 5, 2018, in order for entities to consider the additional information. Based on these comments, NERC will develop final recommendations to provide the NERC Board of Trustees, taking into account its initial analyses and the comments received on the proposed RE transfers. The NERC Board of Trustees will make the final decision on behalf of NERC in early 2018, which NERC would then provide to FERC for its approval.

January 2017 Informational Filing

On January 17, 2017, NERC submitted an informational filing²⁴ as required by FERC's October 15, 2015, Order²⁵ that accepted NERC's proposal to remove LSEs as a functional registration category from the NCR. In its Order, FERC directed NERC to provide an update on the process of transferring commercial-related requirements covered by retired NERC Reliability Standard INT-011, and conduct a follow-up analysis to assess whether the removal of LSEs affects TOPs' and BAs' ability to conduct accurate next-day studies.²⁶

In response to FERC's first directive, NERC provided an update confirming that the North American Energy Standards Board (NAESB) development of WEQ-004-1 would cover LSEs' commercial accountability in interchange transactions after the retirement of INT-011-1. To prepare a response to FERC's second directive, NERC worked with three of the BAs²⁷ with the largest percentage of deactivated and deregistered LSEs. This work confirmed that the calculation of next-day studies does not require input from former LSEs and that these BAs cannot attribute changes in load forecasting error to the removal of LSEs from the NCR.

NERC-Led Review Panel

In 2017, the Panel²⁸ rendered decisions in six registration cases:

1. In the NPCC footprint, the Panel determined that Alcoa Power Generating, Inc. – Long Sault Division should be registered as a Transmission Owner.
2. In the SERC footprint, the Panel determined that the Electricities of North Carolina, Inc.²⁹ (JRO Cities) do not have a material impact on BES reliability and therefore granted Electricities' request to remove the JRO Cities from Electricities' JRO registration.
3. In the SPP RE footprint, the Panel determined that South Plains Electric Cooperative, Inc., City of Bentonville, Arkansas, and Rita Blanca Electric Cooperative, Inc., were not material to the BES and therefore granted the requests to deregister as Distribution Providers.
4. In the WECC footprint, the Panel concluded that the City of Pasadena has a material impact on BES reliability and denied Pasadena's request to deactivate its Transmission Owner registration and that Pasadena is required to register as a Transmission Planner.

The final decisions are posted publicly on the NERC website.³⁰

²³ [http://www.nerc.com/pa/comp/RegistrationNewsDL/SPP RE Transition Additional Information Regarding NERC's Proposed Transferee Regional Entities.pdf](http://www.nerc.com/pa/comp/RegistrationNewsDL/SPP%20RE%20Transition%20Additional%20Information%20Regarding%20NERC's%20Proposed%20Transferee%20Regional%20Entities.pdf)

²⁴ <http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/RBR%20LSE%20Informational%20Filing.pdf>.

²⁵ North American Electric Reliability Corp., 153 FERC ¶ 61,024 (2015).

²⁶ *Id.* at Ordering Paragraph (B).

²⁷ The BAs NERC examined for the informational filing also operate as the TOPs in their footprint.

²⁸ NERC established the NERC-led review panel in 2016 to evaluate registered entity requests for: 1) deactivation of, or decisions not to register, an entity that meets the Registry Criteria; 2) requests to add an entity that does not meet (i.e., falls below) the Registry Criteria; 3) disputes regarding the application of the Registry Criteria; and 4) requests for a sub-set list of applicable Reliability Standards.

²⁹ Electric JRO ID Number JRO00121, is on behalf of itself and three members of its JRO (the JRO Cities) that includes the Cities of Concord, High Point, and Monroe, North Carolina.

³⁰ <http://www.nerc.com/pa/comp/Pages/Registration.aspx>.

Centralized Entity Registration Process

In 2017, the first major phase of the effort to migrate to a centralized entity registration process continued. This began with CFRs. As of November 17, 2017, the [CFR portal](#) is ready for use by registered entities to create, submit, and update CFRs and is being populated with CFR data. The project objective is to provide registered entities, the REs, and NERC with the ability to systematically submit and manage CFR requests in one system.

2017 Registration Changes

NERC verifies registration change activity by monitoring the REs and reviewing documentation relating to change requests to the registry. NERC processed 329 functional registration changes including 197 function activations and 136 function deactivations.³¹ Of the 136 function deactivations:

- Fifty-three were facilities sold to other registered entities,
- Twenty-two consolidated to another mutually owned registered entity,
- Twenty had their compliance responsibility assumed by another registered entity,
- Fifteen were facility shutdowns,
- Fifteen were determined not to meet registration criteria,
- Six were BES Exception approvals,
- Three were determined to be Under Frequency Load Shedding (UFLS)-Only Distribution Providers, and
- Two were NERC-Led Panel determinations.

³¹ All BPS owners, operators, and users are required to register with NERC. Section 500 and Appendix 5A of the NERC Rules of Procedure describe the process for registration. The NERC Compliance Registry (NCR) lists all organizations registered and therefore subject to compliance with approved Reliability Standards.

Chapter 5: Looking Ahead to 2018

Priorities for 2018

The implementation of the risk-based CMEP and related oversight activities have promoted a greater degree of alignment in enforcement and compliance monitoring activities. In 2018, NERC Enforcement and Compliance will continue oversight of the reasonableness of penalties and other determinations as well as alignment in various processes across the ERO Enterprise. NERC and the REs will continue in 2018 to develop and document guidance on enforcement and compliance monitoring processes and activities.

To guide enforcement and compliance activities in 2018, NERC has identified the following priorities:

- Continued focus on program alignment: The ERO Enterprise will focus its 2018 consistency efforts on nonmonetary penalties, mitigation, coordinated oversight for MRREs, and risk assessments. In 2018, NERC and the REs will complete penalty alignment work on nonmonetary penalties and educate relevant parties on the results of that analysis. The ERO Enterprise will also review findings from the 2017 mitigation process review to identify improvements to reduce the number of noncompliance stemming from repetitive conduct.
- Outreach activities focusing on self-identification of noncompliance: The ERO Enterprise will provide training opportunities to industry focusing on the Self-Logging Program and other methods for internal identification of noncompliance and accurate self-reporting of that noncompliance. These activities will also include assessment of risk to the reliability of the BPS.
- Identifying and implementing additional enhancements to the risk-based CMEP: Such activities include enhancements to the CE program and Self-Logging Program.
- Continued support of successful development of the CMEP Technology Project: This support will include testing and coordination with REs and industry over the course of 2018.
- Enhancement of documentation for CMEP activities: This includes providing guidance, training, and expectations around the level of detail needed to document professional judgment and technical justifications for IRA, COP, and audit results.
- Continued focus and outreach on internal controls: This includes training to REs to enhance understanding and documentation of internal controls during all CMEP activities and outreach and education to industry.
- Enhancement of the CMEP IP development: These enhancements would include RE-specific risk elements, and the regional risk assessment processes to promote enhanced alignment in their development and use in informing RE compliance monitoring activities; and
- Continued enhancement and development of COPs for registered entities.

2018 Metrics

In 2018, the ERO will continue to monitor and report on key CMEP activities. In an effort to focus on the priorities for 2018, NERC will see a slight shift in the key areas highlighted and method of measurement, as outlined below. The metrics associated with mitigation completion and repeat noncompliance remain the same for 2018.

Self-Identification

NERC monitors the number of noncompliance discovered internally and externally and regularly includes this data in its quarterly and annual CMEP reports. In 2018, the ERO will have a target of 80 percent of noncompliance submitted through a Self-Report or the Self-Logging Program. Though the vast majority of internally discovered noncompliance are discovered through Self-Reports, focusing on Self-Reports specifically should help provide greater insight into related trends.

Serious Risk Violations

In an effort to target the most serious issues facing the BPS, NERC will measure the number of serious risk violations resolved on a three-year rolling average. The target will be to ensure that this number represents five percent or less of the total noncompliance resolved in 2018.

Appendix A: Enforcement

CMEP Metrics

Mitigation Completion Status

Mitigation of the oldest noncompliance (dating from 2014 and earlier) is over 99 percent complete. NERC continues to monitor these instances of noncompliance, as well as those from 2015 and 2016, as priorities for mitigation completion. Including noncompliance discovered in 2017, there are 1,530 instances of noncompliance with outstanding mitigation activities. Of these, only one minimal risk instance of noncompliance has a discovery date of 2014 or earlier. It has an expected completion date in Q4 2018.³²

Time Frame	Required Mitigation	On-going	Progress Toward Goal	Threshold	Target	Progress Since Last Quarter
2014 and Older	9489	1	99.99%	99%	100%	0.23%
2015	720	12	98.33%	85%	90%	0.68%
2016	1147	271	76.37%	70%	75%	5.96%

Age of Noncompliance in ERO Inventory

Figure A.1 shows the age of noncompliance from all non-federal entities and noncompliance from federal entities discovered after November 2014.³³ While these percentages have been relatively stable over the last few years, in 2017, approximately five percent “moved” from the less than one year old category into the between one and two years old category. With the increase in the number of new noncompliance, it will be important to ensure that processing continues at an appropriate pace.

Age of Noncompliance in ERO Enterprise's Inventory

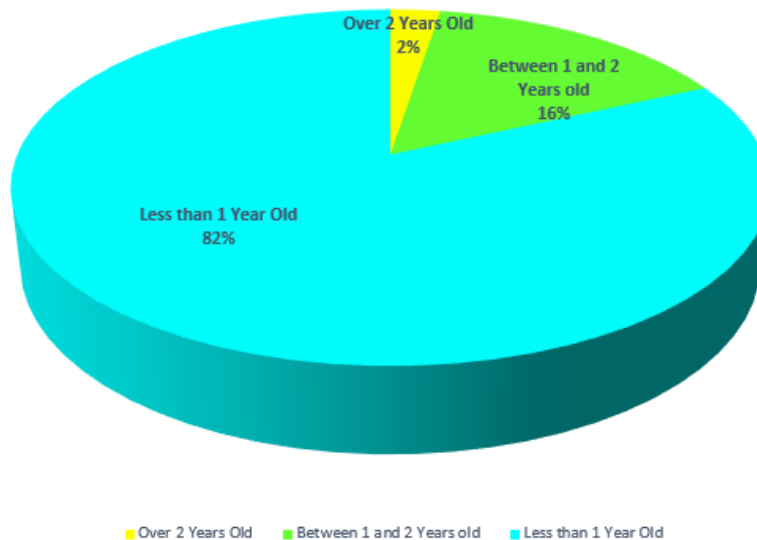


Figure A.1: Age of Noncompliance in the ERO Enterprise Inventory

³² The registered entity at issue requires an outage to address its last milestone—the outage is scheduled for Q4 2018.

