Meeting Agenda
Compliance Committee

February 6, 2019 | 9:30–10:30 a.m. Pacific
(Please note the Schedule may be adjusted real-time should meetings conclude early or extend past their scheduled end time.)

westdrift Manhattan Beach
1400 Parkview Avenue
Manhattan Beach, CA 90266

Room name: Loftlight – Lobby

Introduction and Chair's Remarks

NERC Antitrust Compliance Guidelines and Public Announcement

Agenda Items

1. **Minutes* – Approve**

   a. November 6, 2018, Meeting

2. **Follow-up Regarding Action Items from Prior Meeting – Discussion**

3. **Benefits of Compliance Monitoring and Enforcement Program Activities* – Information**

4. **Compliance Monitoring and Enforcement Program Annual Report* – Update**

5. **Annual Review of Compliance Committee Mandate* – Information**

6. **Adjournment**

*Background materials included.

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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 Minutes
Compliance Committee
November 6, 2018 | 10:00-11:00 a.m. Eastern

Grand Hyatt Atlanta in Buckhead
3300 Peachtree Rd NE
Atlanta, GA 30305

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 6, 2018, at approximately 10:00 a.m. Eastern, and a quorum was declared present.

Present at the meeting were:

Committee Members	Board of Trustees Members
Janice B. Case, Chair	Frederick W. Gorbet
Robert G. Clarke	David Goulding
Kenneth W. DeFontes, Jr.	George S. Hawkins
Jan Schori	Suzanne Keenan
Roy Thilly	Robin E. Manning
	James B. Robb, President and Chief Executive Officer

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
Mark Lauby, Senior Vice President and Chief Reliability Officer
Ken McIntyre, Vice President and Director of Regulatory Programs
Sônia Mendonça, Vice President, Deputy General Counsel, and Director of Enforcement
Steve Noess, Director of Compliance Assurance and Program Oversight
Janet Sena, Senior Vice President and Director of Policy and External Affairs

Introduction and Chair's Remarks
Ms. Case discussed the upcoming Annual Closed meeting, noting that the topics of discussion would include the Electric Reliability Organization (ERO) Enterprise's continued focus on Program Alignment. She also explained that a topic of discussion would include ERO Enterprise-wide concerns regarding registered entity practices and internal controls related to some of the most significant violations of Operations and Planning and Critical Infrastructure Protection Reliability Standards.

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 15, 2018, meeting minutes as presented.

Policy Input Regarding ERO Enterprise Program Alignment Efforts

Mr. McIntyre updated the BOTCC on policy input regarding ERO Enterprise Program Alignment (Program) efforts. He noted the positive feedback and support regarding the Compliance and Certification Committee's (CCC) role within the Program. Mr. McIntyre discussed policy input concerning enhancements to the Program, including increased Program visibility through outreach efforts and on NERC's website. He also summarized policy input related to the development of a process for stakeholders to obtain information on specific items resolved through the Program and to provide feedback regarding Compliance Monitoring and Enforcement Program (CMEP) practice guides.

2019 CMEP Implementation Plan

Mr. Noess reviewed the purpose of the annual CMEP Implementation Plan (CMEP IP). He discussed the content of the 2019 CMEP IP, noting the identification of specific Risk Elements, areas of focus, and ongoing CMEP activities. Mr. Noess also discussed enhancements to the 2019 CMEP IP Risk Elements approach. He highlighted the focus on discrete issues that can more effectively link to CMEP activities and specific Reliability Standard requirements.

CMEP Quarterly Report

Ms. Mendonça and Mr. McIntyre discussed highlights regarding third quarter CMEP activities. Ms. Mendonça discussed the significant percentage of self-reported noncompliance. She also noted that serious risk violations continue to represent less than five percent of violations.

Mr. McIntyre updated the BOTCC on various NERC compliance activities. He discussed the Implementation Guidance currently underway. Mr. McIntyre noted two requests for participation in the Coordinated Oversight Program for Multi-Region Registered Entities. He also discussed the status of Program Alignment issues, noting 15 completed items and 4 in progress. Mr. McIntyre outlined Program Alignment efforts, including continued outreach in collaboration with the CCC Alignment Working Group at Regional Entity workshops.

Adjournment

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

Submitted by,

Charles A. Berardesco
Corporate Secretary

Benefits of Compliance Monitoring and
Enforcement Program Activities

Action
Information

Summary
Over the last several years, the Electric Reliability Organization Enterprise has implemented a risk-based approach to the Compliance Monitoring and Enforcement Program (CMEP), tailoring CMEP activities based on a number of considerations, including risk factors and registered entity management practices related to the detection, assessment, mitigation, and reporting of noncompliance. The presentation will provide examples of CMEP activities that have led to positive outcomes, including effective mitigation and enhanced internal controls at registered entities.

Compliance Monitoring and Enforcement Program Annual Report

February 6, 2019

RELIABILITY | ACCOUNTABILITY

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Preface

The vision for the Electric Reliability Organization (ERO) Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the seven Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

The North American BPS is divided into seven RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving registered entities participate in one RE while associated Transmission Owners/Operators participate in another.
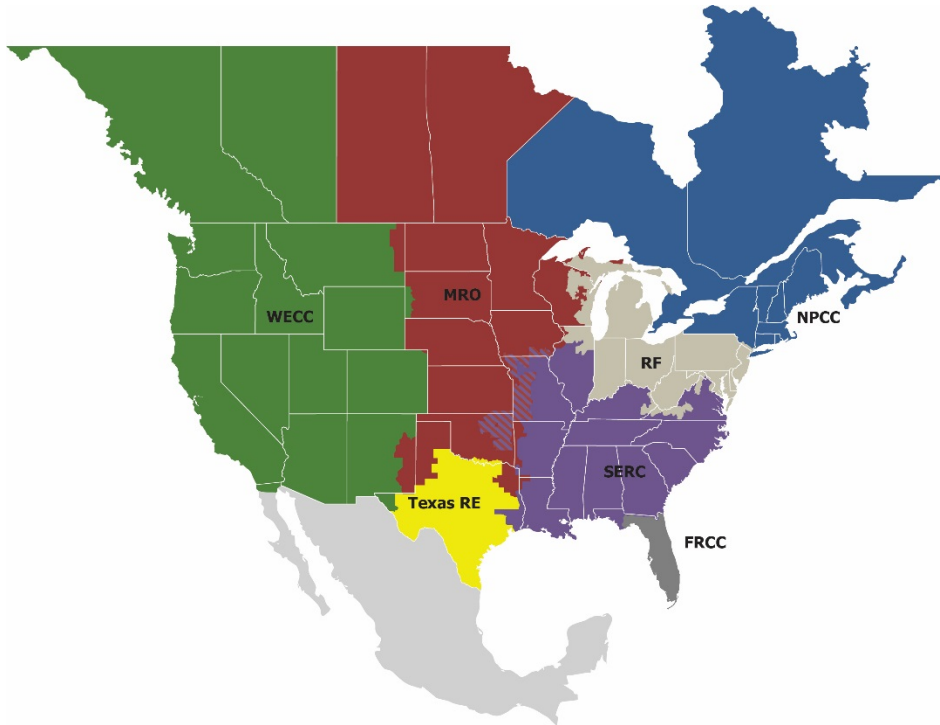
FRCC	Florida Reliability Coordinating Council
MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Executive Summary

This report highlights key ERO Enterprise[1] Compliance Monitoring and Enforcement Program (CMEP) activities that occurred in 2018, provides information and statistics regarding those activities, and identifies the ERO Enterprise's 2019 CMEP priorities.

In 2018, CMEP activities throughout the ERO Enterprise reflected continuing implementation of a risk-based approach that has enabled the ERO Enterprise to focus resources on risks to the reliability of the BPS, risks specific to registered entities, and risks pertaining to serious noncompliance. The ERO Enterprise continued to work on aligning programs across the ERO Enterprise to create greater consistency in its approach to CMEP activities. In 2018, the ERO Enterprise:

- Made significant progress on the development of the CMEP Technology Project, which will result in a common work flow tool and database that will further align CMEP staff in their monitoring and enforcement activities;

- Published two guidance documents to support alignment: one on Self-Reports and Mitigation and another on the Self-Logging Program;

- Continued engagement and training exercises with CMEP staff and industry;

- Successfully completed the transition of registered entities within the SPP RE footprint to MRO or SERC following the dissolution of SPP RE;

- Developed risk elements in the 2019 ERO Enterprise CMEP Implementation Plan (IP) that will guide CMEP activities to mitigate risks to the reliability of the BPS;

- Filed its *Interim Supply Chain Risk Report* with the Federal Energy Regulatory Commission (FERC), which assessed the nature and complexity of cyber supply chain risks. NERC identified three categories of recommendations that will lead to further analysis and investigation into how cyber security risks could affect the reliability of the BES (Bulk Electric System);

- Continued to see an increase in the use of streamlined disposition in 2018 with an increased number of entities self-logging and an increased number of noncompliance processed as Compliance Exceptions (CEs);

- Peak Reliability announced that it would no longer provide Reliability Coordinator (RC) services, and NERC and WECC began collaborating with regional industry experts to ensure a seamless transition of the RC function from Peak to new or existing RCs;

- Continued to verify registration activity and preview documentation relating to change requests to the registry; and

- Worked to modify the BES Reference Document, which was developed when the BES definition was initially drafted. The ERO Enterprise modified the BES Reference Document to reflect how the definition of BES has evolved over time.

In 2019, the ERO Enterprise plans to continue its focus on effective program alignment and compliance monitoring. Specific priorities for 2019 include completing and delivering the new Centralized Organization Registration ERO System (CORES) tool, continuing alignment work with the CMEP Technology Project, successfully completing all

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[1] The "ERO Enterprise" refers to the affiliation between NERC and the seven 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.

activities for the transition of both FRCC and Peak Reliability, developing a plan to enhance the Compliance Guidance program, and integrating internal control reviews in all scheduled ERO Enterprise Compliance Audits and Spot Checks.

Chapter 1: CMEP Activities

In 2018, the ERO Enterprise continued to work towards aligning CMEP activities across the ERO Enterprise and identifying and addressing risk to the reliability of the BPS. Highlights include reaching major milestones in the CMEP Technology Project, conducting ERO Enterprise staff training and outreach, and publishing NERC guidance on the Self-Report and Self-Logging Programs. Additionally, the ERO Enterprise completed the transition of entities formerly registered in the SPP RE footprint following FERC's approval.

Program Alignment Process

Over the course of 2018, the ERO Enterprise continued to align CMEP activities across North America. The ERO Enterprise Program Alignment Process[2] (Program Alignment) provides a structure for collecting, reviewing, resolving, and communicating discrepancies in practices across the ERO Enterprise. Alignment issues come to the ERO Enterprise from a variety of sources, including industry submittals and NERC oversight. Examples of issues considered in 2018 include the following:

- Differing practices for review and documentation of Internal Controls Evaluation (ICE) and internal controls during CMEP activities;

- Questions concerning required attributes for a registered entity's facilities to be compliant under TOP-001-4's term "diversely routed data exchange infrastructure;" and

- Disposition of Self-Reports that were made to multiple REs regarding potential noncompliance with CIP-002-5.1a R1, part 1.3 (related to the identification of Low Impact assets).

The Issues and Recommendations tracking spreadsheet provides transparency on these issues and their associated recommendations or resolutions. NERC also updated the Issues and Recommendations tracking spreadsheet to track other tools, including a CMEP Practice Guide being developed on the considerations for inverter-based resources.

CMEP Technology Project

In 2018, NERC continued work on the CMEP Technology Project,[3] which will result in a common work flow tool and database that will be used by CMEP staff and industry across North America in connection with monitoring and enforcement activities. A significant portion of the work in 2018 was related to the harmonization of various practices. The CMEP project team worked with the Compliance and Certification Committee's Alignment Working Group (CCC AWG) to collect registered entity perspectives and feedback for consideration during the design of the new CMEP tool. Design and construction of Release 1 for this new CMEP system is in progress and features functionality to enable self-reports, self-logs, enforcement and mitigation. Testing of Release 1 is slated for spring 2019, and the production date is slated for Q3 2019; two additional releases are slated for 2020.

In 2018, the CMEP Technology Project team completed over 50 percent of its business process harmonization activities. The CMEP Technology Project improves and standardizes compliance monitoring and enforcement processes across the ERO Enterprise and aligns them within a single technology solution. Because of this work, all REs and registered entities can expect to have aligned forms and interfaces. Additionally, the new tool will benefit users in the following areas:

Self-Reports and Self-Logging:

- Single, standardized form and embedded guidance for both Self-Reports and self-logs to drive a consistent registered entity experience;

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[2] http://www.nerc.com/pa/comp/Pages/EROEnterProAlign.aspx
[3] https://www.nerc.com/ResourceCenter/Pages/CMEPTechnologyProject.aspx

- Reduced or eliminated use of spreadsheets; and

- Flexibility for registered entities on the submittal of self-logs.

Enforcement:

- Introduction of an "obligation" task for use in capturing and tracking settlement activities (similar to mitigations); and

- Consistent processing, disposition, and coding of violations for use in advanced metrics and analyses.

Mitigation:

- Similar tracking capabilities for mitigation plans and mitigating activities; and

- Begins as mitigating activities by default with the ability to escalate to a formal mitigation plan when necessary.

Self-Certification:

- An established single self-certification process, removing the distinction between "guided" and "traditional" self-certifications; and

- Flexibility so that REs can ask clarifying questions and request evidence at time of submission and throughout the process.

Periodic Data Submittals:

- Focus on Reliability Standards where data is currently being submitted in OATI's Web Compliance and Data Management System or the Guidance Compliance Information Tracking System; and

- Flexible technology platform so additional Reliability Standards may be added in the future.

There are several more compliance monitoring methods and compliance planning activities to be harmonized in Q1 2019.

In addition to the CMEP Technology Project, the ERO Enterprise worked to improve and standardize the registration process within a new registration system. Extending the functionality delivered with the Coordinated Functional Registration tool, the new CORES tool will also use the ERO Enterprise xRM platform and provide entity information to the CMEP system for use in compliance monitoring and enforcement. The ERO Enterprise is working to ensure registered entities experience a smooth transition when the new system is brought online in 2019.

SPP RE Transition

In 2018, the ERO Enterprise successfully completed the transition of registered entities within the SPP RE footprint to MRO or SERC. The NERC Board of Trustees approved the dissolution of SPP RE on February 8, 2018, and FERC approved the dissolution on May 4, 2018. Following these approvals, the ERO Enterprise transferred 122 registered entities (i.e., 108 going to MRO, 13 going to SERC, and one registered entity going to both MRO and SERC). The communication and work of NERC, SPP RE, MRO, and SERC led to a seamless transfer for the SPP RE registered entities. Among the tools used to ensure this seamless transfer were weekly Frequently Asked Questions, RE workshop presentations, and SPP RE registered entity webinars. The data transfers from SPP RE to MRO and SERC went smoothly as well, and NERC facilitated knowledge transfers from SPP RE to MRO and SERC for compliance monitoring and enforcement purposes.

Self-Report and Mitigation Guide

The ERO Enterprise posted its revised *Registered Entity Self-Report and Mitigation Plan User Guide*.[4] The revised guide incorporates principles for how registered entities provide information to REs and clarifies expectations about registered entity self-reporting and design of mitigation activities to prevent recurring noncompliance.

Self-Logging User Guide

In Q4 of 2018, NERC published the *Self-Logging Program User Guide*[5] (Guide) for registered entities currently admitted to the program, entities interested in consideration for inclusion in the program, and other stakeholders that are interested in the program's administration. The Guide may be used by registered entities as a tool to guide the use of the program and encourage additional registered entities to participate. It was developed based on a registered entity's suggestion that was submitted in response to two surveys soliciting feedback from current and potential members of the Self-Logging Program.

CMEP IP

In 2018, NERC posted the *2019 ERO Enterprise CMEP Implementation Plan.*[6] The CMEP IP includes ERO-wide and RE-specific identification of risks to the reliability of the BPS, as well as mitigating factors that may reduce or eliminate a given reliability risk. NERC identified the risk elements listed below using the risk element development process.[7] The development process considered data, reports, and publications that identified reliability risks that translate into priorities for compliance monitoring. Risks considered came from the Reliability Issues Steering Committee's (RISC) report,[8] the State of Reliability Report,[9] the Long-Term Reliability Assessment,[10] other publications from the RISC, special assessments, and ERO Event Analysis Process insights.