³³ The U.S. Court of Appeals for the District of Columbia Circuit ruled in November 2014, that monetary penalties could not be imposed on federal entities. All previously reported federal entity violations were formerly on hold pending the court’s decision. The pre-court case federal entity violations and the post-court case violations have been separated because routine processing was interrupted.

Average Age of Noncompliance in the ERO Enterprise Inventory

The average age of noncompliance in 2017 was 8.0 months.³⁴

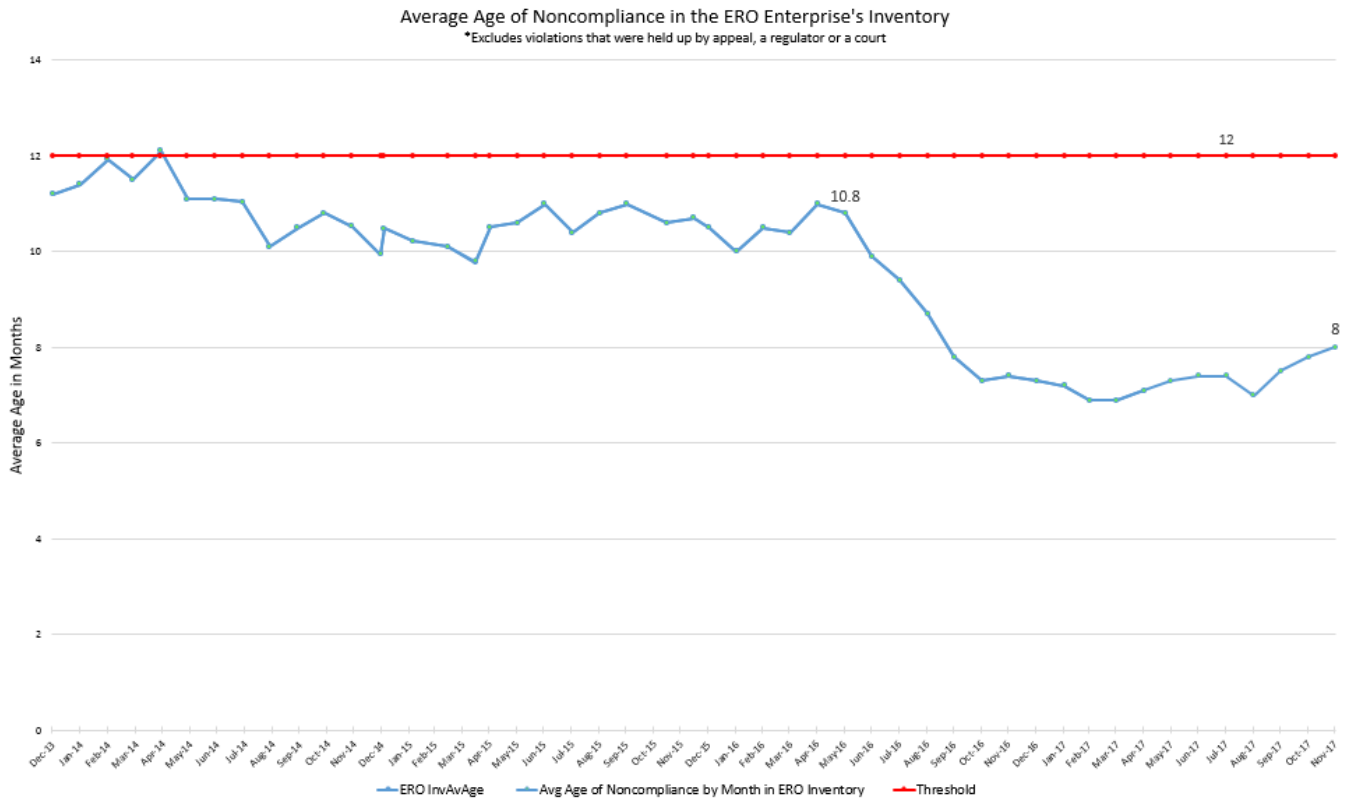


Figure A.2: Average Age of Noncompliance in the ERO Enterprise Inventory

Number of New Noncompliance Discovered in 2017

The number of new noncompliance slowed in September and October, but resumed its heightened pace in the last two months of 2017. The 2,050 instances of noncompliance discovered in 2017 represent approximately 1.5x the number discovered in 2016 (1,301), which had already nearly doubled from 2015 (867). The increase between 2015 and 2017 reversed a trend of declining discovered noncompliance that had peaked in 2011 with 2,597 and fell steadily through 2015.

Approximately 75 percent of all newly discovered noncompliance in the first half of 2017 involved Reliability Standards that have gone into effect since July 2016.³⁵ Prior spikes in reported noncompliance may provide insights into this trend. The last surge of noncompliance, also associated with new standards, lasted approximately three years, peaking after the completion of the first full year the new standards were in effect. If this increase follows a similar pattern, than 2017 would be the peak, the total discovered noncompliance should begin to fall in 2018, and fall again more significantly in 2019 as registered entities become familiar with the requirements necessary for compliance with the new standards and the ERO Enterprise completes compliance monitoring activities for the applicable registered entities.

³⁴ The age of noncompliance runs from the time the noncompliance is identified to the time it is resolved (e.g., through CE, FFT, SNOP, or Full NOP processing).

³⁵ For MRREs participating in the Coordinated Oversight Program, noncompliance will be accounted for in its Lead RE statistics, but may actually affect assets in the Affected RE's regional footprint.

Table A.2: Noncompliance Discovered in 2017									
Discovery Month	FRCC	MRO	NPCC	RF	SERC	SPP RE	Texas RE	WECC	Total
January	3	6	5	27	34	24	23	34	156
February	1	0	10	37	17	23	44	87	219
March	20	4	13	32	33	3	41	76	222
April	4	15	22	33	24	12	10	29	149
May	4	6	14	28	23	13	30	52	170
June	6	6	18	41	43	3	23	41	181
July	6	15	22	39	37	6	29	25	179
August	2	2	15	41	34	8	56	23	181
September	4	2	9	24	28	11	34	18	130
October	4	7	10	48	17	8	28	25	147
November	6	0	11	55	36	4	25	18	155
December	3	0	3	27	27	6	60	35	161
Total	63	63	152	432	353	121	403	463	2050

Percentage of Self-Logging and CEs

The percentage of self-logged CEs did not change substantially from the previous quarter at 11 percent. This percentage of self-logged CEs has remained consistent from 2016, when the rate was 12 percent.