The following are the risk elements in 2019:

- Improper management of employee and insider access,
- Insufficient long-term planning due to inadequate models,
- Insufficient operational planning due to inadequate models,
- Spare equipment with extended lead time,
- Inadequate real-time analysis during tool and data outages,
- Improper determination of misoperations,
- Inhibited ability to ride through events, and
- Gaps in program execution.

The 2019 risk elements reflect a maturation of the risk-based approach to compliance monitoring. The risk elements are more focused on discrete issues that NERC encourages REs to prioritize in the coming year. The updated CMEP IP also includes lists of registered functions and asset types related to the areas of focus and the description of the risk elements. Additional highlights for compliance monitoring and enforcement activities are also included in the CMEP IP.

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[4] https://www.nerc.com/pa/comp/CE/Enforcement%20Actions%20DL/Registered%20Entity%20Self-Report%20and%20Mitigation%20Plan.pdf

[5] https://www.nerc.com/pa/comp/Reliability%20Assurance%20Initiative/Self-Logging%20Program%20User%20Guide.pdf

[6] https://www.nerc.com/pa/comp/Resources/ResourcesDL/2019_ERO_CMEP_Implementation%20Plan_V2%20November%202018.pdf

[7] http://www.nerc.com/pa/comp/Reliability%20Assurance%20Initiative/ERO%20Enterprise%20Guide%20for%20Compliance%20Monitoring.pdf

[8] https://www.nerc.com/comm/RISC/Related%20Files%20DL/ERO-Reliability-_Risk_Priorities-Report_Board_Accepted_February_2018.pdf

[9] https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_2018_SOR_06202018_Final.pdf

[10] https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2018_12202018.pdf

Compared to prior years' risk elements, the ERO Enterprise evolved the 2019 risk elements to better focus on discrete issues that can more effectively link to CMEP activities and specific areas of focus. Previous risk elements were generally broader, and the ERO Enterprise intends that the 2019 risk elements will provide better guidance to industry and REs through its areas of focus.

In its review and approval of the 2019 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, NERC emphasized documenting how any additional regional risk elements are specific to the RE. NERC will include a focus area in its 2019 oversight activities to review how REs use risk elements and their associated areas of focus, particularly any RE-specific risk elements, to inform their compliance monitoring activities.

Coordinated Oversight Program

The purpose of the Coordinated Oversight Program is 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 Compliance Registry (NCR) identification numbers is a potential candidate for inclusion in the Coordinated Oversight Program; the program is voluntary. In connection with the program, the ERO Enterprise takes into account reliability considerations, such as (but not limited to) a registered entity's registered functions, load and generation capacity, transmission assets, and transmission and generation control centers.

The ERO Enterprise continued to make progress in improving the Coordinated Oversight Program in 2018, as success in executing that program is supported by the broader goals of Program Alignment described earlier in this report. To that end, and to support ongoing program improvement and enhanced transparency, the ERO Enterprise published an *ERO Enterprise Guide for the Multi-Region Registered Entity Coordinated Oversight Program*[11] in March 2018. That guide provides details to participating and interested entities related to general roles and responsibilities, program applicability, and expectations for coordination of various activities. For 2019, the ERO Enterprise will continue to review feedback from Coordinated Oversight CMEP experiences to support additional streamlining and improvements to the program, through program design, revisions to the guidance documents, or outreach enhancements.

To ensure seamless transition to the new Lead RE (LRE) or Affected RE (ARE) due to the SPP RE dissolution, NERC and the REs reassessed the 20 MRRE groups where SPP RE was involved as either an LRE or ARE. All 20 MRRE groups received notification of any changes to their LRE designation well in advance of the transition date of July 1, 2018.

During 2018, the ERO Enterprise granted 40 MRREs entry into the Coordinated Oversight Program. Due to recent consolidation of a large MRRE group into a single NCR identification number, the number of registered entities participating in the Program decreased from 231 in 2017 to 197 in 2018.

CCC Self-Certification

In 2018, NERC's Internal Audit and Corporate Risk Management (IA) department provided self-certification attestations to NERC's CMEP, Organization Registration and Certification Program (ORCP), and Standard Processes Manual (SPM) management for their completion. The self-certifications are a method used by the CCC to monitor NERC's adherence to its Rules of Procedure (ROP), as detailed in CCC procedure documents CCCPP-001, CCCPP-007, and CCCPP-003. The self-certifications are executed in years where formal CCC audits are not conducted and request NERC to attest that it and the REs either adhere to, or deviate from, certain sections of NERC's ROP. The scope for the self-certification attestations was calendar year 2017.

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[11] https://www.nerc.com/pa/comp/Reliability%20Assurance%20Initiative/ERO_Enterprise_Coord_Oversight_Guide.pdf

Recognizing that the REs perform a number of the activities in the CMEP and ORCP program areas, NERC coordinated with them and provided a consolidated response for the CMEP and ORCP self-certifications. The SPM self-certification focuses on NERC's actions; therefore, NERC did not coordinate with the REs on a response. NERC IA and the CCC reviewed the self-certification responses and concluded that the deviations from the ROP were mostly administrative in nature and did not reveal pervasive problems or unacceptable risks for future significant non-adherence with the ROP related to CMEP, ORCP, or SPM activities. Noted ROP deviations appear to have been limited and mitigated, or are currently in the process of being mitigated, by NERC and the REs.

NERC IA will continue to monitor CMEP, ORCP, and SPM risks as part of its ongoing risk management and audit activities. In addition, deviations and other issues noted within the self-certifications will serve as risk inputs for potential focus areas when planning the next CCC CMEP, ORCP, and SPM audits of NERC.

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 educational opportunities concerning Reliability Standards, 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.

ERO Enterprise CMEP Staff Training

In accordance with ROP Section 402 and Appendix 4C, NERC staff conducted audit team-lead and certification team-lead training at the WECC office in Salt Lake City in April 2018 and at the NERC office in Atlanta in October 2018. These training sessions were attended by 31 regional CMEP personnel. Under the Requirements for Compliance Audit Team Lead Members in the ROP, RE Compliance Audit staff must successfully complete the audit team-lead and certification team-lead training.

In April 2018, the ERO Enterprise conducted a three-day workshop for approximately 150 CMEP staff. The first day included general sessions focusing on internal controls and updates on key processes, such as coordinated oversight of MRREs. The second day included further detail for tools and techniques applied to compliance and enforcement of operations and planning (O&P) and critical infrastructure protection (CIP) standards. The final day included an intensive training for CIP auditor use of a network analysis tool.

In addition, NERC staff conducted focused technical training on Reliability Standards. The Planning and Operations Base Cases and Modeling Parameters training was provided in December at the NERC Office in Atlanta and at the WECC office in Salt Lake City. The technical training was attended by 42 RE CMEP personnel.

In December 2018, the Enforcement Group held two days of meetings at NERC's office in Atlanta that included Risk Assessment and Penalty Determination training exercises. Each of the exercises was sent to the REs in advance of the meeting so the RE CMEP staff had the opportunity to complete them together. At the meeting, NERC and RE CMEP staff worked together on the exercises, focusing on ERO Enterprise alignment.

The 2019 Annual CMEP ERO Enterprise CMEP Staff Workshop will be held in Atlanta in April 2019. The workshop will include continued focused technical training on Reliability Standards along with internal control, development of documentation, COP development, annual planning, and alignment of concepts.

Industry Outreach via Webinar and Regional Workshops

The ERO Enterprise, along with CCC AWG representatives, provided outreach to industry on Program Alignment during regional workshops in 2018. The AWG is a CCC working group tasked specifically to work on the Program

Alignment Process. In March 2018, NERC and AWG representatives presented at WECC, SPP RE, Texas RE, and SERC workshops, provided an overview of the program and ongoing work for open issues. During each workshop, NERC staff and the AWG representative presented on the history and purpose of Program Alignment, how to view and submit possible alignment issues, and the status of pending issues under review. The outreach also included discussion on the resolution of closed issues to date. In July 2018, the ERO Enterprise, along with the AWG representatives, provided outreach on Program Alignment during the July NERC Standards and Compliance Workshop held in Columbus.

REs provided additional outreach to industry stakeholders throughout 2018 through workshops, monthly newsletters, assist visit programs, and other events.

CIP Supply Chain Standards Small Group Advisory Sessions

In 2018, NERC hosted several small group advisory sessions (SGAS) with registered entities, NERC standards developers, and REs to discuss the preparation for and implementation of the CIP Supply Chain Standards.[12] The sessions included a combination of technical training with a continued emphasis on the major components of the risk-based CMEP.

Each SGAS consisted of closed one-on-one discussions between a registered entity's supply chain security experts and ERO Enterprise staff about concerns pertinent to the entity's implementation of the proposed Supply Chain Standards. Overall, the trainings efficiently paved the way for the entities to comply effectively with the new standards once they are implemented.

NERC 2018 CMEP Filings and Postings

In 2018, NERC and the REs addressed a variety of issues and questions through technical filings and analysis of information from across the North American BPS.

NERC Filings with FERC and FERC Orders

On March 15, 2018, NERC filed an amended CCC Charter with FERC in Docket No. RR18-4-000 for approval. Comments were due April 5, 2018. NERC's uncontested filing was accepted in a June 28, 2018 Order. A further revision is pending since November 30, in Docket No. RR19-3-000.

On November 1, 2018, NERC filed the annual report on the Find, Fix, Track, and Report (FFT) and CE Programs with FERC in Docket No. RC11-6-008. No comments were filed.

Order Approving Revised ROP Consolidated Hearing Process

In February 2018, NERC filed an amendment to its December 2016 petition for proposed revisions to the NERC ROP that incorporate the Consolidated Hearing Process. On June 8, 2018, FERC approved the proposed revisions to Section 400 (Compliance Enforcement), Appendix 2 (Definitions Used in the ROP), and Appendix 4C (CMEP) of the NERC ROP, which create a uniform approach to hearings by giving REs an option to select NERC to manage the hearing process. REs are in the process of exercising the option.

Annual FFT and CE Review

In June of 2018, NERC and FERC staff completed the annual review of the FFT and CE programs. A detailed description of the report can be found under the *Continued Success of Streamlined Disposition* heading.

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[12] *See* CIP-013-1 (Cyber-Security – Supply Chain Risk Management); CIP-005-6, Requirement R2, Parts 2.4 – 2.5 (Cyber Security – Electronic Security Perimeter(s)); CIP-010-3, Requirement R1, Part 1.6 (Cyber Security – Configuration Change Management and Vulnerability Assessments).

Order on SPP RE

On May 4, 2018, FERC issued a delegated Order accepting NERC, MRO, and SERC's March joint filing in Docket No. RR18-3-000 for approvals in connection with the termination of the Regional Delegation Agreement with SPP RE. The Order approved the transfer of 122 SPP RE registered entities and amended Regional Delegation Agreements with MRO and SERC. In addition, the Order acknowledged NERC's role as an interim Compliance Enforcement Authority for a two-year transitional period for the SPP registered entity functions following the dissolution of SPP RE.

Chapter 2: RE Oversight

NERC's oversight activities indicate that the REs are implementing risk-based compliance monitoring according to the program guidelines, and efforts have been successful to improve alignment on various components of risk-based compliance monitoring. Additionally, compliance monitoring oversight activities included identifying ERO Enterprise-wide improvement to inform future training and oversight priorities while monitoring RE program effectiveness.

The ERO Enterprise continued to focus enforcement oversight activities on the most serious risks to the BPS. The Full Notices of Penalty (NOPs) filed in 2018 informed risk focus areas for ERO Enterprise resources towards serious risk violations in 2019. REs continued to use Spreadsheet NOP (SNOP) disposition to address minimal and moderate risk noncompliance. Overall, the ERO Enterprise has maintained use of streamlined disposition for minimal risk issues. The number of registered entities using the Self-Logging Program increased from 67 in 2017 to 78 in 2018. Additionally, the ERO Enterprise continued to process a large percentage of noncompliance posing a minimal risk to the BPS as CEs. Ninety percent of all instances of minimal risk noncompliance were resolved as CEs in 2018 compared to 92 percent in 2017.

The registration program continued to update the criteria that determine which BPS users are subject to Reliability Standards and maintained the Compliance Registry. NERC processed 122 registration changes based on the dissolution of SPP RE, which is a significant accomplishment for 2018. The ERO Enterprise has continued their work together on NERC Information Technology projects to determine the best path forward for requirements, design, and rollout of IT software. This process has focused on open communications within the ERO Enterprise to understand the needs and various perspectives to successfully align stakeholders. Additionally, the registration program has continued its work with the Organization Registration and Certification Group (ORCG) and the CCC Organization Registration and Certification Subcommittee (ORCS) to align ERO registration and certification work items.

The certification program focused on process improvements that included measurements of utilization, fair administration, and consistency and comparability of process parameters. NERC began providing feedback to REs for certification engagements and continued to provide training for RE certification staff. NERC also provided opportunities for registered entities to provide feedback on certification reviews, which indicated that ERO Enterprise certification staff conducted certification activities in a professional, effective, and efficient manner. Additionally, NERC and WECC will be working with regional industry experts to ensure a seamless transition from Peak Reliability to new or existing RCs.

Enforcement Oversight
The following enforcement metrics updates are current as of December 31, 2018.[13]

Focus on Serious Risk Issues
In 2018, NERC filed 12 Full NOPs with a combined penalty amount of $4,279,000. These Full NOPS included 6 serious, 14 moderate, and 15 minimal risk violations. The Full NOPs filed in 2018 included a range of serious risk issues that NERC has identified as potential areas for future focus of ERO Enterprise resources:

- Multiple instances of noncompliance with CIP standards as a result of issues with implementing new tools and processes, asset and configuration management, inadequate training and management oversight, contractor and vendor failures, failure of situational awareness, development of organizational silos, and a lack of clearly defined internal policies;

- Vegetation contacts based on more frequent vegetation encroachments on BES transmission facilities due to a failure of entity controls and training to anticipate and prevent vegetation growth. These violations highlight

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[13] Appendix A includes the NERC enforcement metrics-related graphs and charts.

the need for the ERO Enterprise to continue to monitor matters and enforce noncompliance appropriately while considering additional efforts to prevent vegetation contacts; and

- Misinterpretation of Reliability Standards.

CIP

NERC filed three Full NOPs resolving violations of CIP Standards in 2018.

Vegetation Management

NERC filed four Full NOPs resolving violations of FAC-003 R2 in 2018. The ERO Enterprise has increased its focus on vegetation contacts based on more frequent vegetation encroachments on BES transmission facilities.

Spreadsheet NOPs

NERC filed 27 SNOPs that included 107 violations of the NERC Reliability Standards and carried a total combined penalty of approximately $844,000.

NERC's oversight of SNOPs in 2018 confirmed that the REs continue to use this 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 were not otherwise appropriate for FFT or CE treatment.

Continued Success of Streamlined Disposition

In 2018, NERC and FERC staff completed another annual review of the FFT and CE programs. NERC and FERC staff determined that the program was functioning as intended. Staff sampled 26 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.

NERC filed the *Annual FFT and CE Report*[14] with FERC in November 2018, which noted significant alignment across the ERO Enterprise, particularly in processing and understanding the risk associated with individual noncompliance.

The report highlights the results of the review and includes additional details about how the program is functioning overall. FERC and NERC staff's review determined that registered entities had adequately mitigated 125 out of the 126 sampled instances of noncompliance with the remaining CEs to be adequately remediated once the ongoing mitigation is completed as scheduled. Additionally, NERC and FERC staff agreed with the REs' final risk determinations for 124 of the 126 samples and noted significant improvement in the clear identification of factors affecting the risk and the identification of root cause. While the sample analysis indicated a small number of documentation concerns, subsequent review of the supporting information for the FFTs or CEs identified a large number of the missing information issues. NERC enforcement staff will continue to work with the REs to ensure that all information necessary to understand the scope of the noncompliance and the extent of the reliability risk is included in the FFT or CE posting.

NERC and FERC staff started the 2019 Annual FFT and CE Programs' review in Q4 2018. The data requests for the fiscal year 2018 review were sent to REs on November 7, 2018, and the REs provided evidence documents on December 12, 2018.

Increased Use of Streamlined Disposition in 2018

As of the end of 2018, the ERO Enterprise added 11 registered entities into the Self-Logging Program. There are now 78 registered entities self-logging, compared to 67 registered entities that were self-logging in 2017.

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[14] https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/2018%20Annual%20FFT%20and%20CE%20Report.pdf

Out of 855 instances of noncompliance posing a minimal risk to the reliability of the BPS processed during 2018, the ERO Enterprise treated 770 (90 percent) as CEs. The ERO Enterprise processed the remaining instances of noncompliance posing a minimal risk as SNOPs or Full NOPs.

In 2018, most REs continued to see significant reporting of noncompliance for CIP-014, MOD-025, PRC-019, and PRC-024 NERC Reliability Standards beginning after their mandatory and enforceable date in 2016.[15] NERC has posted the majority of these instances as CEs. They tend to be the result of a lack of understanding related to the IPs for these new Reliability Standards. NERC expects reporting of these standards to begin to decrease as registered entities become more familiar with the phased implementation and the ERO Enterprise continues its outreach efforts.

Compliance Monitoring Oversight
NERC Oversight Priorities
In 2018, NERC executed its RE compliance monitoring oversight plan to assess the 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 2018 activities on the following oversight priorities:

- Enhancement and development of COPs;

- Enhancement of the CMEP IP risk element and area of focus development;

- CMEP activity documentation enhancement;

- Enhancement of internal controls integration into compliance monitoring activities; and

- Consistency in compliance monitoring implementation, including the ERO Enterprise Program Alignment process.

An additional oversight priority identified for 2018 was the support of the development of the CMEP Technology Project, but NERC expects the majority of the work related to compliance monitoring in the project to take place during 2019.

Supporting Activities
In 2018, NERC performed a variety of activities designed to support the identified priorities, including review and approval of RE CMEP IPs, oversight of RE compliance monitoring activities, audit observations of registered entities, and continuous monitoring of processes and information submitted to NERC. These oversight activities assess the effectiveness of program implementation and inform ongoing ERO Enterprise staff training, industry outreach and education, and other opportunities for program improvements.

Targeted Monitoring
The targeted oversight activities review specific components of the RE CMEP program and, in aggregate, NERC uses those to evaluate the oversight priorities. NERC visited six of the seven REs for on-site review and testing of RE processes and controls related to Inherent Risk Assessments (IRAs) and COPs.[16] In addition, NERC observed 18 registered entity audits conducted across all seven REs. NERC oversight activities identified progress in planning and

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[15] See Appendix A, Figure A.8, for the most violated NERC Reliability Standards filed in 2017–2018.
[16] Because of the pending decision for FRCC's dissolution throughout much of 2018, which was approved for July 1, 2019, by the FRCC Board of Directors on October 30, 2018, NERC prioritized efforts on the other six REs in 2018 and will work with FRCC compliance monitoring staff to support transition of information to SERC throughout the wind down period of FRCC in 2019.

executing risk-based compliance monitoring, as well as opportunities for continued program enhancements and ERO Enterprise guidance and training.

Results
Enterprise-wide Progress
NERC identified ERO Enterprise-wide progress in planning and executing risk-based compliance monitoring because of the targeted oversight activities. The REs consistently met NERC's oversight objectives, including substantial progress towards addressing the opportunities for improvement identified in 2017.

NERC determined that the REs were using entity specific data to evaluate the ERO Enterprise common risk factors. Using this understanding of inherent risk, the REs considered performance characteristics, such as internal controls and compliance history, in developing COPs in accordance with the current guidance.

NERC also determined the understanding of a registered entity's inherent risk and performance risk was used in determinations of which monitoring tool to apply, the scope of monitoring engagements, selecting Reliability Standards, including FAC-008-3, and informing the execution of monitoring activities (e.g. sampling, depth of testing, etc.).

Additionally, in addressing opportunities identified in 2017, NERC determined that overall the REs demonstrated improvement in the quality of documentation across the IRA, COP, and compliance monitoring activities.

Enterprise-wide Opportunities
NERC identified ERO enterprise-wide opportunities for improvement because of the targeted oversight activities. NERC uses these opportunities for improvement to effectuate future training and oversight priorities.

NERC determined there is an opportunity to enhance the performance considerations used in the development of COPs. This will allow the REs to use available data to support understanding of the registered entity and COP determinations. NERC also determined that there was an opportunity to improve the interaction of risk elements and COPs in annual monitoring planning.

NERC determined there is a continued opportunity to understand how registered entities have mitigated reliability and security risks while achieving compliance with Reliability Standards. While progress was made concerning some Reliability Standards (e.g., FAC-008-3 and CIP-010), the opportunity remains, especially around more complex standards (e.g. TPL-001-4, CIP-005), as well as for areas of focus identified in the 2019 CMEP IP risk elements. This includes enhancing RE proficiency in understanding and evaluating internal controls related to these standards.

Based on the opportunities identified above, NERC and REs will coordinate to assess guidance and training needs for 2019.

Continuous Monitoring
Continuous monitoring consists of NERC staff's ongoing review of processes and information to evaluate RE program effectiveness. Throughout 2018, NERC collected and reviewed the following:

- Registered entity post-audit/spot check feedback surveys,
- Compliance Audit and Spot Check reports, and
- IRA summary reports and audit notification letters (ANLs).

Registered Entity Post-Audit/Spot Check Feedback Surveys
In 2018, NERC received 43 surveys from registered entities within seven regional footprints for recent compliance monitoring activities. Overall, NERC concluded that registered entities agreed that RE audit staff conducted

Compliance Audits and Spot Checks in a professional, efficient, and effective manner. Survey responses also indicated opportunities to better communicate ERO Enterprise expectations around the use of ICE and its relation to compliance monitoring activities. Further, survey responses identified a need for REs to enhance communication of risk results and how IRAs, annual IPs and risk elements, and other considerations ultimately affect audit scope. NERC will continue to monitor this type of registered entity feedback and will work with the REs to help ensure registered entities understand how risk and internal controls inform the scope of audits.

Compliance Audit and Spot Check Reports
In 2018, NERC focused its review of Compliance Audit and Spot Check reports on CIP engagements. Specifically, NERC verified that REs used a common reporting template and adequately justified findings and determinations. NERC reviewed 63 CIP Compliance Audit reports and 8 CIP Spot Check reports pertaining to CIP compliance engagements conducted by the REs in Q2, Q3, and Q4 of 2017. NERC's review led to the following:

- Seventy-one CIP engagements resulted in 100 possible instances of noncompliance and 83 areas of concern as well as over 500 recommendation to the registered entities involved in the compliance engagement.

- NERC will conduct follow-up activities with six REs on 17 audit findings and determinations, and will work with each RE to enhance documentation and adherence to the ROP where appropriate.

- NERC staff identified training opportunities regarding documenting some possible instances of noncompliance and areas of concern more clearly in the reports.

- NERC will continue to review Compliance Audit and Spot Check reports to inform its training and outreach programs; and

- To support program alignment efforts, NERC will review trends in areas of concern and recommendations to explore opportunities to inform priorities and training.

IRA Summary Reports and ANLs for 2018 Completed Audits and Spot Checks
NERC received and reviewed IRA summary reports and ANLs for all Compliance Audits conducted during 2018. NERC's review ensured the REs were following the NERC ROP process and using ERO Enterprise templates.

All seven REs also included all pertinent audit information for all Compliance Audits and Spot Checks on the 2018 schedule. In 2019, NERC intends to review REs' Spot Check selection processes and the 20-day Spot Check announcement letter requirement to improve overall harmonization in preparation for and to support implementation of the CMEP Technology Project.

NERC reviewed all ANLs related to the 365 registered entities on the 2018 audit schedule and determined that the REs were consistently following the ANL program, adhering to the 90-day ANL letter requirement, and properly including standards and requirements selected for audit. REs were also clearly identifying the audit team members and participants in the ANL. NERC noted that REs issued revised ANLs when monitoring activity information changed, such as on-site date, personnel, or scope.

NERC reviewed 107 IRA summary reports related to the 2018 audit schedule and an additional 70 IRAs from 2018 to ensure the REs used the 2018 common risk factors and risk factor criteria for future audits. NERC noted that all REs are using the 2018 ERO Enterprise common risk factors for IRAs developed in 2018 for their 2019 audits.

Technical Feasibility Exceptions
In September 2018, NERC filed its *2018 Annual Report on Wide-Area Analysis of TFEs*[17] with FERC. The report identified a significant reduction in the quantity of Technical Feasibility Exceptions (TFEs) as the result of Version 5 of the CIP Reliability Standards taking effect. As a result, the REs have been able to better evaluate the risk and impact

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[17] https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Final%20TFE%20Annual%20Report%202018.pdf

of TFEs and gain a better understanding of the value of the TFE process compared to the administrative burden it places on registered entities and REs. The number of registered entities that are engaging in the TFE program continues to decline, as does the total number of TFEs. To that end, NERC and the REs are considering alternatives to the current TFE program to alleviate the administrative burden on registered entities and the ERO Enterprise. As NERC considers alternatives to the TFE program, it will consult with FERC staff and request FERC approval for any changes to the NERC ROP.

Supply Chain Risk Management Informational Filing
On September 7, 2018, NERC filed with FERC its *Interim Supply Chain Risk Report*[18] that assessed the nature and complexity of cyber security supply chain risks, including risks associated with low impact assets not currently subject to the supply chain standards. In the FERC Notice of Proposed Rulemaking Docket No. RM17-13-000, FERC directed NERC to file the interim and final reports requested by the NERC Board of Trustees relating to supply chain risk management issues. The analysis NERC performed in these reports identified three categories of recommendations for further analysis and investigation: applying industry practices and guides, understanding common-mode vulnerabilities for low-impact BES Cyber Systems, and assessing supply chain risk through data analysis.

Certification
2018 Certification Completions
During 2018, NERC and the REs completed 1 certification of a new Balancing Authority (BA) and 12 certification reviews of already certified and operational entities. This included three footprint changes, five control room relocations, and four Energy Management Systems (EMS) upgrades.

2018 Accomplishments
NERC continued to provide certification program oversight through direct participation in all certification engagements as required by NERC's ROP and participation on biweekly ORCG calls. In 2018, certification program oversight was supplemented by tracking fundamental program measures in the areas of utilization, fairness of administration, and consistency and comparability of executed process parameters. NERC oversight in 2018 also included evaluating the 2018 Stakeholder Perception Survey responses, developing recommendations as appropriate, and providing program-level feedback to RE and NERC certification staff.

The shift in program workload from certification of new registered entities to the review of changes at already certified and operational entities continued in 2018. One new Transmission Operator (TOP), one new BA, and three new RC certifications were in-process at the end of 2018 and are expected to be completed in 2019. Four certification reviews were also in-process at the end of 2018 (one footprint change, two Control Room relocations, and one EMS upgrade) with several others in preliminary stages of notification that have not yet been initiated.

No certification appeals were in process in 2018 and no new appeals were received. The 2018 ERO effectiveness survey results show year-over-year comparability between the 2016 and 2018 results with an increase of almost double the number of survey responses. The mean ratings for whether stakeholders agreed, "The certification process ensures that entities are certified commensurate with risk to the BES" was 3.75 (Q41) in 2016 and 3.72 (Q45) in 2018. The mean ratings for whether stakeholders agreed, "Organization certification/re-certification rules and procedures are clear and consistently implemented" was 3.61 (Q42) in 2016 and 3.66 (Q46) in 2018.

NERC has begun providing program-level feedback to REs for certification engagements. Two oversight feedback reports were piloted and six others are in-process to provide oversight feedback to each RE who had certification activity in 2018. ROP amendments were drafted in 2018 in collaboration with the REs that will clarify program expectations and improve consistency and comparability of delegated activities.

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[18] https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Informational%20Filing%20Regarding%20Proposed%20Supply%20Chain%20Risk%20Management%20Reliability%20Standards.pdf

NERC revised Training for Certification program staff and made the training available to ERO Enterprise personnel and Industry subject matter experts through NERC's learning management systems as on-demand computer-based training modules. NERC added the courses Fundamentals of Auditing and Gathering Quality Evidence to the required training for certification teams. Additionally, 17 ERO staff completed Certification Team Lead classroom training delivered in April 2018 and another 19 received training in October 2018. The Certification Team Lead training is expected to be revised in 2019 to coincide with implementation of the ROP amendments and program enhancements.

Peak Reliability RC Transition
In August 2018, Peak Reliability (Peak) announced the wind down of its organization and the transition of RC services from Peak to alternative providers at the end of 2019. NERC and WECC, collaborating with regional industry experts, are working to ensure a seamless transition of the RC function in the Western Interconnection from Peak to new or existing RCs.

As the RC, Peak provides situational awareness and real-time monitoring of its RC area in the Western Interconnection, which consists of more than 1.6 million square miles encompassing all or parts of 14 Western States, British Columbia, and Baja California, Mexico. Peak coordinates reliable operations with 37 BAs and 56 TOPs across more than 110,000 miles of transmission. NERC and WECC will ensure that all BAs and TOPs are mapped to the applicable RC. NERC and WECC will also work with the RCs to ensure that the BES is operated within specified limits and that RCs maintain stable system conditions within their respective RC areas.

Registered Entity Post-Certification Feedback Surveys
In 2018, NERC received eight survey responses from registered entities within six regional footprints for recent certification reviews. Overall, NERC concluded that registered entities agreed that ERO certification staff conducted certification activities in a professional, efficient, and effective manner. NERC determined that the ERO Enterprise has the opportunity to document expectations better before on-site visits and revise program templates to allow more targeted responses. Several registered entities commented on the value of the dialogue with team members during the on-site visit as well as flexibility in response to onsite schedule changes to accommodate subject matter experts.

Registration
General
NERC is ultimately responsible for devising the criteria that determine which BPS users, owners, and operators are subject to approved Reliability Standards and for maintaining the corresponding NCR of organizations. In carrying out these responsibilities, NERC relies on the REs to apply and implement registration criteria as part of the Organization Registration Program. NERC conducts annual official oversight engagements of each RE. In 2018, the notice was sent in the beginning of Q4, and will be reviewed by NERC staff in December of 2018 and Q1 of 2019. In its oversight engagement, NERC asked for several demonstrations of day-to-day activities for various registration change activities and updated processes and procedures (as applicable).

2018 Registration Changes
NERC verifies registration change activity before approval and reviews documentation relating to change requests to the registry. In 2018 NERC processed 467 functional registration changes, including 216 function activations and 251 function deactivations. Of the 251 function deactivations, the following were found:

- 120 were consolidated into a mutually owned entity registration,

- 38 were determined to not meet registration criteria,

- 38 were due to compliance responsibilities assumed by another registered entity,

- 27 were sold to another registered entity,

- 10 were physically shutdown,

- 7 were due to BES exclusion,

- 6 were determined to be registered as DP-UFLS, and

- 5 were due to transfer of an entity from one RE authority to another.

Registration Change Activity

NERC has visibility into all proposed registration changes synced by the REs. NERC's oversight in this critical activity is focused on the RE's adherence to the NCR criteria. Each RE provides detailed information based on the function, change request, and other information asked for by NERC. Oversight of each facet of the registration change activity process is crucial to ensure consistent approaches are being implemented by each of the REs. In 2018, NERC continued to ask questions about day-to-day RE activities as part of its registration oversight.

Registration Alignment

The NERC ORCG and the CCC ORCS continue to collaborate on ERO Enterprise registration and certification work items. The ORCG consists of NERC and the REs, and the ORCS is a subcommittee of the CCC consisting of industry participants with NERC support. The two groups began working together in 2017. In 2018, the groups worked together closely on proposed ROP changes, Information Technology project efforts, certification schedule and program improvement opportunities, and emerging registration issues.