Percentage of Self-Logged Compliance Exceptions Since June 2014

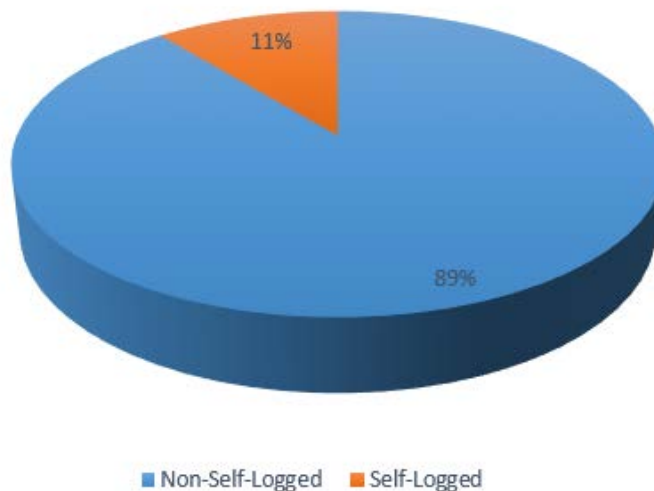


Figure A.3: Percentage of Self-Logged CEs since June 2014

Percentage of Self-Logged CEs Since June 2014

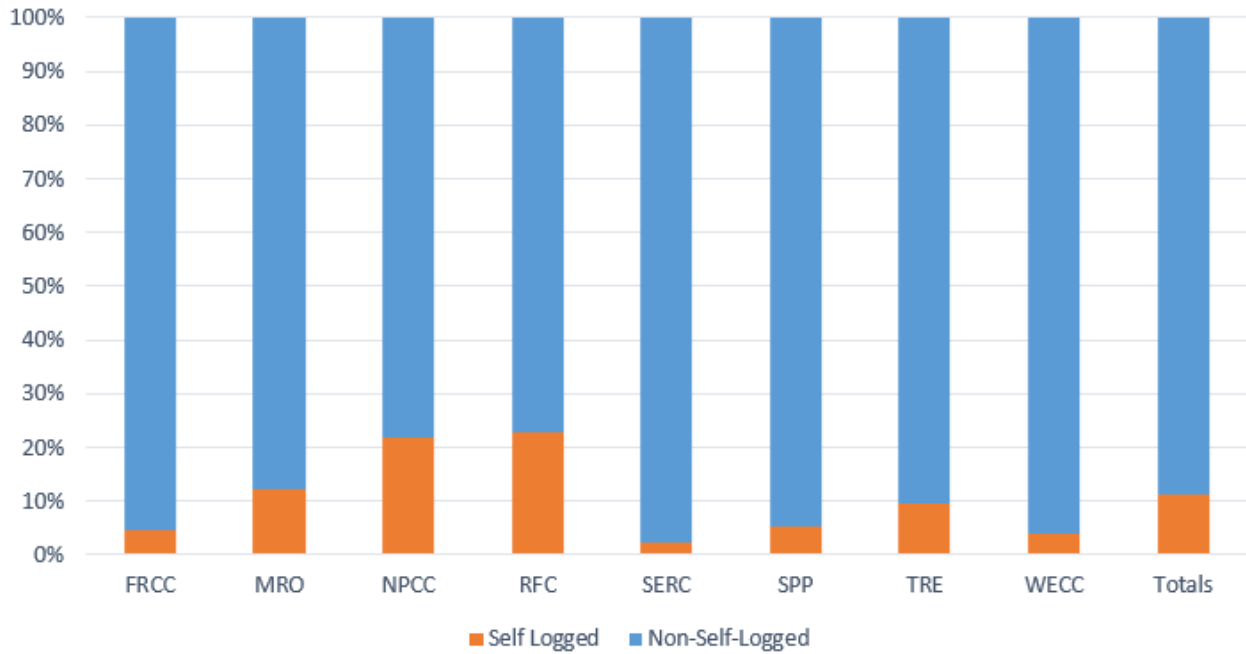


Figure A.4: Percentage of Self-Logged CEs since June 2014 by RE

Disposition of Noncompliance

The charts below review the number of minimal risk noncompliance processed in 2017. Figure A.5 shows the minimal risk total across the ERO Enterprise by disposition type, and Figure A.6 shows the total minimal risk by RE. Figure A.7 shows the disposition type in 2017 by RE for all instances of noncompliance.

Minimal Risk Noncompliance Processed in 2017

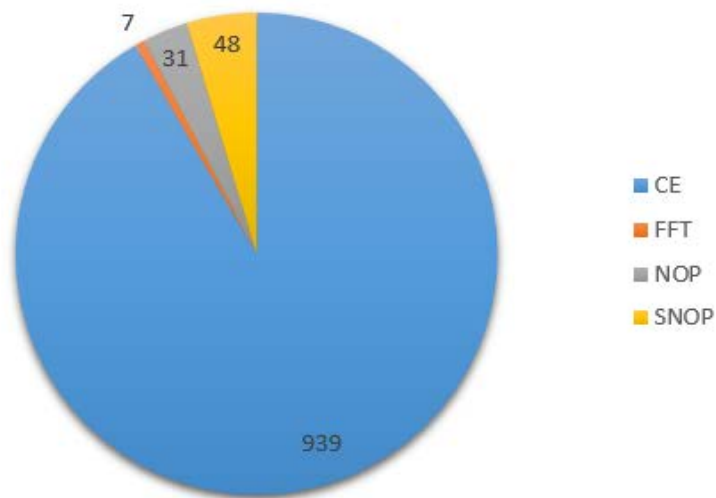


Figure A.5: Minimal Risk Noncompliance Processed in 2017

Minimal Risk Noncompliance by Region in 2017

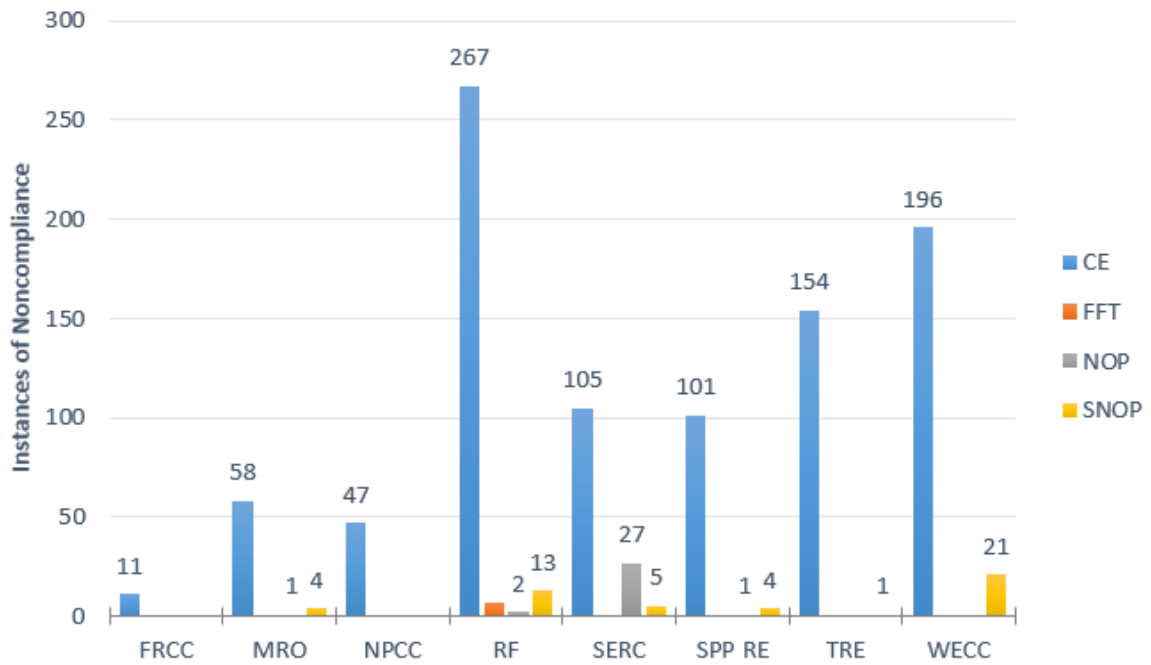


Figure A.6: Minimal Risk Noncompliance Processed in 2017 by RE

Disposition Breakdown by Region in 2017

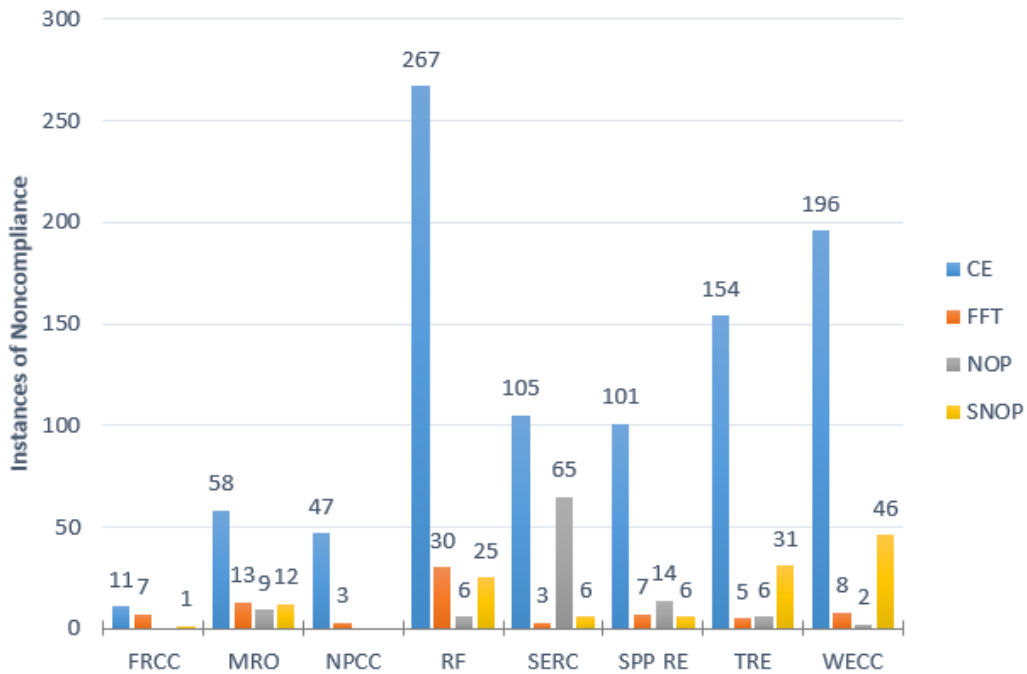


Figure A.7: Disposition Type of Noncompliance Processed in 2017 by RE

Most Violated Standards Discovered in 2017

CIP-004, CIP-007, and CIP-010 have the highest frequency of noncompliance in 2017; CIP-004 and CIP-007, along with PRC-005 and VAR-002, are historically among the most violated Reliability Standards.³⁶

Most Violated Standards Discovered in 2017

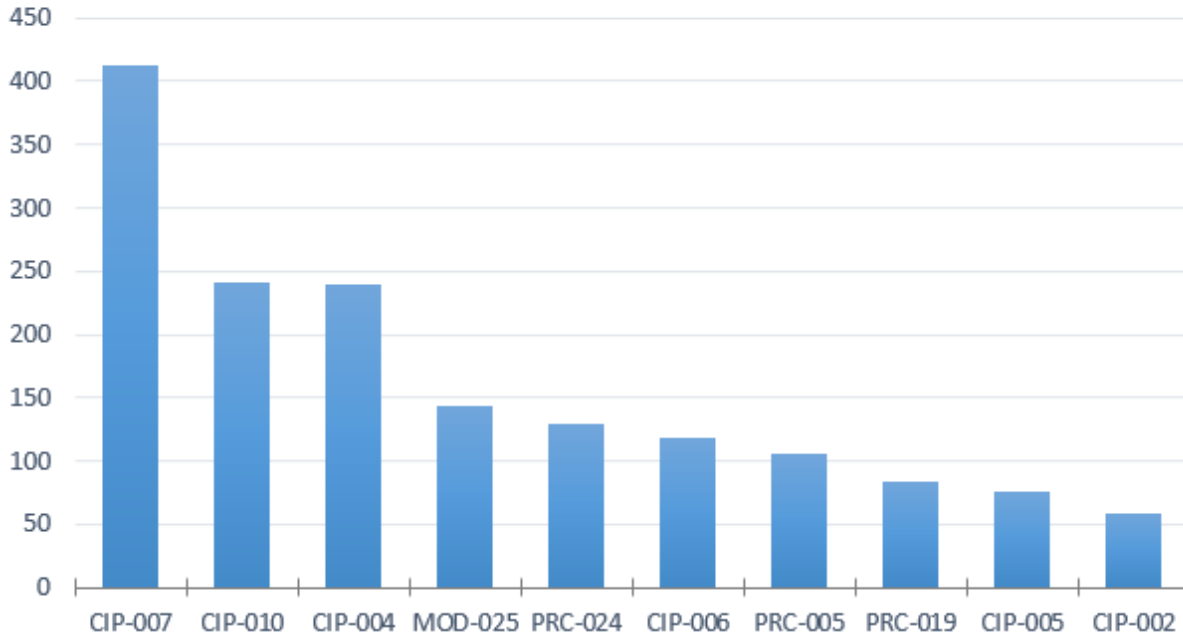


Figure A.8: Most Violated Reliability Standards Discovered in 2017

Vegetation Management

There were seven vegetation-related outages in the third quarter of 2017. There were four Category 3, one Category 4B, and two Category 1B outages in the third quarter. The vegetation-related outages in 2017 appear to be on a consistent pace with the total in 2016.³⁷

NERC regularly tracks two items related to vegetation management. The first involves identifying all Sustained Outages of transmission lines caused by vegetation that are not the result of a violation FAC-003 transmission vegetation management. Registered entities report these outages through Periodic Data Submittals on a quarterly basis as displayed in Figure A.9. The second part measures outages that resulted from FAC-003 violations. REs submit these to NERC on a regular basis through the same process as other noncompliance. In 2017, there were six reported outages resulting from possible noncompliance with FAC-003. NERC is considering what additional efforts to undertake to address the increase in these types of cases.