CORES Tool

In 2018, the ERO Enterprise worked to improve and standardize the registration process within a new registration system. Extending the functionality delivered with the Coordinated Functional Registration tool, the new CORES Tool will also use the ERO Portal and Enterprise xRM platform to provide entity information to the CMEP system for use in compliance monitoring and enforcement. The members of the ORCG, Organization Registration and Certification Subcommittee (ORCS), and the AWG – along with a small focus group of registered entities – are working with NERC staff to ensure registered entities experience a smooth transition when the new system is brought online in 2019.

BES Registration Exceptions

In 2012, FERC issued Order No. 773 approving revisions to the definition of the BES and related changes to the ROP. These changes included the addition of Appendix 5C of the ROP containing the Procedure for Requesting and Receiving an Exception from the Application of the NERC Definition of BES. In 2014, FERC accepted NERC's compliance filing with further revisions to the BES definition. FERC highlighted that new elements included in the revised definition of the BES would become subject to relevant Reliability Standards two years after the effective date of the revised definition. The revised BES definition and Appendix 5C of the ROP became effective on July 1, 2014.[19]

In 2018, NERC led a small group of REs to modify the BES Reference Document. The prior version of the document was dated 2014 and was developed when the BES definition was drafted. After several years of implementing the definition, NERC and the REs determined it was appropriate to review the document and make revisions. NERC oversaw activities in 2018, which included posting the revised document for comment, hosting a webinar for industry awareness, and consideration of the industry's comments.

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[19] *Revisions to Electric Reliability Organization Definition of BES and Rules of Procedure*, Order No. 773, 141 FERC ¶ 61,236 (2012); *order on reh'g*, Order No. 773-A, 143 FERC ¶ 61,053 (2013); *order denying reh'g*, 144 FERC ¶ 61,174 (2013). *See also, North American Elec. Reliability Corp.*, 146 FERC ¶ 61,199 (2014).

NERC provides oversight and direction on several specific items, including the three-year certification process as identified in the ROP Appendix 5C, BESnet instances, and general process steps surrounding necessity of certain elements of the BES.

In 2018, NERC reviewed, or is in the process of reviewing, the following Exception Requests and Self Determination Notification Requests:

- Recertified two Exclusion Exception Requests from MRO,

- Approved one Inclusion Exception Request from FRCC,

- Ongoing review of one Exclusion Exception Request from MRO,

- Approved four Inclusive Self Determination Notification Requests,

- Approved six Exclusive Self Determination Notification Requests,

- Ongoing review of one Inclusion Self Determination Notification Request, and

- Ongoing review of one Exclusion Self Determination Notification Request.

In 2019, NERC will continue to administer its BES process and oversight work as required by Appendix 5C of the ROP.

Chapter 3: 2018 Metrics Highlights

In 2018, the ERO Enterprise continued to observe the mitigation of noncompliance in a timely and efficient manner. One hundred percent of mitigation for noncompliance discovered in 2014 and earlier was reported as complete this year. Additionally, there was a reduction in the total number of violations with moderate or serious risk determinations with similar conduct. This reduction is significant because repeat noncompliance is a key indicator for the effectiveness of the CMEP in recognizing, mitigating, and preventing violations.

While the increase in average age of noncompliance remains higher than the average age before 2016, this is likely the effect of a large set of Reliability Standards that went into effect in July 2016. It appears that the increase in discovered noncompliance because of the new standards is beginning to slow. NERC will focus on this metric throughout 2019. Additionally, the percentage of noncompliance discovered through Self-Reports was lower than expected.

Mitigation Completion

For all REs, 100 percent of mitigation for noncompliance discovered in 2014 or before has been reported as complete. The one instance of pre-2014 noncompliance with incomplete mitigation was resolved in Q4 of 2018.

The ERO Enterprise resolved open mitigation for noncompliance discovered in 2017 at a slower pace than usual this year. This is likely due to the large number of noncompliance discovered in 2016 and 2017. The ERO Enterprise recorded completed mitigation for more than 1,500 issues in 2017. As a comparison, this number is more than the total discovered noncompliance in 2016.

Caseload

The average age of noncompliance was at its highest point (12.0 months) in 2014. Since 2014, the average age of noncompliance has generally fallen. It fell to a low just beneath seven months in the spring of 2017, but beginning in the fall of that year, it has steadily risen. The average age of noncompliance is now 11.8 months, just below the threshold. The rise in age is likely a ripple effect of a large set of Reliability Standards that went into effect in July 2016. The increase in average age of noncompliance began just a few months beyond the one-year mark of those standards going into effect and a corresponding rise in discovered noncompliance. The age is likely to remain at higher levels until the number of reported noncompliance falls.

It is too early to project, but it appears that the surge in discovered noncompliance because of the new standards is beginning to slow. If the pace continues to slow in 2019, there could begin to be a decline in average age near the end of 2019 and a more significant fall in the beginning of 2020 as long as there are no other significant changes to Reliability Standards.

Compliance Severity Risk Index

The Compliance Severity Risk Index is one of the tools used 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 the metric provides visibility into trends associated with the level of risk of noncompliance, the lag in the time of final risk determinations means that in any given year, the index is not complete.

Reduced Repeat Moderate and Severe Risk Violations

As a response to the FERC Five-Year Order,[20] NERC has been measuring the number of repeat noncompliance posing a moderate or serious risk.[21] 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:

- Noncompliance with no prior compliance history,

- Noncompliance with prior compliance history that does not involve similar conduct, and

- Noncompliance with compliance history that includes similar conduct.

The number of moderate and serious risk noncompliance with similar prior conduct has remained relatively consistent over the last five years despite the fluctuation in the number of filed violations.

In 2016, NERC filed 111 violations with moderate or serious risk determinations that had prior noncompliance with similar conduct. In 2017, NERC filed 48 violations with moderate or serious risk determinations with similar conduct. In 2018, the total number of violations with moderate or serious risk determinations with similar conduct was 22. NERC does not expect this metric to continue to shrink. The number for 2018 was unusually low and may return closer to historical trends in 2019.

Self-Assessment and Self-Identification of Noncompliance

Registered entities typically self-identify noncompliance for approximately 80 percent of new noncompliance. In prior years, NERC tracked self-identification of noncompliance by including Self-Reports (and self-logs), self-certifications, and periodic data submittals. In 2018, NERC began to track Self-Reports (and logs) separately, as indicators of a registered entity's rate of self-assessment and found that 76.2 percent of the noncompliance was self-reported or logged. The slightly lower percentage (compared to the prior years) is likely the result of an increase in audit findings in 2018. In 2018, there were 351 audit findings as opposed to only 262 in 2017; this was the most audit findings since 2013. While NERC continues to encourage prompt and accurate self-reporting, the 2018 percentages are not a cause of concern at this time.

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 Standards Drafting Teams 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 2018, the ERO Enterprise received five new proposed Implementation Guidance documents from Pre-Qualified Organizations and Standards Drafting Teams and had ten proposed Implementation Guidance documents from 2017 still under review. The ERO Enterprise reviewed and endorsed seven Implementation Guidance documents

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[20] "[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).

[21] This metric focuses on the noncompliance posing 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 of noncompliance adequately to prevent repeat conduct that could pose a greater risk.

and declined to endorse six Implementation Guidance documents. The ERO Enterprise also developed and posted one CMEP Practice Guide on assessing a registered entity's redundant and diversely routed data exchange infrastructure and redundant functionality with TOP-001-4 and IRO-002-5. Additionally, one new Pre-Qualified Organization (EnergySec) was approved by the CCC.

Reliability Standard Audit Worksheets

During 2018, NERC issued announcements for 15 Reliability Standard Audit Worksheets (RSAWs) available on the NERC public website. NERC also provided draft RSAWs for draft Standards, which are typically found on the project pages under Reliability Standards under Development.

IRA and ICE Completion

During 2018, RE progress toward completion of initial IRAs continues on track according to regional plans within RF and WECC.[22] 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 RF and WECC remain unchanged with expected completion for 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 2018, REs had completed seven ICEs. REs continue to conduct internal control review activities and implement processes for conducting reviews of internal controls during CMEP activities, such as audits.

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[22] 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.

Priorities for 2019

To guide enforcement and compliance monitoring activities in 2019, NERC has identified the following priorities:

- Continue to focus on program alignment, including consistency efforts on non-monetary penalties, mitigation, coordinated oversight for MRREs, training exercises, technical training, documentation, and risk assessments;

- Complete the registration and certification of new Western RCs on a time-frame consistent with the dissolution of Peak Reliability;

- Complete and deliver the CORES tool;

- Complete the transition of FRCC to SERC, pending regulatory approvals;

- Review the Compliance Guidance program for effectiveness, including developing a plan to enhance the program and evaluate opportunities to expand the concept to other program areas; and

- Integrate internal control reviews in all scheduled ERO Enterprise Compliance Audits and Spot Checks. Provide training and education to industry on control evaluations with supporting guidance to the REs for consistent implementation.

2019 Metrics

In 2019, the ERO will continue to monitor and report on key CMEP and ORCP activities. Some of these metrics will also appear in the ERO Dashboard.[23]

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[23] Commencing in 2019, NERC has developed a more limited set of "dashboard metrics" that are focused on aggregate registered entity performance on certain key indicators of reliability risk to the BPS. The 2019 Dashboard Metrics separate industry performance from NERC's performance, allowing a clearer view of aggregated registered entity performance and the risk to the reliability of the BPS. The 2019 Dashboard Metrics are focused on the following six areas: no Category 4 or 5 events; compliance violations; protection system misoperations; events caused by generating units forced outages due to cold weather; outages of AC transmission lines due to human error, substation equipment failures, failed circuit equipment, or vegetation encroachment; and unauthorized physical or electronic access.

Appendix A: Enforcement

CMEP Metrics

Mitigation Completion Status

Mitigation of the oldest noncompliance (dating from 2015 and earlier) is over 99 percent complete. The oldest open mitigation (from 2014 and earlier) was resolved in the fourth quarter of 2018. The six remaining noncompliance from 2015 are part of a large package that is scheduled to be filed in early 2019 and have expected mitigation completion dates for mid-2019. NERC continues to monitor these instances, as well as those from 2016 and 2017, as priorities for mitigation completion. The age of open mitigation has fallen significantly in the last few years as shown in Table A.1.

Table A.1: Mitigation Completion Status						
Time Frame	Required Mitigation	On-going	Progress Toward Goal	Threshold	Target	Progress Since Last Quarter
2015 and Older	10,211	6	99.94%	99%	100%	0.02%
2016	1,142	93	91.86%	85%	90%	1.95%
2017	1,996	471	76.40%	70%	75%	12.85%

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.[24] Between 2016 and 2017, approximately five percent "moved" from the less than one year old category into the between one and two years old category. In 2018, the trend continued, expanding the group between one and two years old from 16 to 37 percent and the over two years old expanding from two to seven percent. The expanding ERO inventory is a result of the large number of discovered noncompliance based on new Reliability Standards that went into effect in 2016. The rate of discovery of noncompliance appears to be returning to historical levels, and that should help with processing and reduce the average age of noncompliance in the second half of 2019 and in 2020.

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[24] 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.

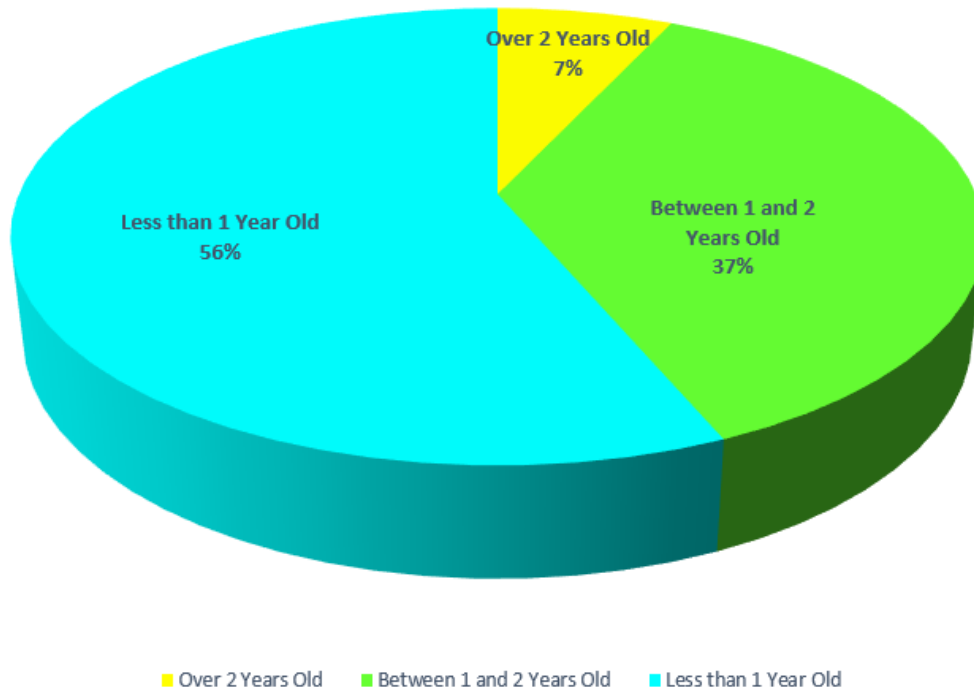## Age of Noncompliance in ERO Enterprise's Inventory

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

Average Age of Noncompliance in the ERO Enterprise Inventory

The average age of noncompliance at the end of 2018 was 11.8 months.[25] The average age of noncompliance increased from 8.8 months in Q1 to 9.6 months in Q2 to 10.4 in Q3 and 11.8 months in Q4. The average age of noncompliance in the ERO Enterprise inventory has been steadily increasing since September 2017 when it was at 7.0 months. The increasing average age of inventory is a result of the increased number of noncompliance reported from Reliability Standards that became enforceable since July 2016. Noncompliance with CIP-007-6 (18 percent) and CIP-010-2 (14 percent) make up nearly a third of all noncompliance in the inventory.

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[25] 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).
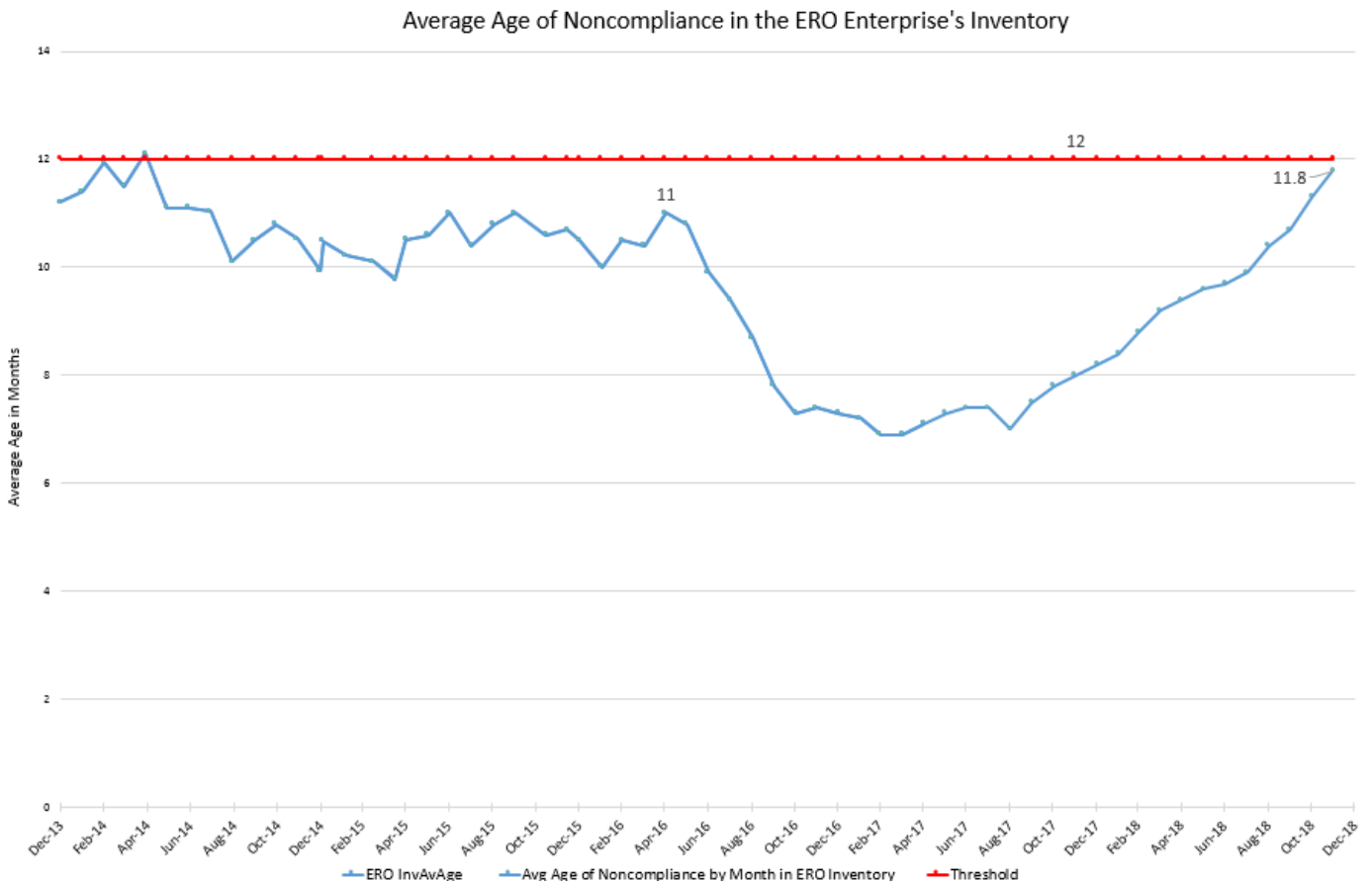
Figure A.2: Average Age of Noncompliance in the ERO Enterprise Inventory

Number of New Noncompliance Discovered in 2018

The rate of new noncompliance discovered in 2018 remained at an elevated level due to an influx of Reliability Standards that became newly enforceable in the second half of 2016. Though the number of new noncompliance remains high, for all but two months in 2018, the number of discovered noncompliance in each month was lower than in 2017.

Table A.2: Noncompliance Discovered in 2018									
Discovery Month	**FRCC**	**MRO**	**NPCC**	**RF**	**SERC**	**SPP RE**	**Texas RE**	**WECC**	**Total**
January	10	27	7	23	30	11	15	49	172
February	1	0	30	34	18	24	21	54	182
March	4	7	16	35	33	5	9	31	140
April	3	32	7	25	18	11	33	25	154
May	4	11	7	42	41	0	26	35	166
June	2	10	16	30	27	0	32	40	157
July	5	23	20	39	22	0	19	67	195
August	0	6	8	35	52	0	12	57	170
September	1	7	20	20	16	0	10	40	114
October	11	34	21	32	16	0	18	30	162
November	6	9	13	27	14	0	44	21	134
December	2	1	4	13	22	0	18	27	87
Total	**49**	**167**	**169**	**355**	**309**	**51**	**257**	**476**	**1,833**

The number of new noncompliance discovered has begun to fall in 2018 overall, reversing the trend of the previous year and a half. Between 2015 and 2016, the number of noncompliance discovered increased from 867 to 1,311 followed by a similar increase in 2017 (2,164), increasing by roughly 1.5 times each year; in 2018, the total fell to 1,837. While this number is still elevated from earlier years, the reduction seems to confirm earlier projections by NERC that the pace of new noncompliance would follow the pattern of prior spikes in reported noncompliance following the introduction of new Reliability Standards.

During prior spikes in reported noncompliance, the surge in noncompliance lasted for approximately three years with the first full year after the implementation of new Reliability Standards being the peak. If this increase follows a similar pattern, 2018 saw the first reduction in discovered noncompliance, and it should fall more significantly in 2019 and return to near normal levels in 2020. Any decrease would follow ERO Enterprise outreach efforts and registered entities' familiarity with the requirements necessary for compliance with the new standards, as well as the ERO Enterprise completing compliance monitoring activities for the applicable registered entities.
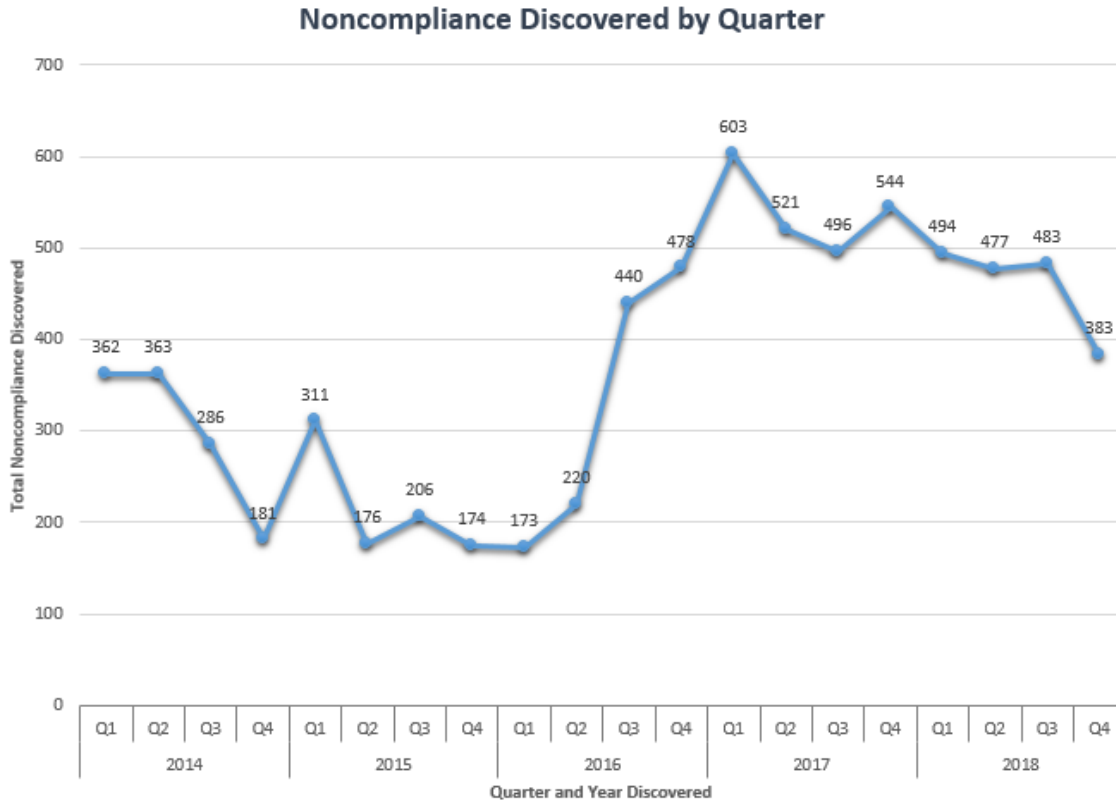
Noncompliance Discovered by Quarter

Figure A.3: Noncompliance Discovered by Quarter

Percentage of Self-Logging and CEs

The percentage of self-logged CEs did not change substantially from the previous year at 14 percent. This percentage of self-logged CEs has remained relatively consistent since 2016 when the rate was 12 percent.
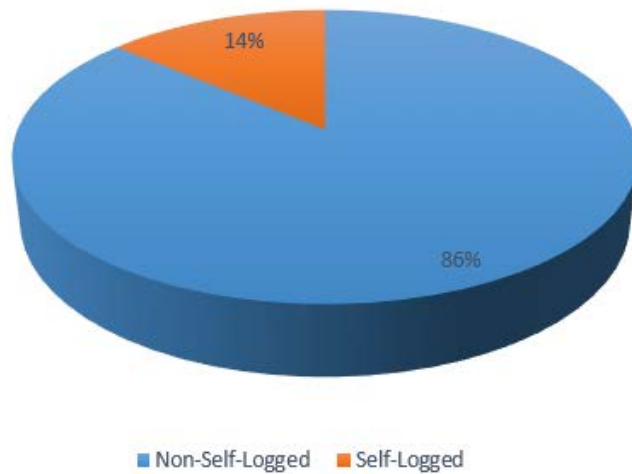

Figure A.4: Percentage of Self-Logged CEs since June 2014

Disposition of Noncompliance

The charts below review the number of minimal risk noncompliance processed in 2018. 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 2018 by RE for all instances of noncompliance.
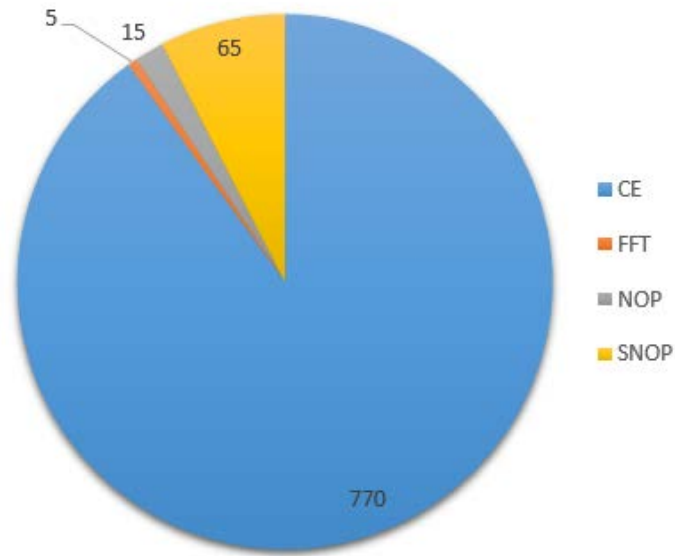
Figure A.5: Minimal Risk Noncompliance Processed in 2018
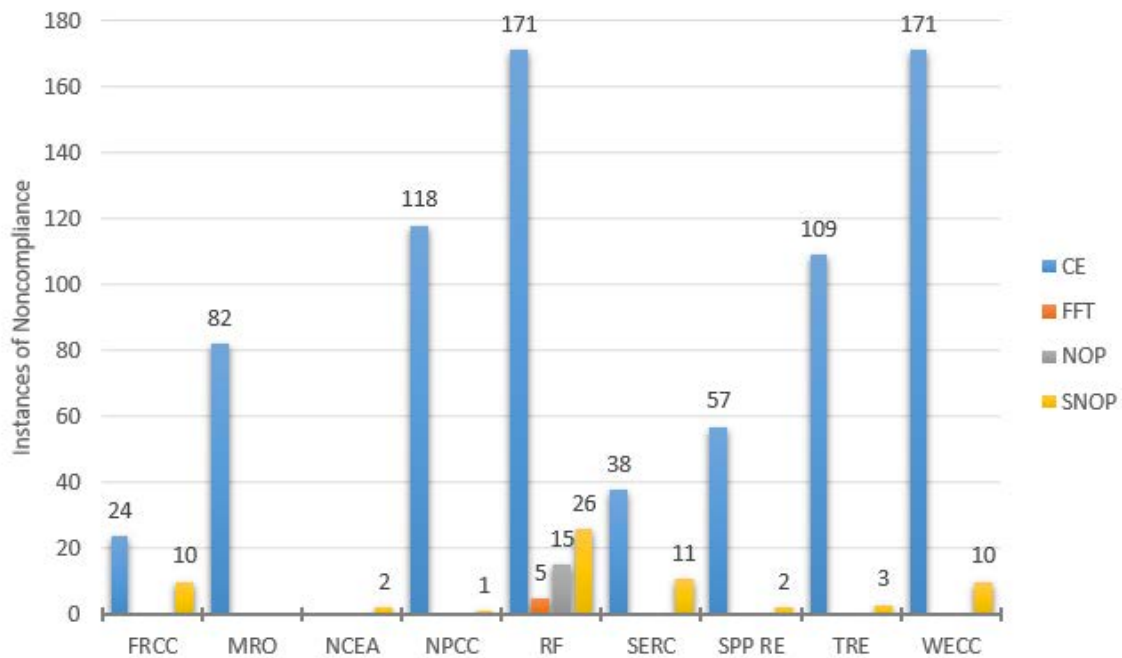
Figure A.6: Minimal Risk Noncompliance Processed in 2018 by RE
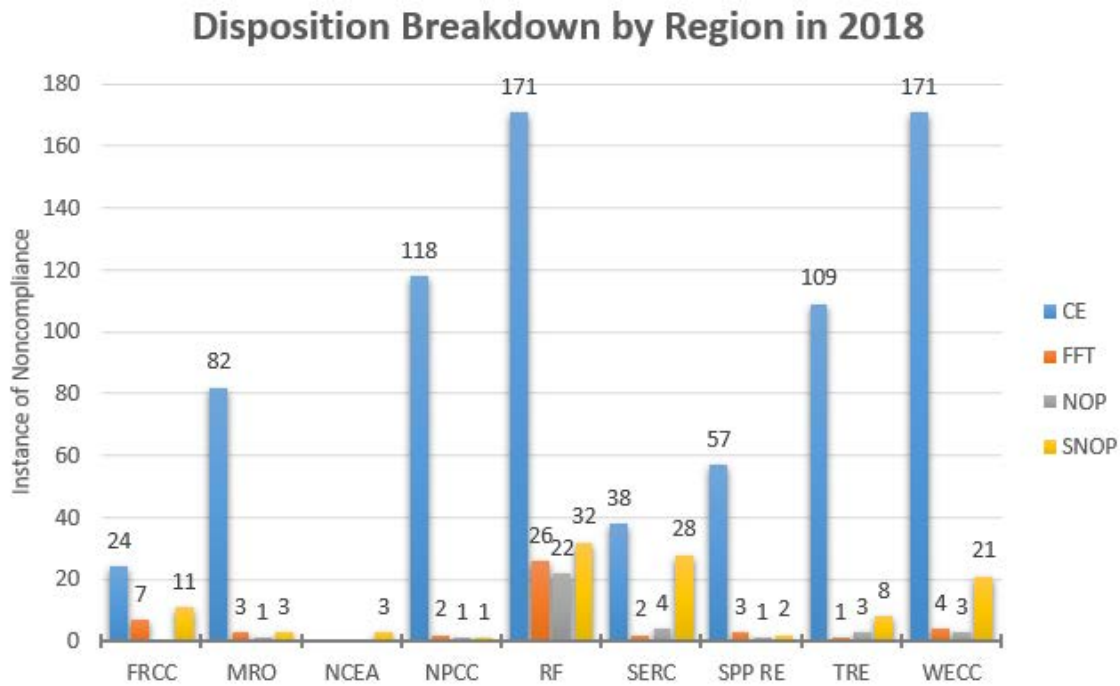
Figure A.7: Disposition Type of Noncompliance Processed in 2018 by RE

Most Violated Standards by Risk in 2017–2018

CIP-007 was the most frequently violated Reliability Standard in 2017 and 2018 followed by MOD-025 and CIP-004. The vast majority of these were disposed of as CEs. MOD-025 was the most frequently violated Reliability Standard with minimal risk, CIP-007 was the most frequently violated for moderate risk violations, and CIP-005 was the most frequently violated for serious risk violations. There were three serious CIP-005 violations filed in 2017 and 2018 as shown in Figure A.8.
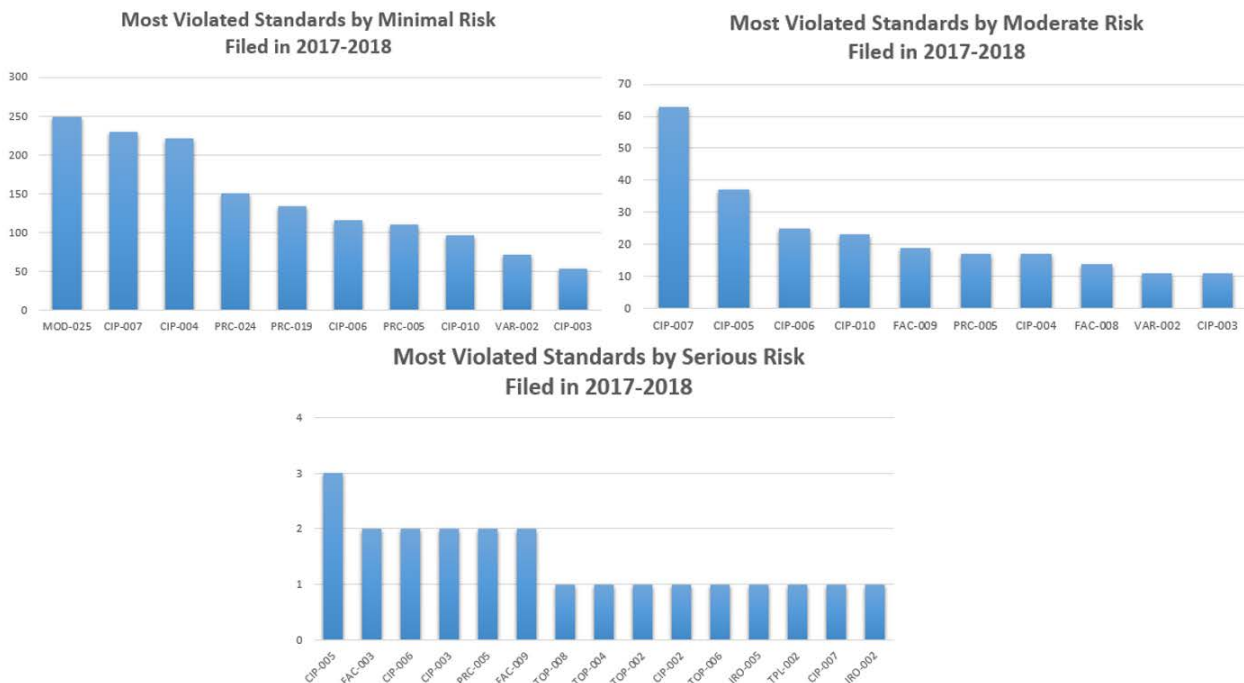
Figure A.8: Most Violated Reliability Standards in 2017–2018

Vegetation Management

NERC regularly reports on two items related to vegetation management. First, NERC tracks all sustained outages caused by vegetation contacts submitted to REs on a quarterly basis. Those are displayed in Figure A.9 below. Second, NERC tracks transmission outages resulting from possible violations of FAC-003. These are usually submitted to REs through Self-Reports. Not all sustained outages caused by vegetation contacts are possible violations of FAC-003; however, some outages may fall into both tracking items. Historically, vegetation-related issues that were both FAC-003 violations and resulted in sustained outages have been Category 1B outages.