³⁶ The high frequency of noncompliance for these specific Reliability Standards is primarily due to these Reliability Standards having requirements that apply to large quantities of assets or numbers of personnel, resulting in a higher number of potential areas to experience instances of noncompliance.

³⁷ Vegetation-related outage information is consolidated on a delayed quarterly basis. Information related to Q4 2017 will be available in Q1 2018.

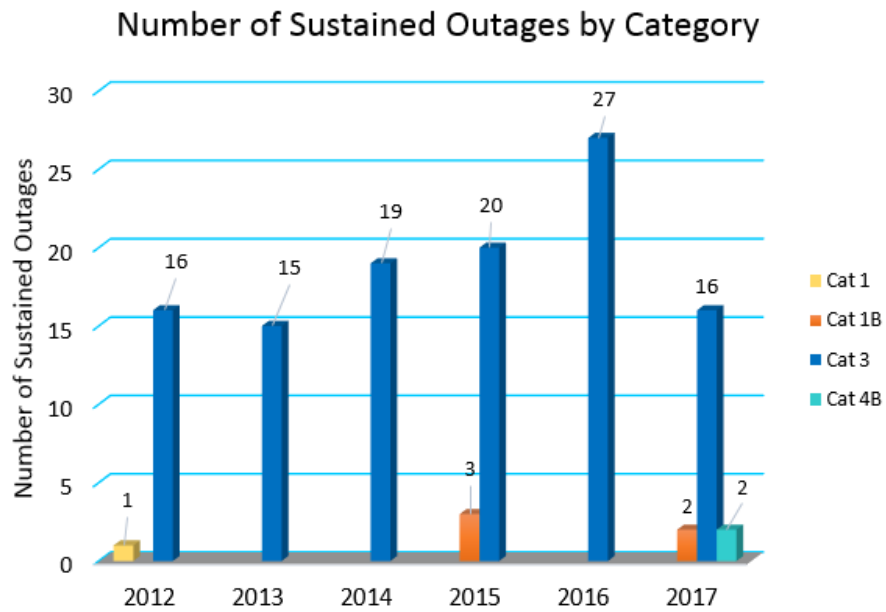


Figure A.9: Vegetation-related Outages by Category

Violations Posing a Serious Risk

Since 2010, NERC has gathered data and regularly monitored violations posing serious risk to the reliability of the BPS. As shown below, serious risk violations have declined over time, and they continue to account for a small portion of all instances of noncompliance reviewed by the ERO Enterprise.

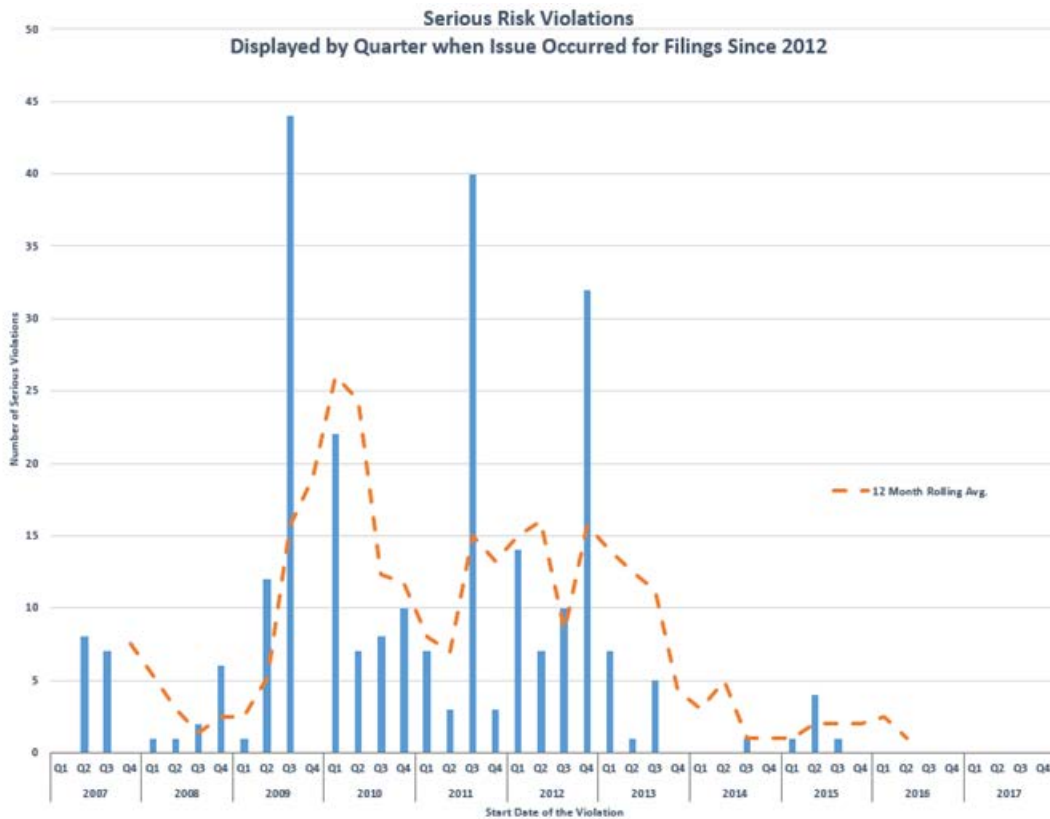


Figure A.10: Serious Risk Violations by Date of Occurrence for Filings post-2012

Violations with a Measured Reliability Impact

NERC gathers enforcement data using metrics that measure reliability impact to the BPS. Figure A.11 represents the occurrence dates of noncompliance filed since 2014 that had some observed impact on reliability. This is a quarterly count of the number of noncompliance with observed reliability impact, regardless of the risk assessment.³⁸ The moving averages provide an indicator of the rate of impactful noncompliance. Figure A.11 illustrates that noncompliance appears to be decreasing and is better controlled. The impact chart saw only one significant change. Several additional Tier 1 noncompliance were disposed through a Full NOP filed in October 2017, with starting dates in Q2 2007 and Q3 2009.