The majority of vegetation-related sustained outages result from vegetation falling into transmission lines from outside the right-of-way. Fall-ins are shown as Category 3 outages below. There were seven Category 3 outages in Q1 2018, five in Q2, and eight in Q3.[26] There were also three Category 1B outages reported in Q3 2018. Category 1B outages occur when vegetation grows into transmission lines resulting in a sustained outage from within the right-of-way. Registered entities reported these outages through Periodic Data Submittals on a quarterly basis as displayed in Figure A.9. Due to the timing of these reports, the number of vegetation-related sustained outages reported so far in 2018 does not reflect Q4 submissions. The three reported Category 1B outages are under review and may qualify as FAC-003 violations. The ERO Enterprise is currently reviewing five possible violations of FAC-003 involving transmission outages. That number represent an increase over the previous three-year period.

NERC filed four Full NOPs resolving violations of FAC-003 R2 in 2018. These violations had been reported in 2016 and 2017.
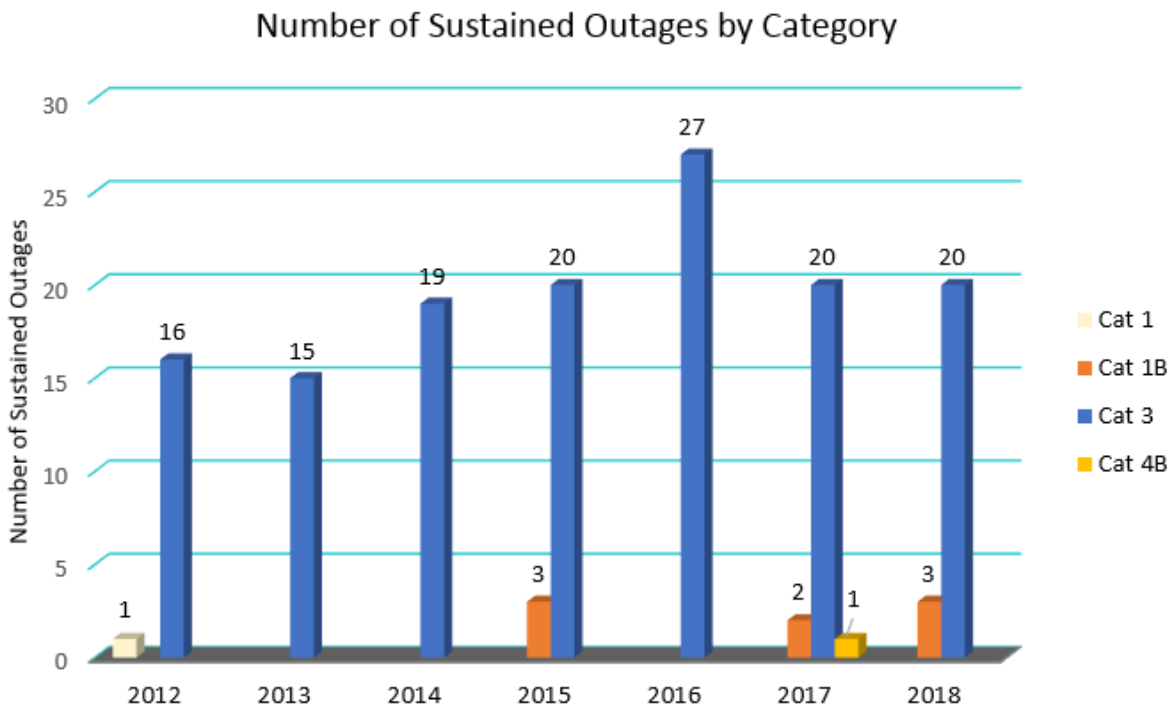

Figure A.9: Vegetation-related Outages by Category

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[26] Vegetation-related outage information is consolidated on a delayed quarterly basis. Information related to Q4 2018 will be available in Q1 2019.

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 in Figure A.10, 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. In the first quarter of 2018, NERC filed two serious risk violations that occurred in 2016. In the second quarter of 2018, NERC filed two serious risk violations that occurred in Q2 2016 and Q2 2017. In the third quarter, NERC filed two serious risk violations that occurred in Q1 2011 and Q2 2007. In the fourth quarter, there were no serious risk violations filed. There have been no serious risk violations filed that began in 2018.
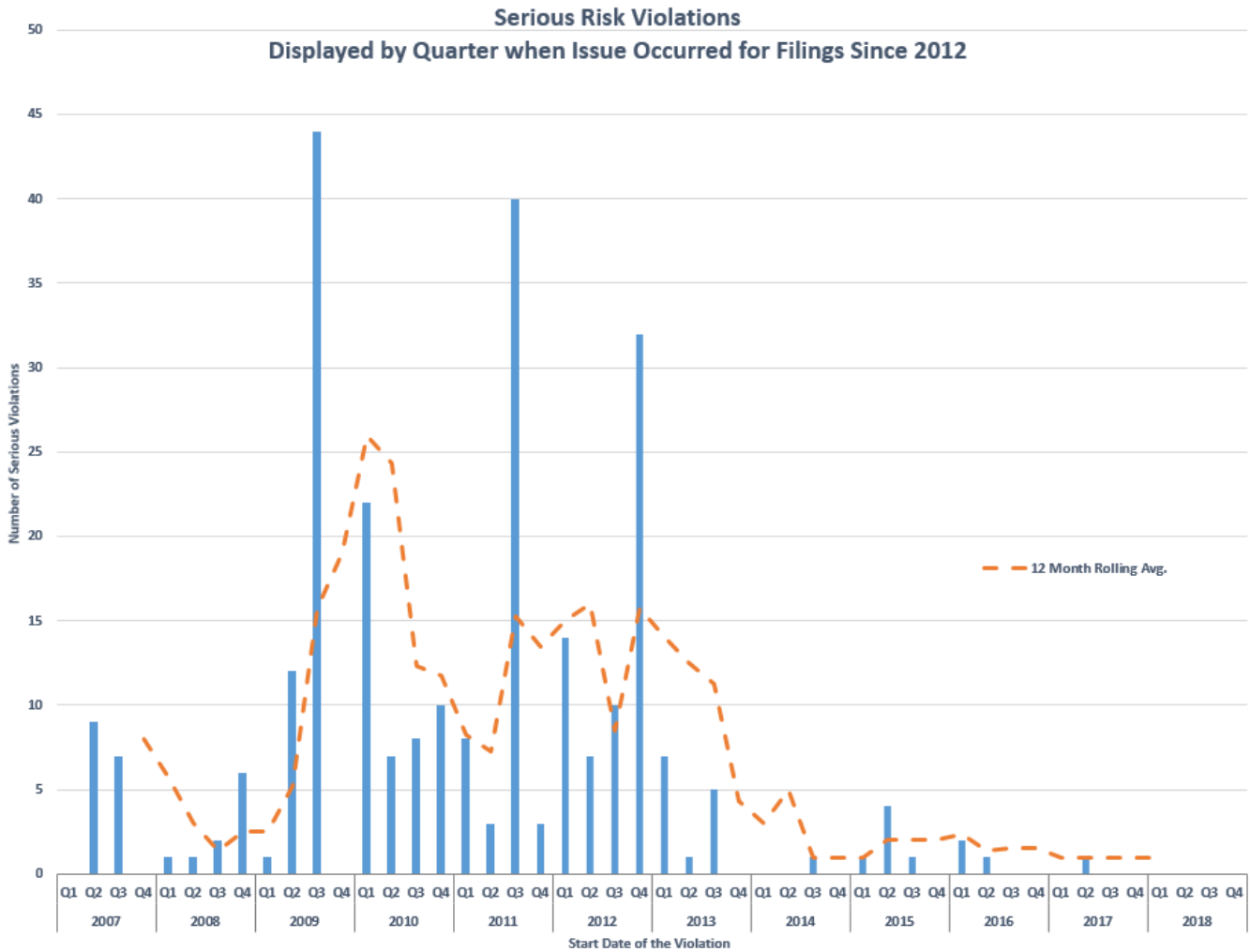
Figure A.10: Serious Risk Violations by Date of Occurrence for Filings post-2012

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.[27] The moving averages provide an indicator of the rate of impactful noncompliance. Figure A.11 illustrates that impactful noncompliance appears to be decreasing and is better controlled. The impact chart saw only one significant change. The impact chart saw the addition of two instances in 2018, one starting in Q2 2007 and another in Q1 2016.
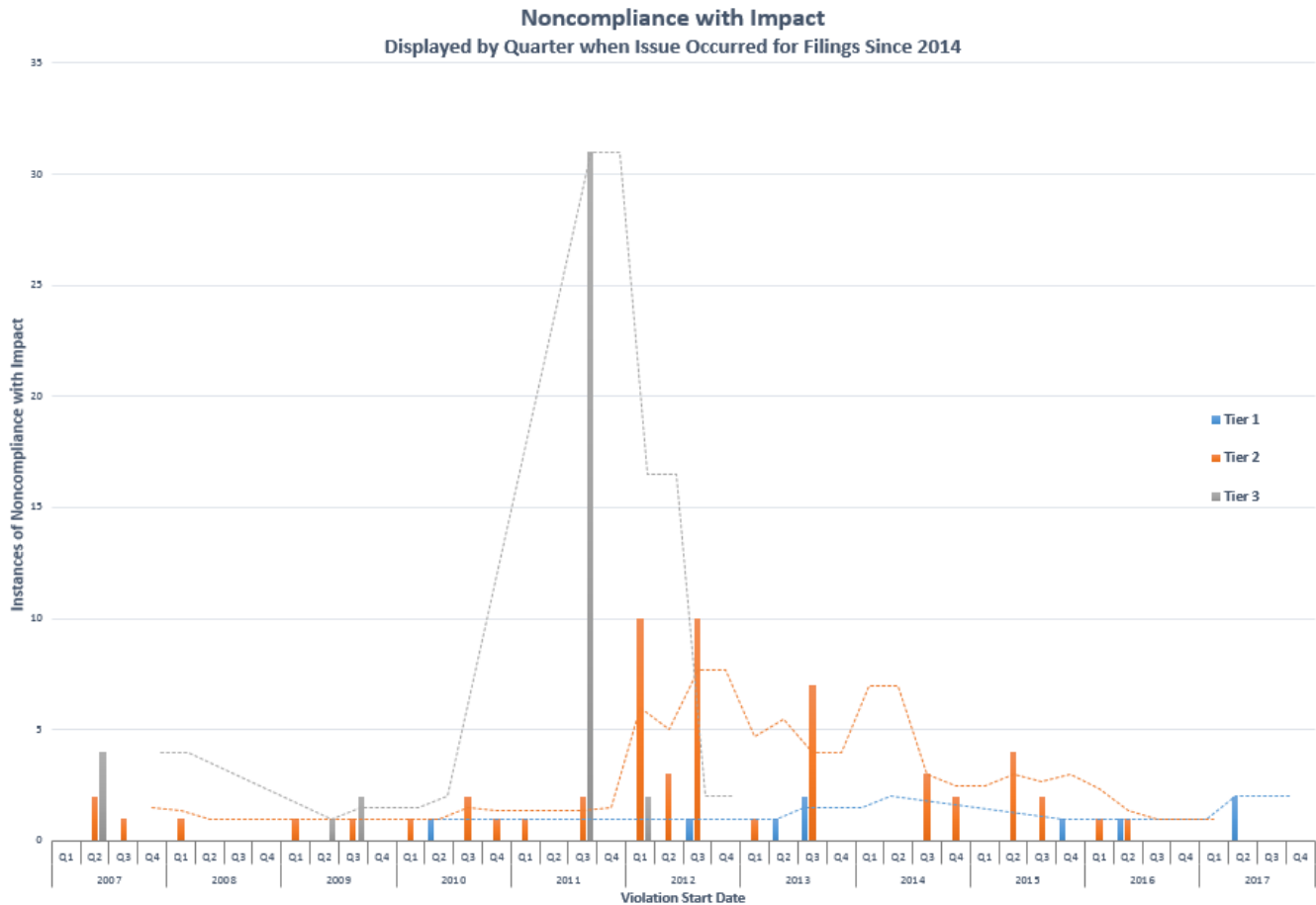

Figure A.11: Noncompliance with Impact by Quarter

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[27] 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.

Serious Risk Averages

Figures A.12 and A.13 show the percentage of serious risk violations over a rolling three-year average. The percentages are determined based on the number of serious risk violations compared to the total number of noncompliance filed in a given three-year period. NERC Enforcement has a target of keeping the percentage of serious risk violations for each period below five percent for 2018. Figure A.12 shows the breakdown excluding CIP Version 5 noncompliance, and Figure A.13 includes all CIP Versions. Both fell between Q2 and Q3 and remain below the five percent threshold. In Q4, the numbers stayed consistent, as there was no change to the All CIP Version while the one excluding CIP Version 5 fell by 0.1 percent. Both remained considerably below the five percent ceiling in 2018.
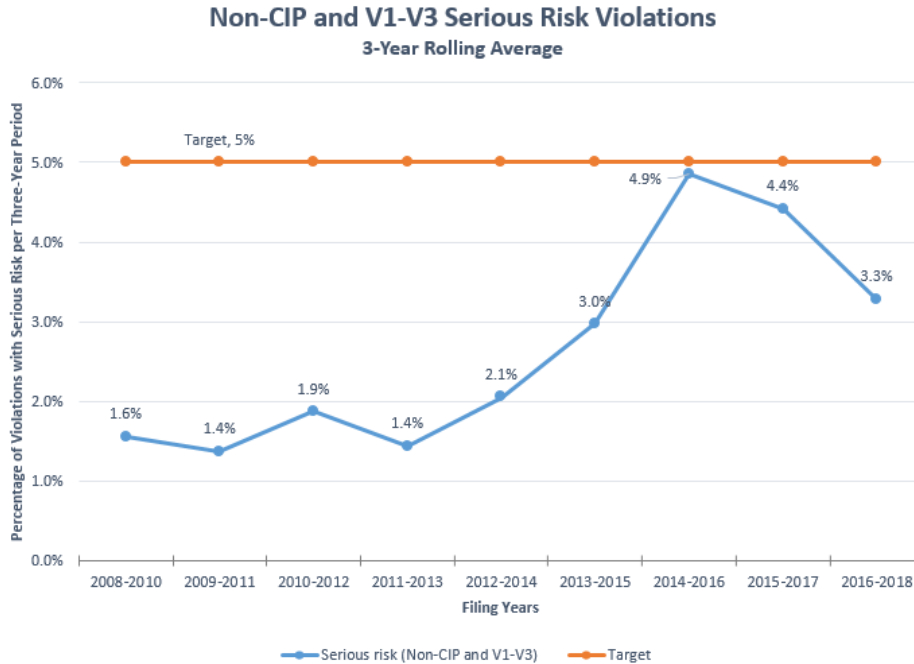

Figure A.12: Non-CIP and V1-V3 Serious Risk Violations

Figure A.13: CIP Only Serious Risk Violations

Compliance Severity Risk Index

Figure A.14 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, 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 index for the non-CIP and CIP V1-V3. For all CIP violations (Figure A.15), the threshold and target were set at 65 and 55 percent of the 2011 index, respectively.