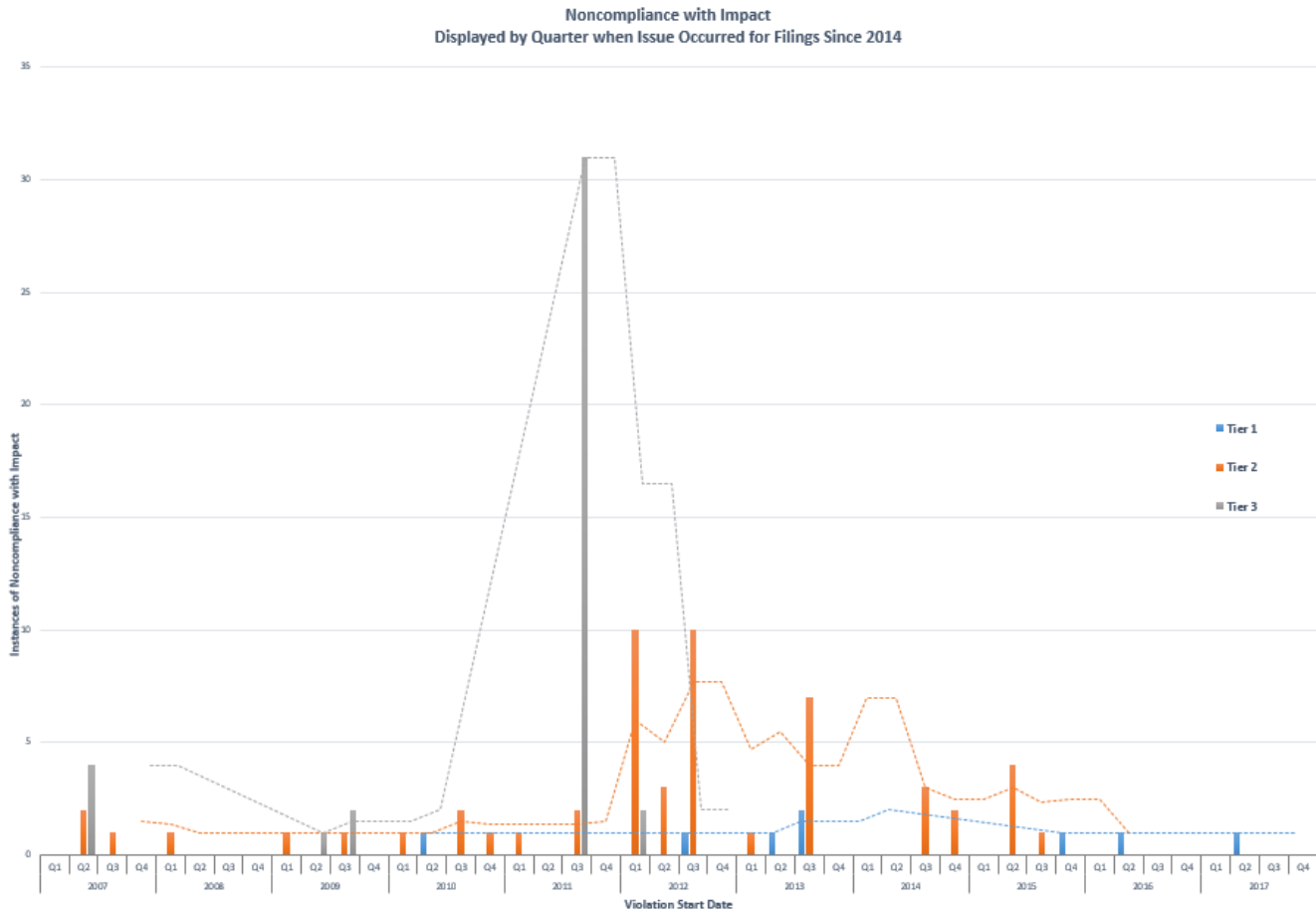


Figure A.11: Noncompliance with Impact by Quarter

Compliance Severity Risk Index

The graphs below demonstrate the ERO Enterprise’s Compliance Severity Risk Index. The total value of the stacked columns indicates the index for the ERO Enterprise for a given discovery year; however, more recent years have not yet been fully processed. The dotted line represents the percentage of violations discovered that have been filed or posted and can indicate what percentage may still change and continue to have an impact on a given year’s index. For the non-CIP and CIP V1-V3 (Figure A.12), the threshold was a value chosen that was considered part of a downward trend that was statistically significant. The target was set at 50 percent or less of the 2011

³⁸ Tier 0 observations (no observed impact) are not depicted. Tier 1 are minor impacts of lesser magnitude. Tier 2 are moderate impact noncompliance, such as Interconnection Reliability Operating Limit exceedances or unexpected BES facility trips. Tier 3 violations caused or contributed to a major BES disturbance. Because of the subjectivity inherent in the definitions of observable impacts and the establishment of the tiers, it is expected that the definitions of the tiers will evolve over time based on experience.

index for the non-CIP and CIP V1-V3. For all CIP violations (Figure A.13), the threshold and target was set at 65 and 55 percent of the 2011 index, respectively.

At the end of 2017, the index for noncompliance discovered in 2015 and 2016 was well beneath the established target ceiling. There are still some instances of noncompliance that have not been processed from 2016 and a smaller number from 2015 that are still outstanding. Since this group of noncompliance does not have a final risk assessment, no risk value could be definitively assigned and no index calculated. Assuming an approximate breakdown in risk based on historical trends, NERC was able to project how the indices for 2015 and 2016 would appear once it filed all noncompliance discovered in those years. Projections indicate a small increase in the non-CIP and CIP V1-V3 category and a more significant jump in the all-CIP version (particularly for noncompliance discovered in 2016), but still remaining below the targeted ceiling for both years. The projected index for the non-CIP and CIP V1-V3 for 2015 is 1,358, and the projection for 2016 is 1,494. The projected index for all CIP for 2015 is 1,440 and for 2016, it is 1,893.

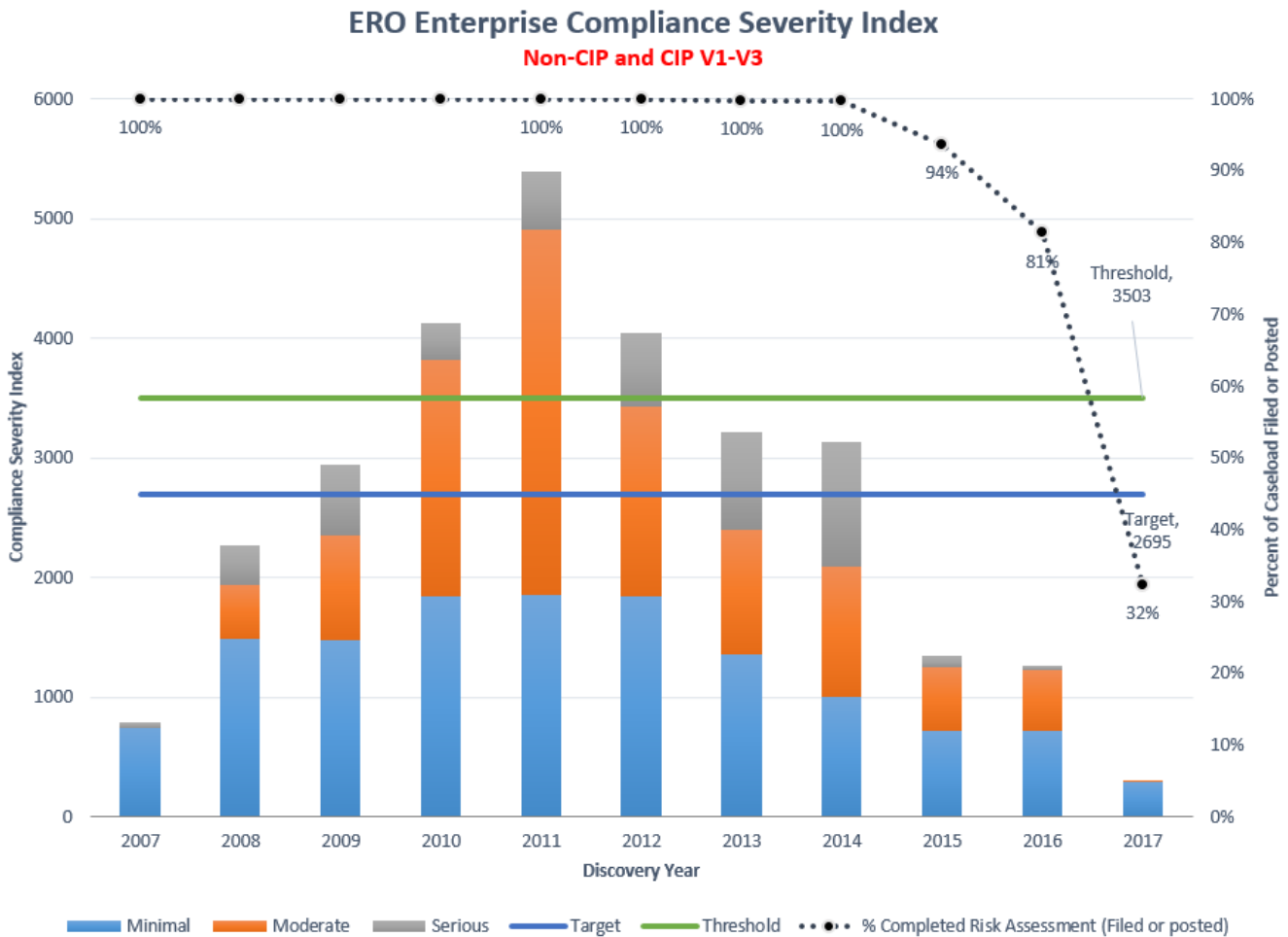


Figure A.12: Compliance Severity Risk Index for non-CIP and CIP V1 through V3

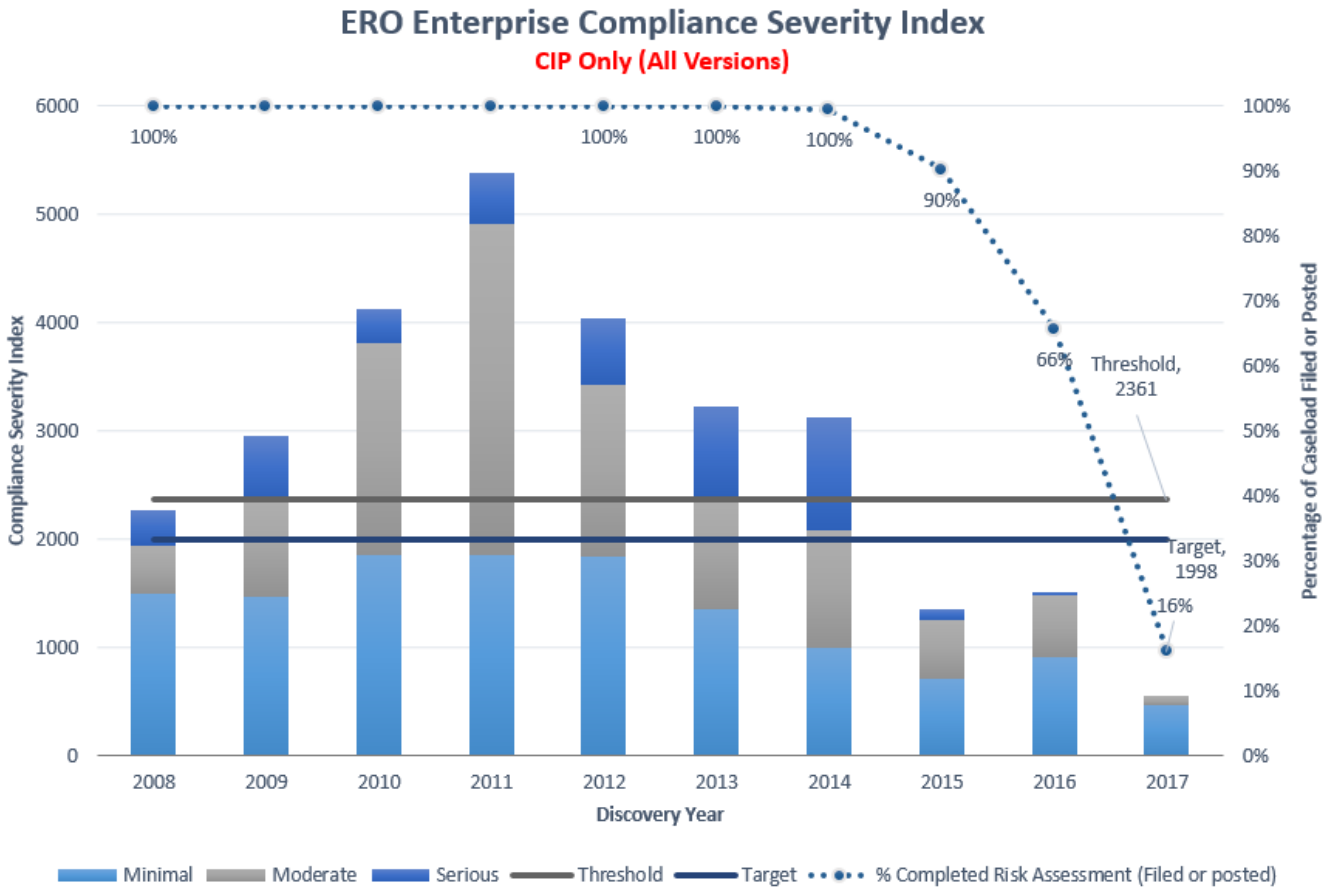


Figure A.13: ERO Enterprise Compliance Severity Risk Index for all CIP Violations