At the end of 2018, the indices for noncompliance discovered in 2015, 2016, and 2017 were 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.
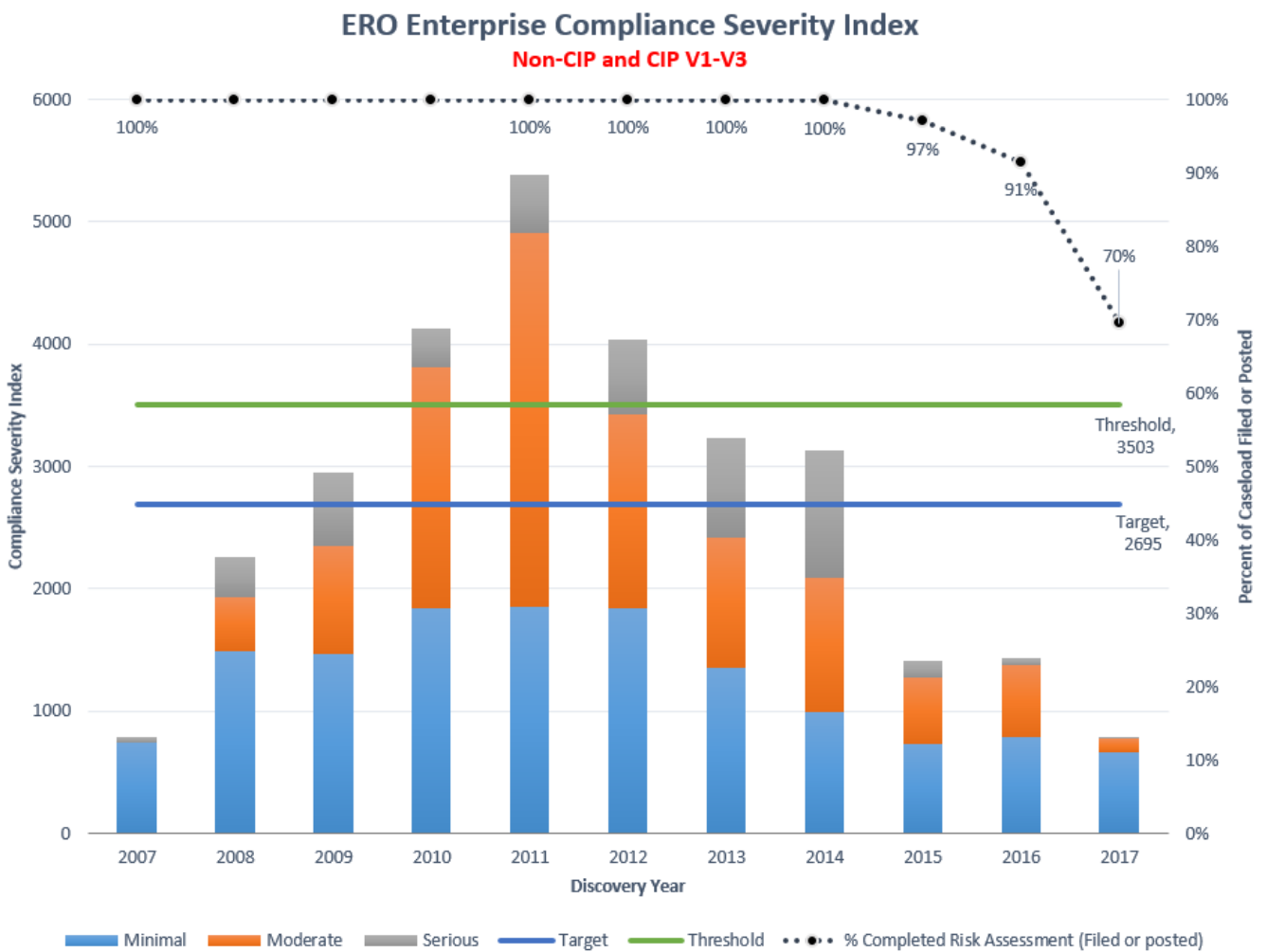

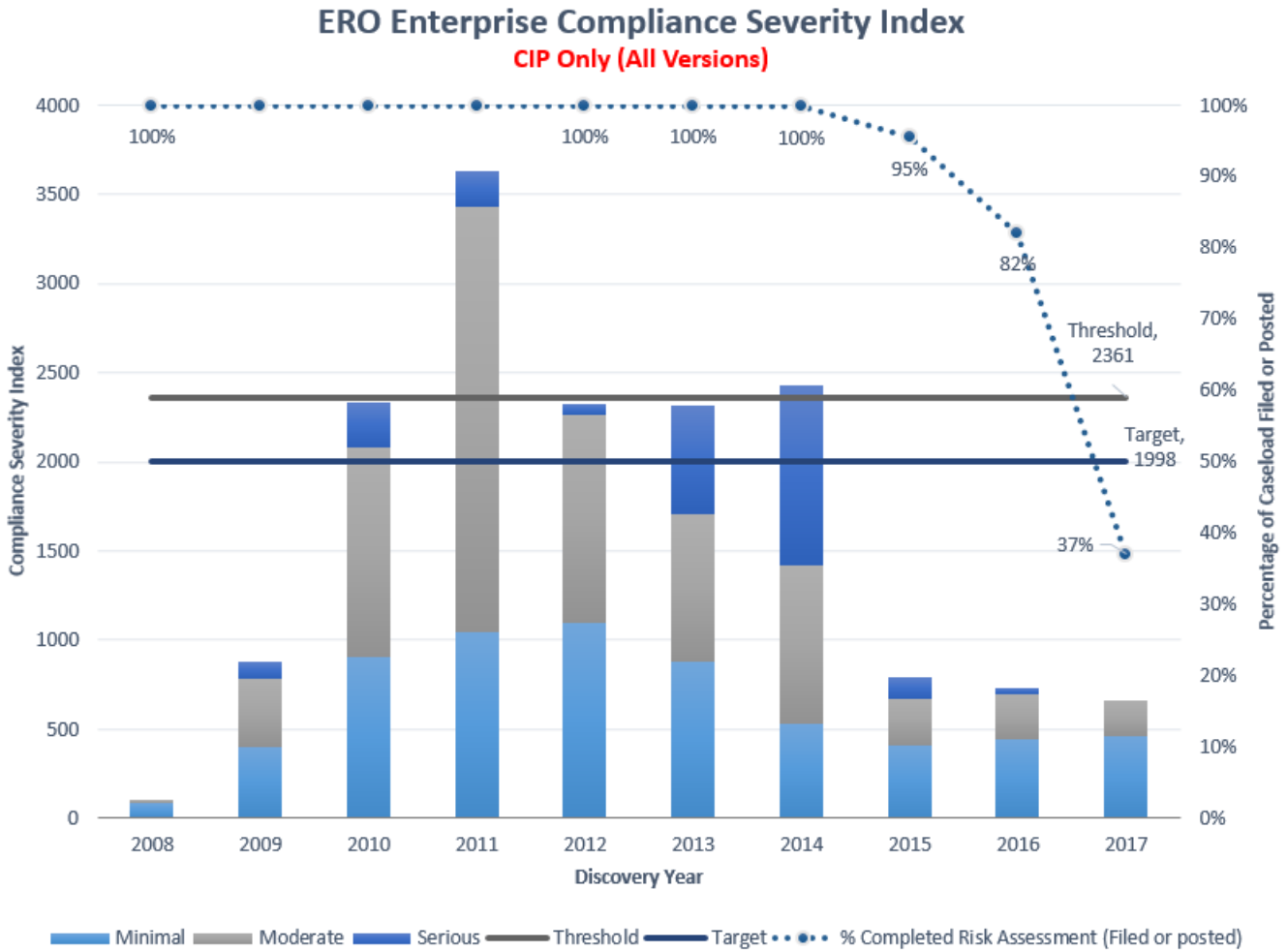**Figure A.14: Compliance Severity Risk Index for non-CIP and CIP V1 through V3**

ERO Enterprise Compliance Severity Index
CIP Only (All Versions)

Figure A.15: ERO Enterprise Compliance Severity Risk Index for all CIP Violations

Reduced Repeat Moderate and Severe Risk Violations

The orange line in Figure A.16 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 or similar 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.16 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.

The total number of moderate and serious risk violations with similar prior conduct continued to fall again in 2018; however, this trend is unlikely to continue because the number of issues was unusually low in 2018. Previous years had four to five times as many moderate and serious risk noncompliance with similar prior conduct and two to three times as many moderate and serious risk issues overall. NERC expects some level of noncompliance with similar underlying conduct to persist, and it is unlikely that the metric would fall much lower. In the absence of the metric

decreasing further, NERC will continue to monitor this metric in 2019 as a way to measure the effectiveness of mitigation.
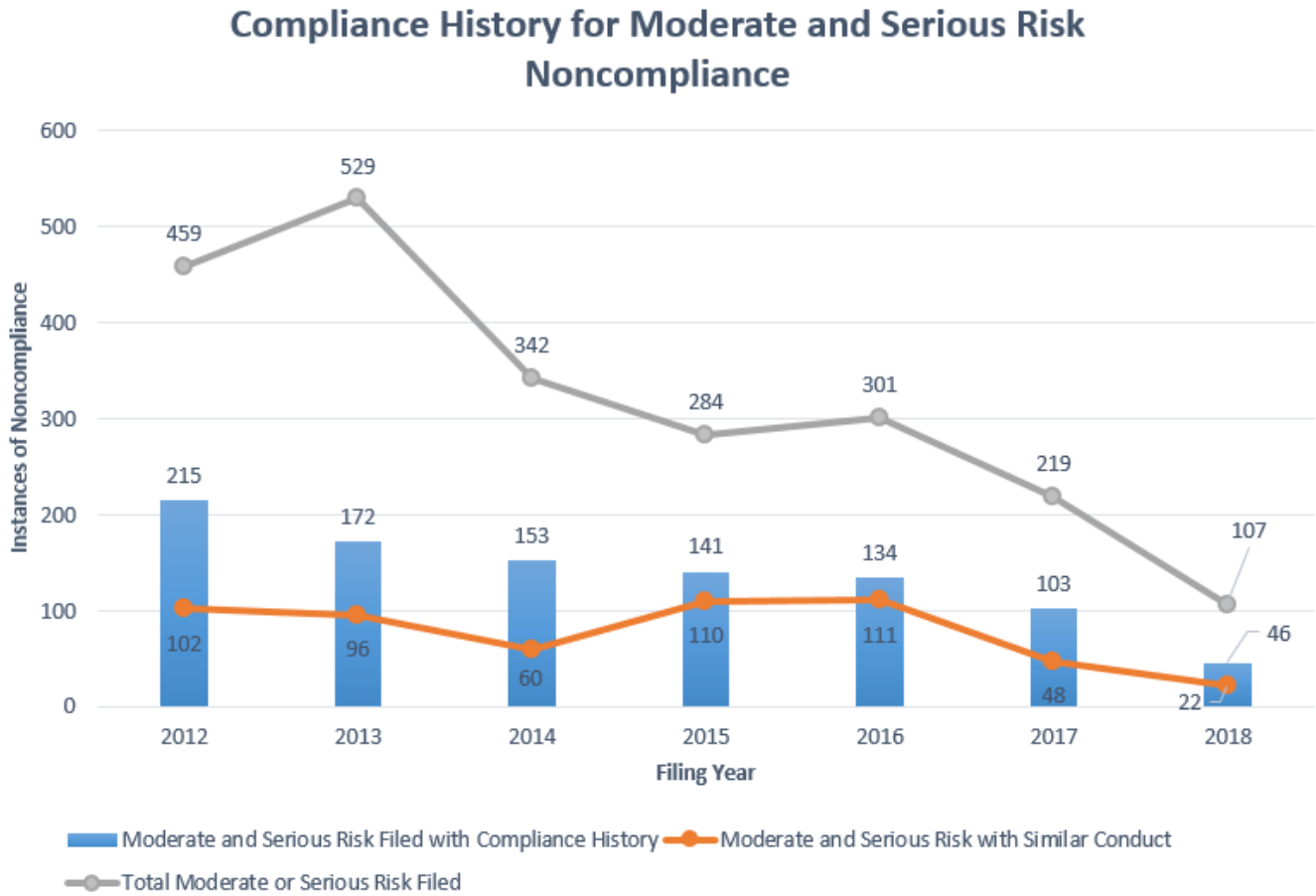
Compliance History for Moderate and Serious Risk Noncompliance

Figure A.16: Compliance History and Similar Conduct for Moderate and Serious Risk Violations

Self-Assessment and Self-Identification of Noncompliance

Figure A.17 and A.18 illustrate registered entities' internal and external identification of noncompliance. Figure A.17 breaks down internal and external discovery method by year and Figure A.18 over the last four quarters. The percentage of internally discovered noncompliance has fallen in 2018. Figure A.19 shows the percentage of noncompliance by discovery method. NERC set a threshold of 75 percent and a target of 80 percent self-reported noncompliance for 2018 in an effort track more closely self-reporting trends. The percentage of noncompliance being discovered through Self-Reports began high and fell throughout the year, but it remained just above the threshold (76.2 percent). This was largely due to higher than average Compliance Audit findings in 2018. Audit findings steadily increased to 19.1 percent by the end of the year, the highest they have been since 2013.