Reduced Repeat Moderate and Severe Risk Violations

The orange line in Figure A.14 illustrates the current state of repeat noncompliance with similar conduct for moderate and serious risk violations. The ERO Enterprise will continue to monitor compliance history (defined as a prior violation of the same standard and requirement) and repeat noncompliance with similar conduct (defined as a prior violation that stemmed from the same actions or conduct) to further explore the relationship of prior mitigation to repeat noncompliance and identify any additional areas of focus and future actions.

Figure A.14 juxtaposes three categories of moderate and serious risk noncompliance: noncompliance with compliance history (blue stacks), noncompliance with compliance history involving similar conduct (orange line), and all filed moderate and serious risk noncompliance (gray line). Noncompliance with similar conduct is a subset of the wider group of repeat noncompliance. The total moderate and serious noncompliance, shown by the gray line, includes both “new” noncompliance and repeat noncompliance.

Compliance History for Moderate and Serious Risk Noncompliance

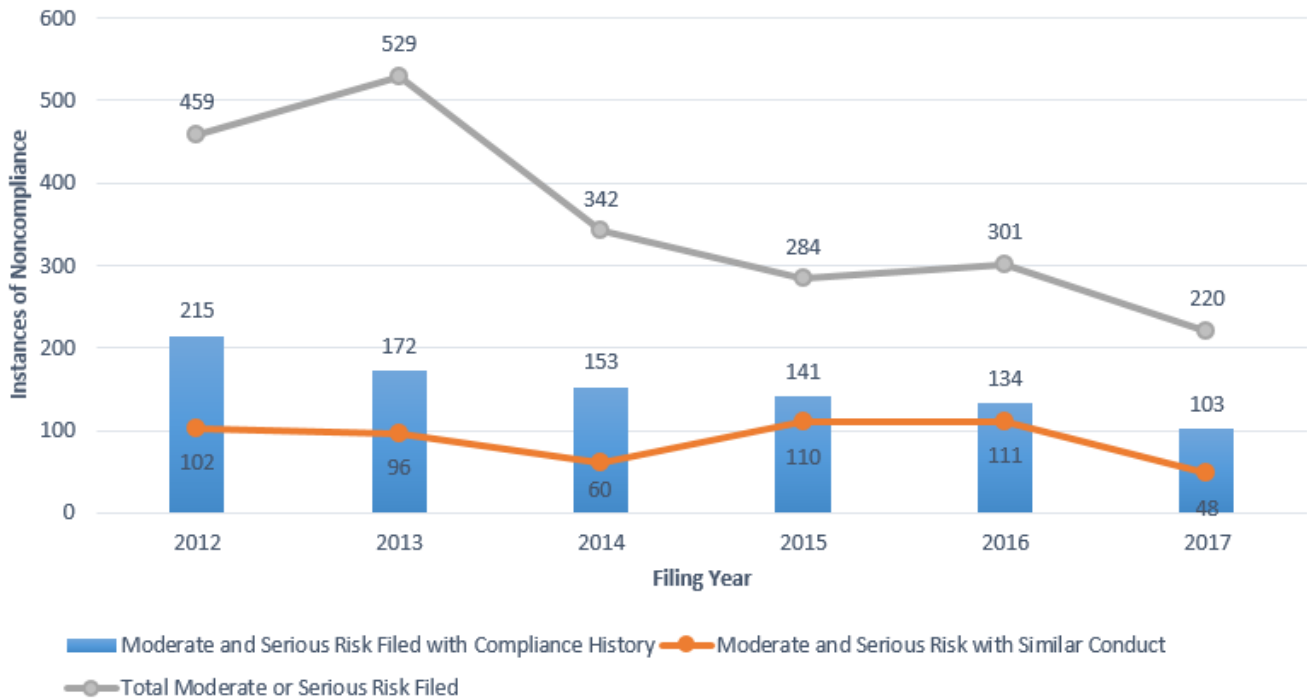


Figure A.14: Compliance History and Similar Conduct for Moderate and Serious Risk Violations

Self-Assessment and Self-Identification of Noncompliance

Below are four charts illustrating registered entities' internal and external identification of noncompliance. Figure A.15 breaks down internal and external discovery method by year and Figure A.16 over the last four quarters. The percentage of internally discovered noncompliance has increased over the last several years.

Percent of Noncompliance Discovered Internally and Externally

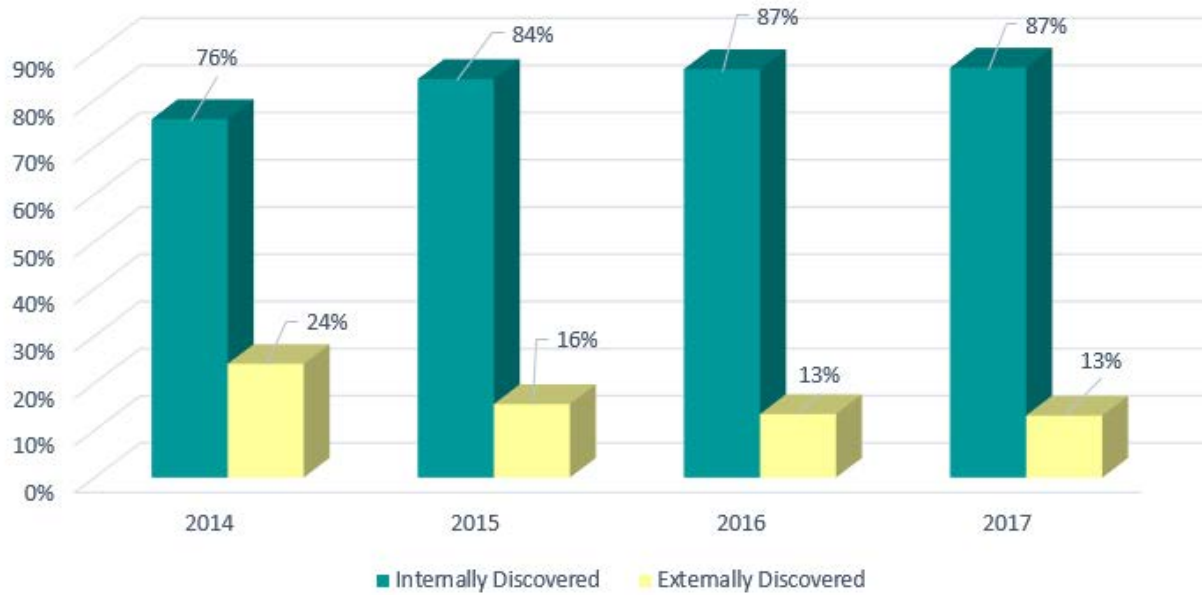


Figure A.15: Percent of Noncompliance Discovered Internally and Externally by Year

Percent Internal and External Discovery

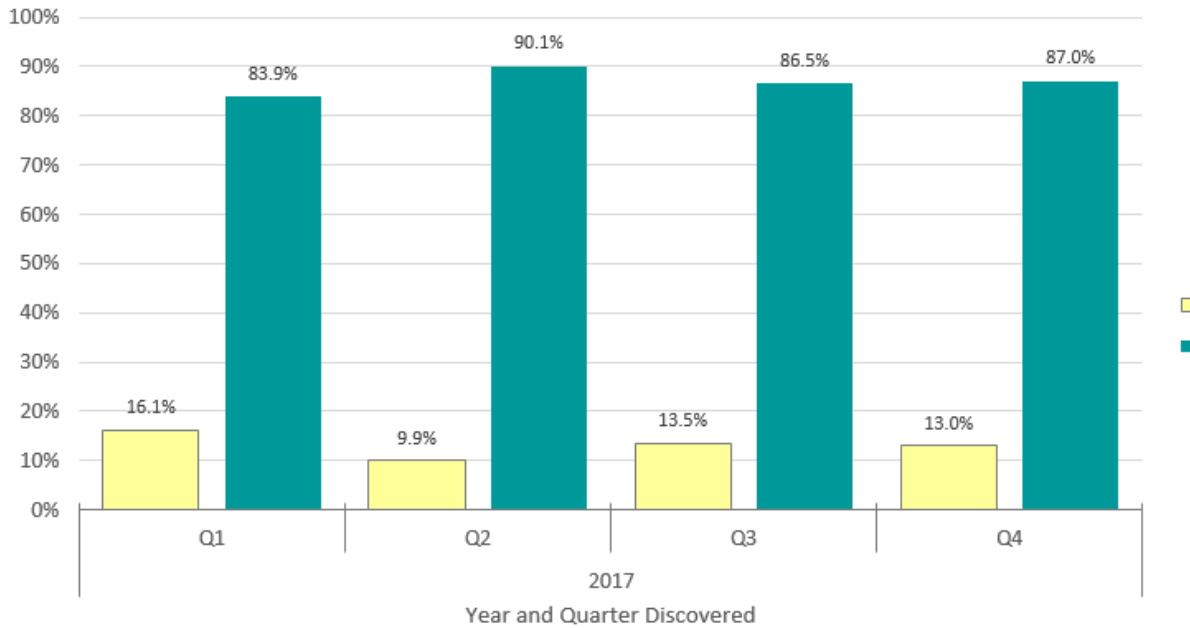


Figure A.16: Percent of Noncompliance Discovered Internally and Externally by Quarter

Appendix B: Compliance Assurance

Coordinated Oversight Program for MRREs

Figure B.1 represents the percentage distribution of the 231 MRREs by Lead RE, and Figure B.2 represents the distribution of MRREs by registered function. The registered entities that opted to join the program include various reliability functions in multiple REs.

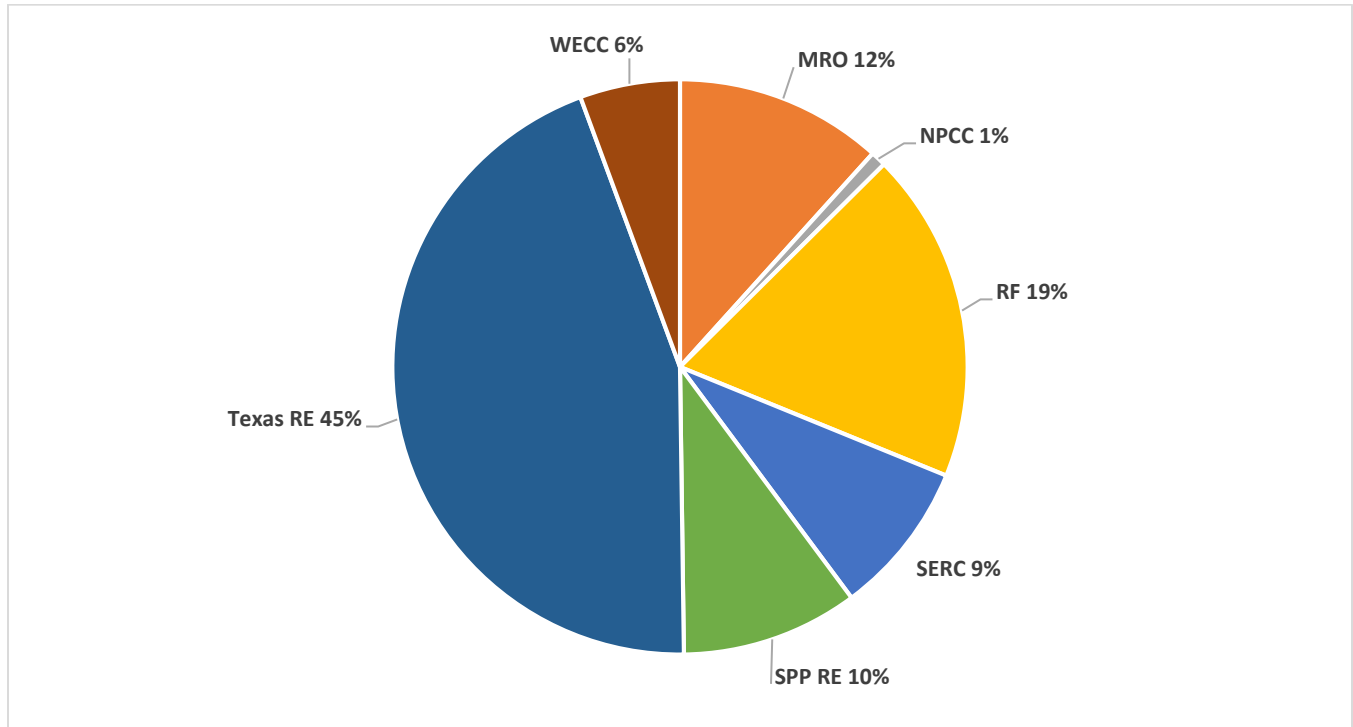


Figure B.1: Percentage of MRREs under Coordinated Oversight by Lead RE

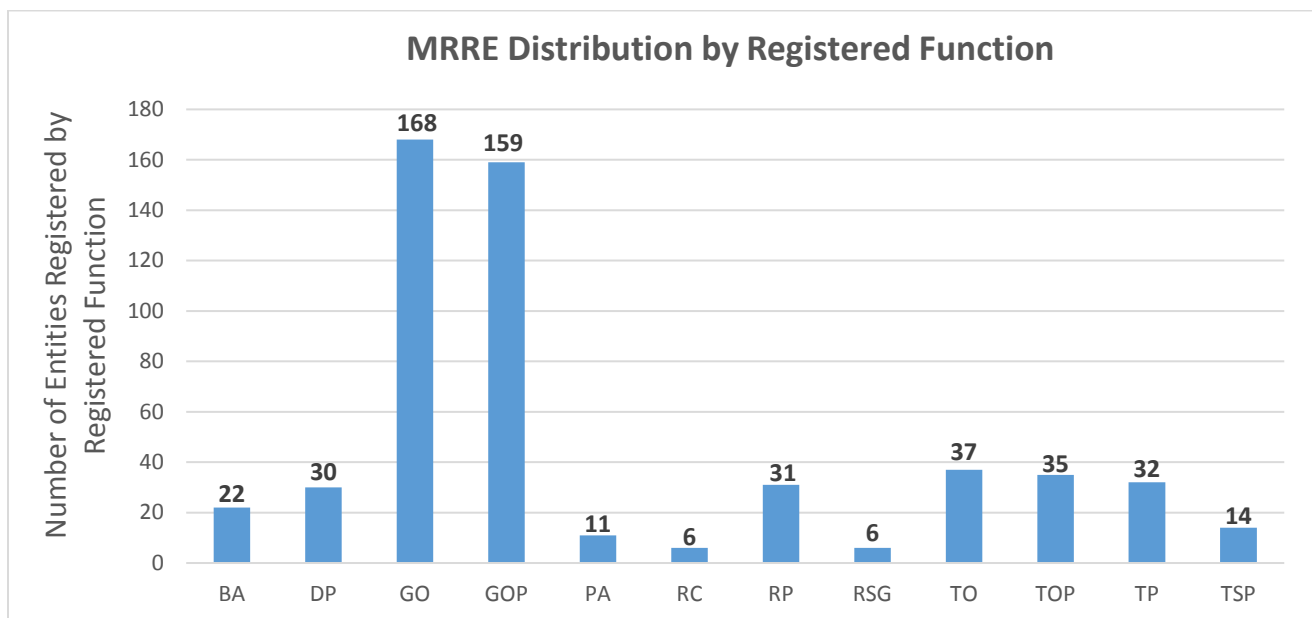


Figure B.2: Coordinated Oversight Distribution by Registered Function³⁹

³⁹ Each bar represents the number of registered entities by function in the Coordinated Oversight Program for MRREs.

ERO Enterprise Completion of Initial IRAs

The chart below identifies the number of IRAs completed by each RE. Since beginning the assessments, in 2017, the REs have completed 1,167 IRAs for 1,450 registered entities.⁴⁰ The ERO Enterprise completed IRAs for approximately 80 percent of the total number of registered entities.⁴¹ All REs have completed IRAs for all entities registered as RCs, BAs, and TOPs. NERC and the REs anticipate registration changes that will affect overall IRA completion for registered entities. As such, IRA activity prioritization will consider registered functions and registration changes to ensure IRAs are completed.

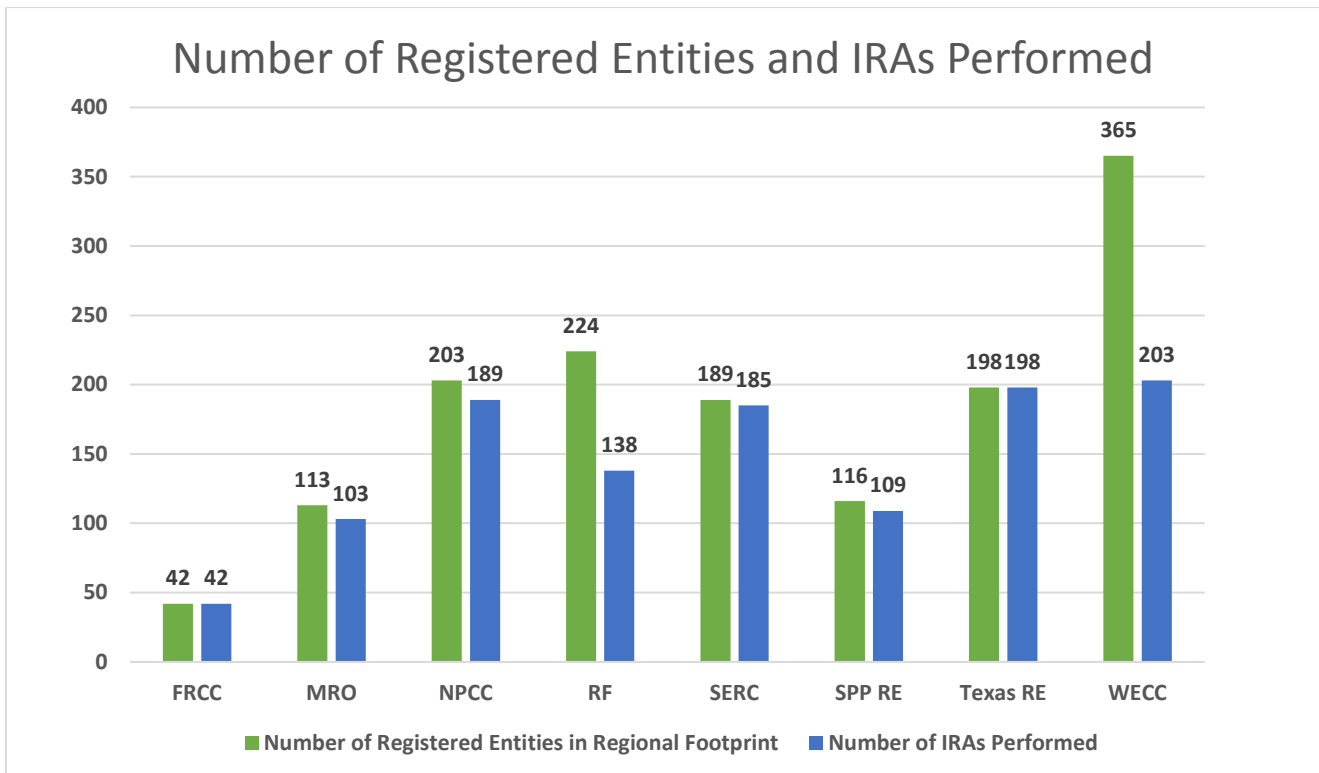


Figure B.3: RE Completion of IRAs

⁴⁰ NERC bases the number of registered entities on the registration cut-off date of June 16, 2017, which includes all newly registered entities. NERC does not include deregistered entities.

⁴¹ Some of the registered entities are MRREs in the Coordinated Oversight Program. As such, until the Lead RE completes the IRA for that MRRE Group, the numbers do not update for the Affected REs. Therefore, some of the REs included in Figure B.4 do not receive credit until their IRAs are completed.

Appendix C: Registration

The following charts depict 2017 registration change activity by RE and by function.

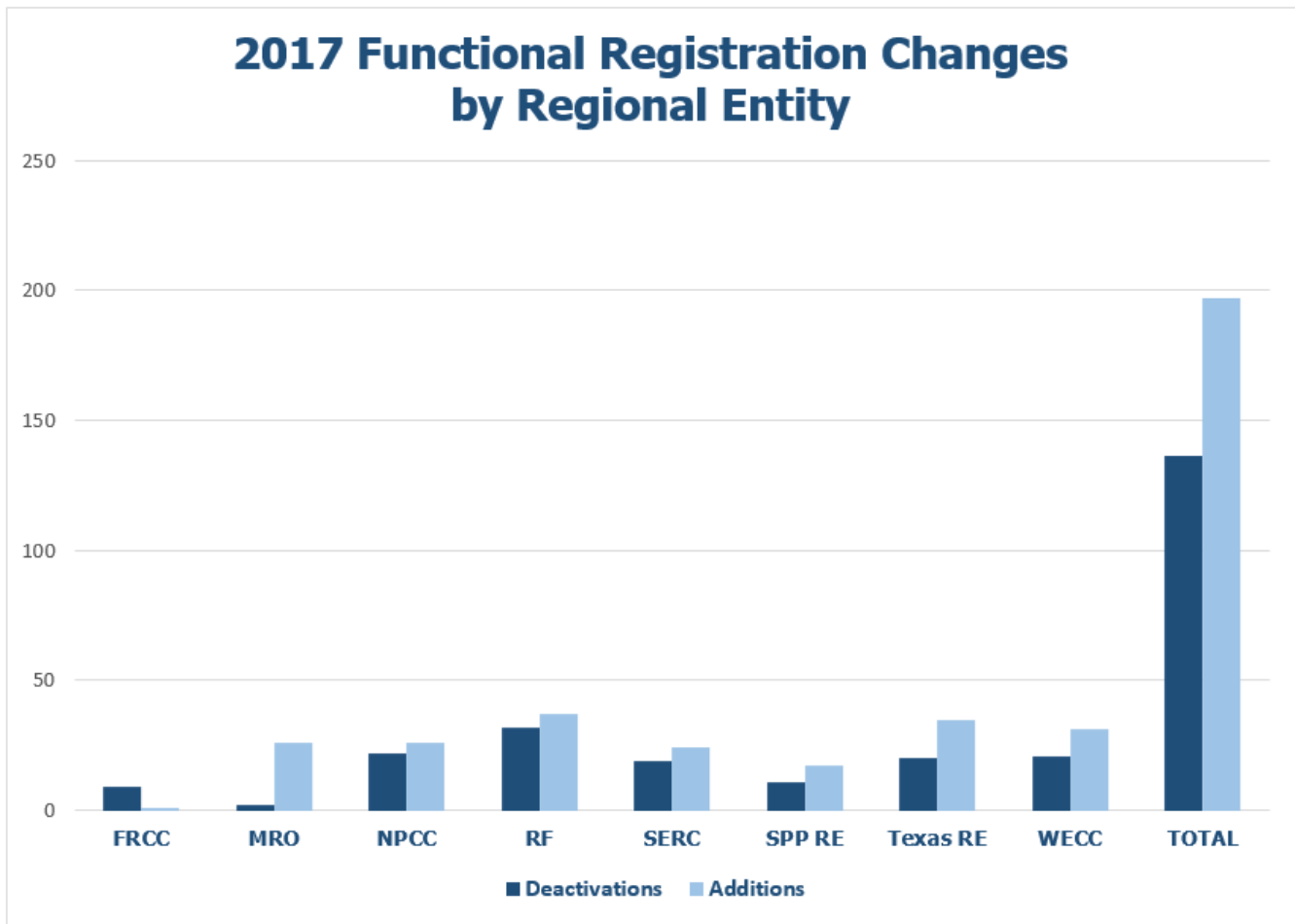


Figure C.1: Functional Registration Change Activity by RE and Total 2017 Changes

Table C.1: Functional Registration Change Activity by RE and Total 2017 Changes									
	FRCC	MRO	NPCC	RF	SERC	SPP RE	Texas RE	WECC	TOTAL
Deactivations	9	2	22	32	19	11	20	21	136
Activations	1	26	26	37	24	17	35	31	197

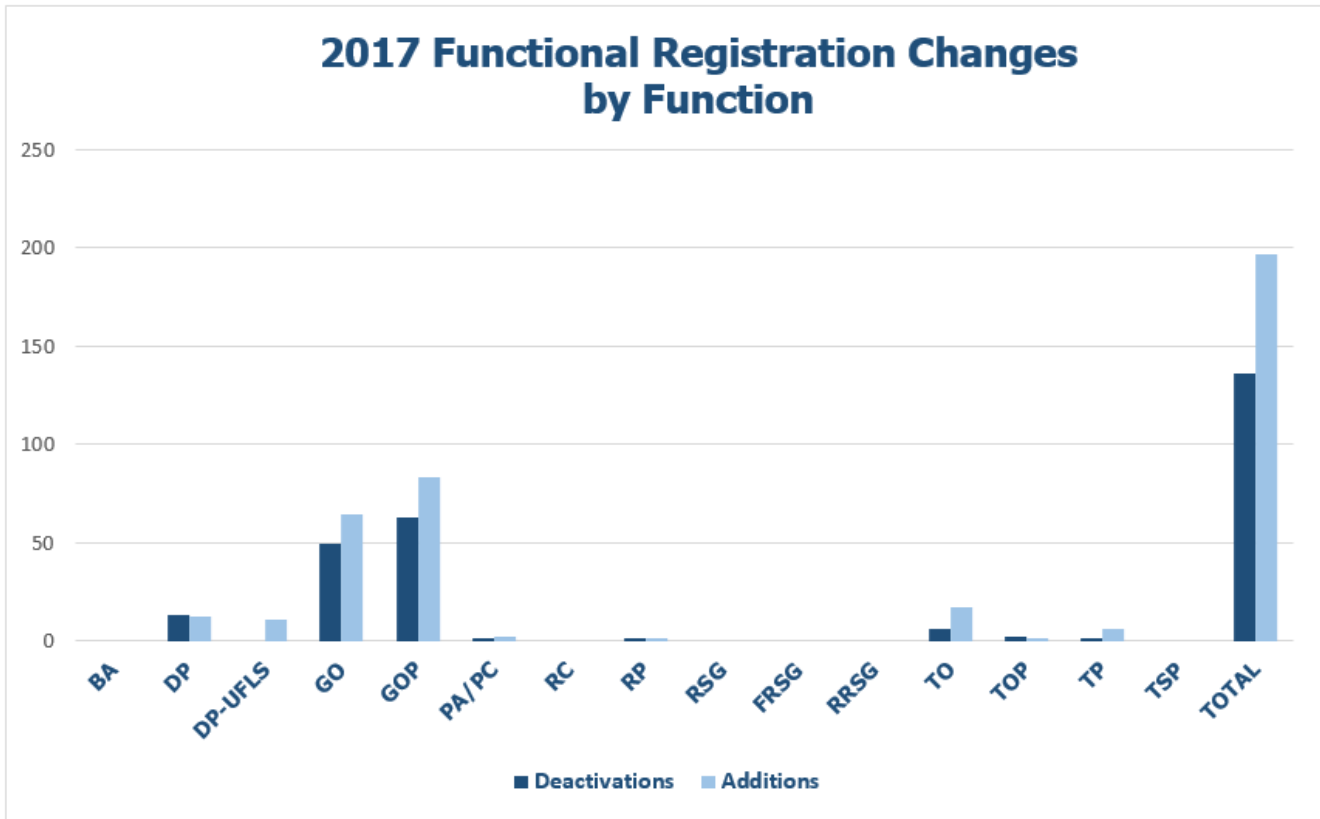


Figure C.2: 2017 Registration Change Activity by Function

Table C.2: 2017 Registration Change Activity by Function										
	DP	DP-UFLS	GO	GOP	PA/PC	RP	TO	TOP	TP	TOTAL
Deactivations	13	0	49	63	1	1	6	2	1	136
Activations	12	11	64	83	2	1	17	1	6	197

Table C.3 shows the basis for 2017 registration changes. NERC seeks justification from each RE when approving registration change activity.

Table C.3: 2017 Registration Change Basis	
Compliance Responsibility Assumed by Another Registered Entity	20
Sold to another Registered Entity	53
Consolidated to another mutually-owned Registered Entity	22
Determined to not Meet Registration Criteria	15
BES Exception	6
Facility Shut Down	15
Determined to be UFLS-Only Distribution Provider	3
NERC-Led Panel Determination	2