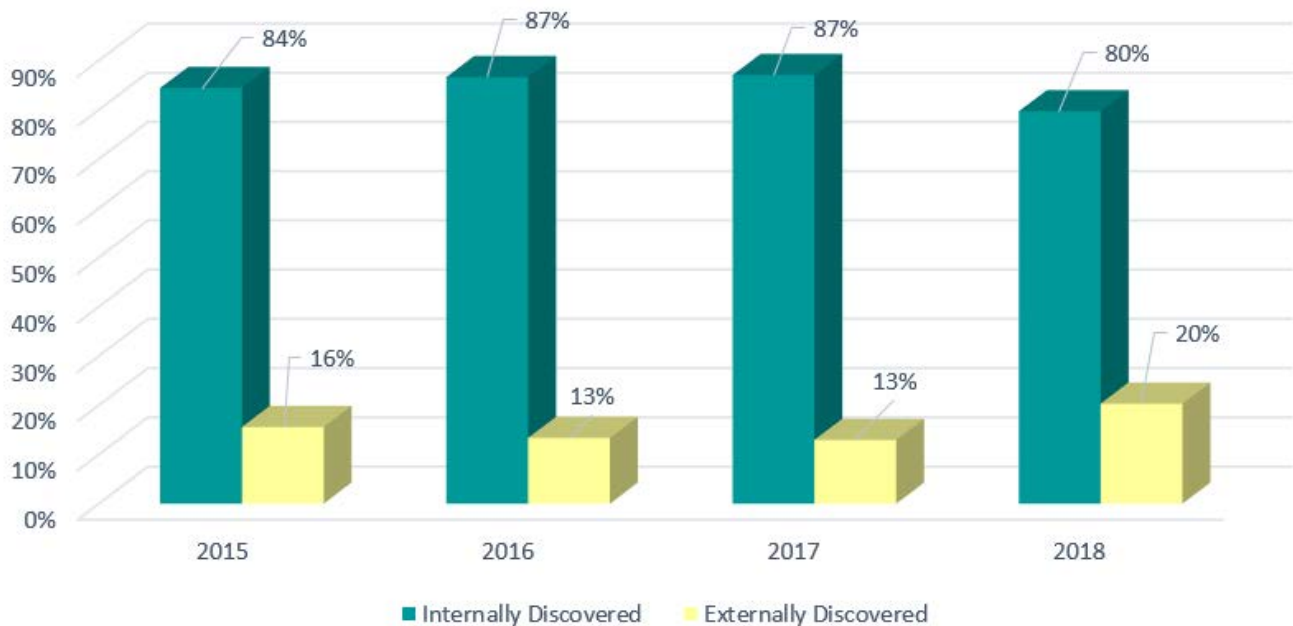**Figure A.17: Percentage of Noncompliance Discovered Internally and Externally by Year**
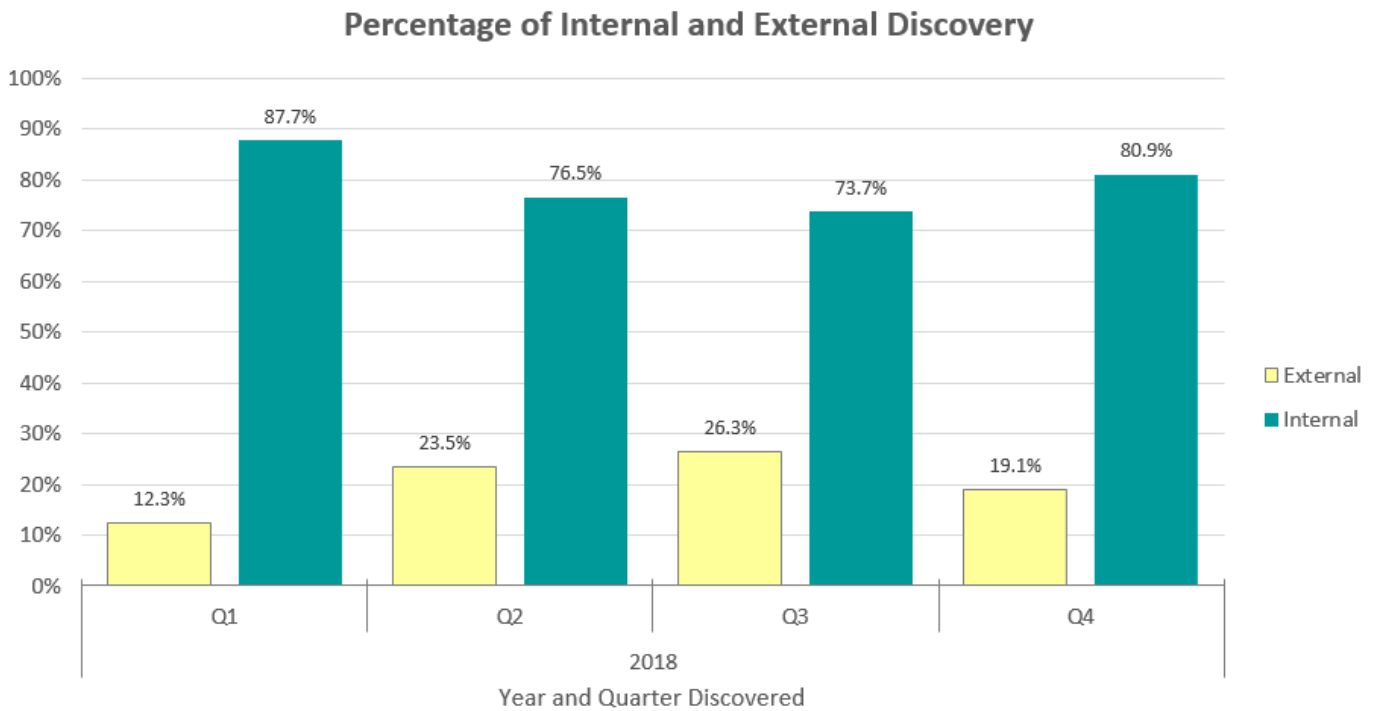
Percentage of Internal and External Discovery

Figure A.18: Percentage of Noncompliance Discovered Internally and Externally by Quarter

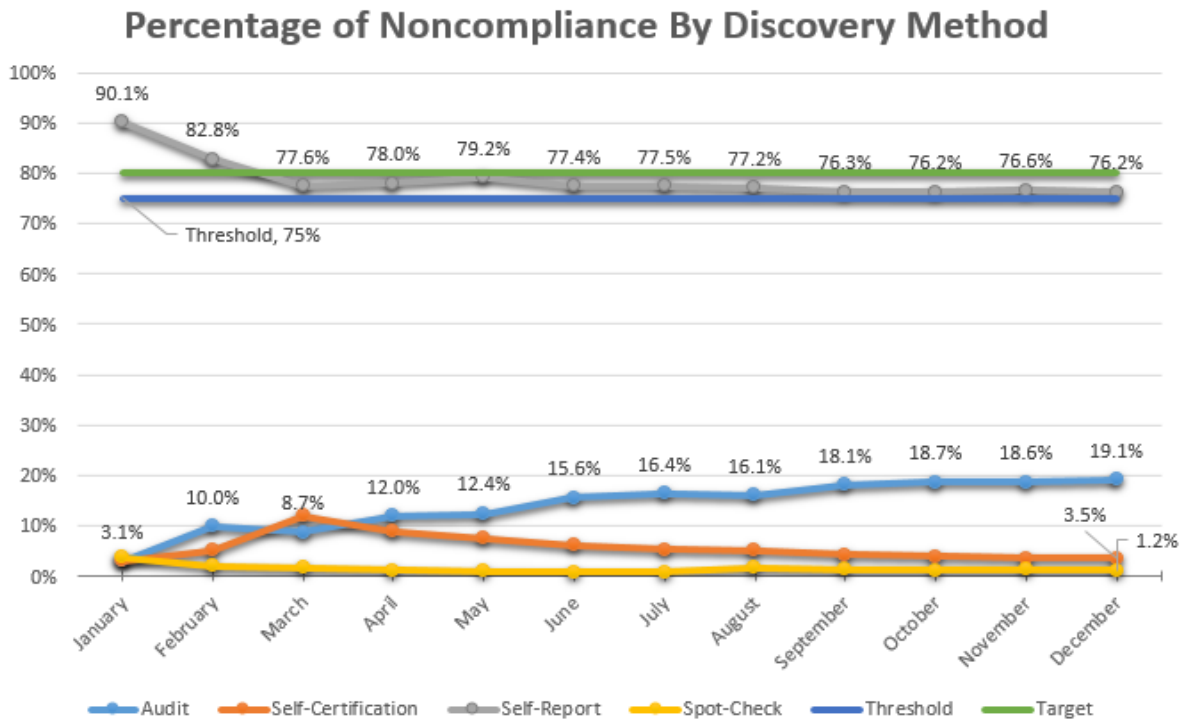## Percentage of Noncompliance By Discovery Method

Figure A.19: Percentage of Noncompliance by Discovery Method

Appendix B: Compliance Assurance

Coordinated Oversight Program for MRREs

Figure B.1 represents the distribution of the 197 MRREs by LRE, 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.
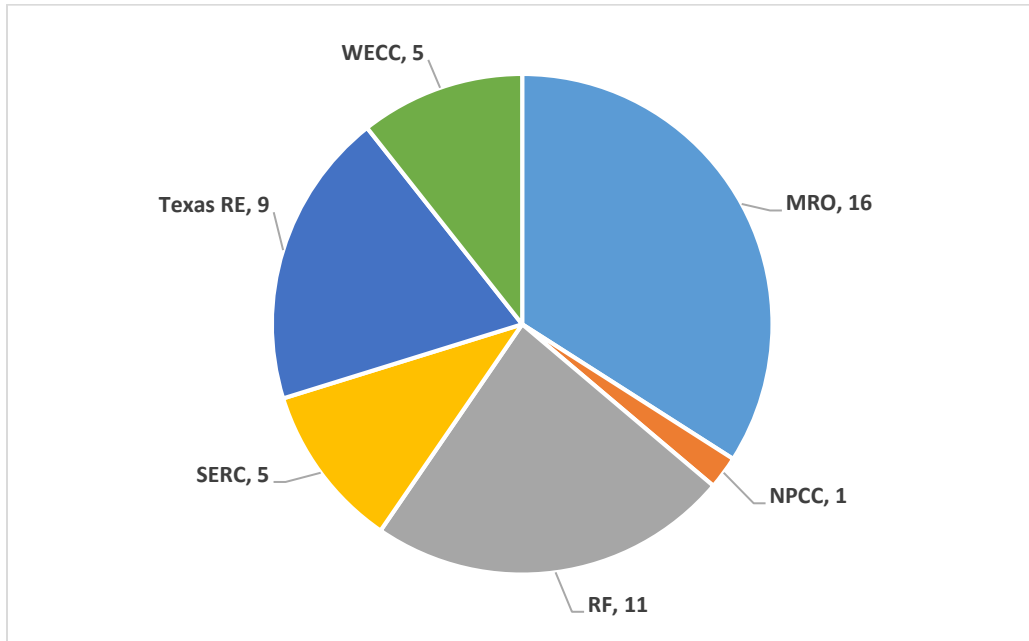

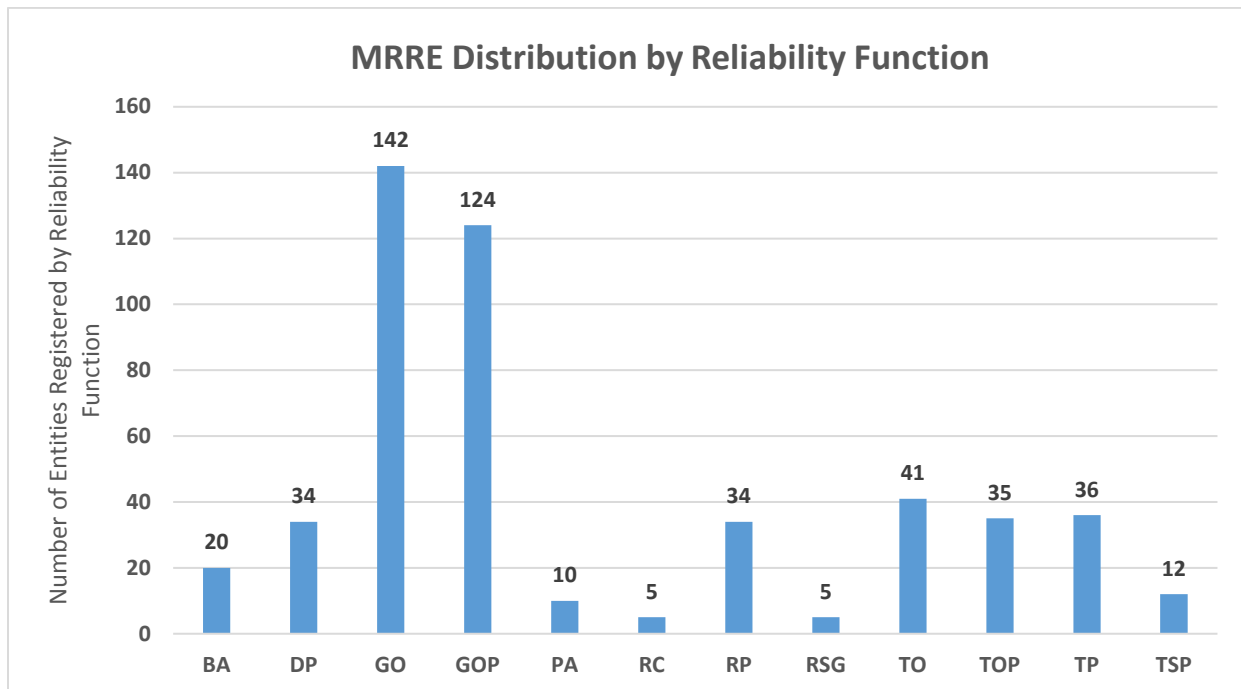**Figure B.1: Distribution of MRREs under Coordinated Oversight by LRE**

Figure B.2: Coordinated Oversight Distribution by Registered Function[28]

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

ERO Enterprise Completion of Initial IRAs

Figure B.3 identifies the number of IRAs completed by each RE. Since beginning the assessments, in 2018, the REs have completed 1,314 IRAs for 1,488 registered entities.[29] The ERO Enterprise completed IRAs for approximately 88 percent of the total number of registered entities.[30] 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.
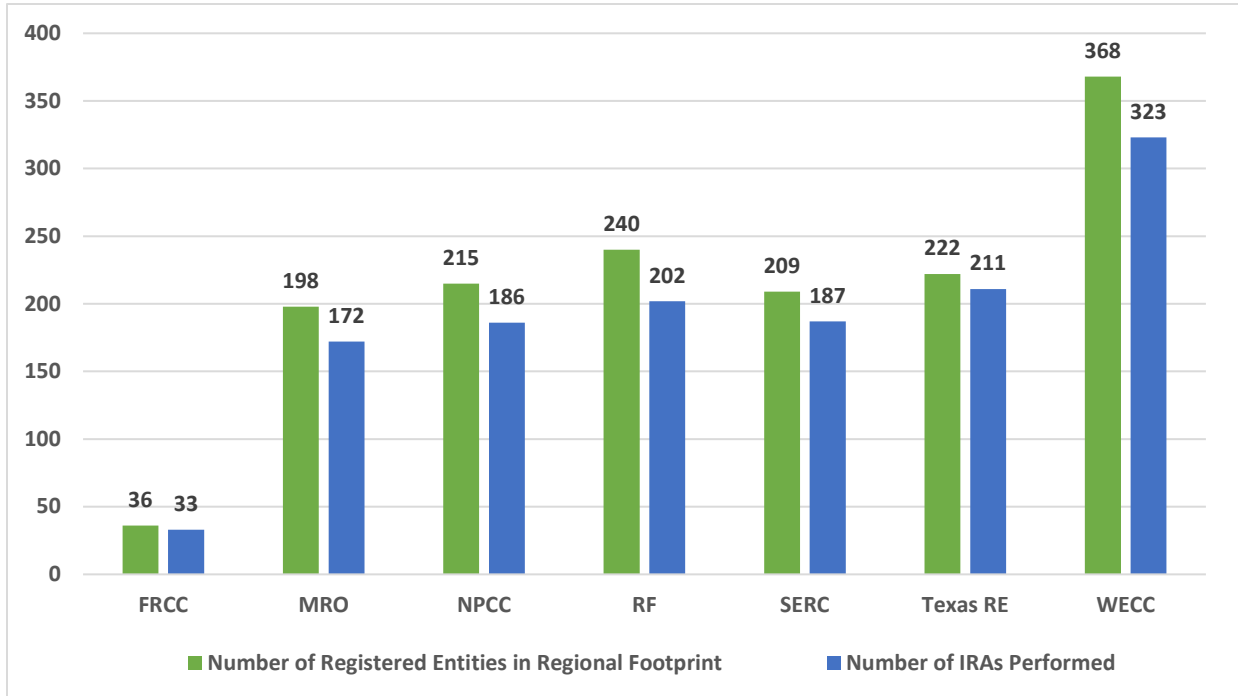

Figure B.3: RE Completion of IRAs

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[29] NERC bases the number of registered entities on the registration cut-off date of December 14, 2018, which includes all newly registered entities. NERC does not include deregistered entities.

[30] Some of the registered entities are MRREs in the Coordinated Oversight Program. As such, until the LRE completes the IRA for that MRRE group, the numbers do not update for the AREs. Therefore, some of the REs included in Figure B.3 do not receive credit until their IRAs are completed.

Appendix C: Registration

Figure C.1 and Table C.1 (by RE), along with Figure C.2 and Table C.2 (by function), depict 2018 registration change activity.

Figure C.1: Functional Registration Change Activity by RE and Total 2018 Changes
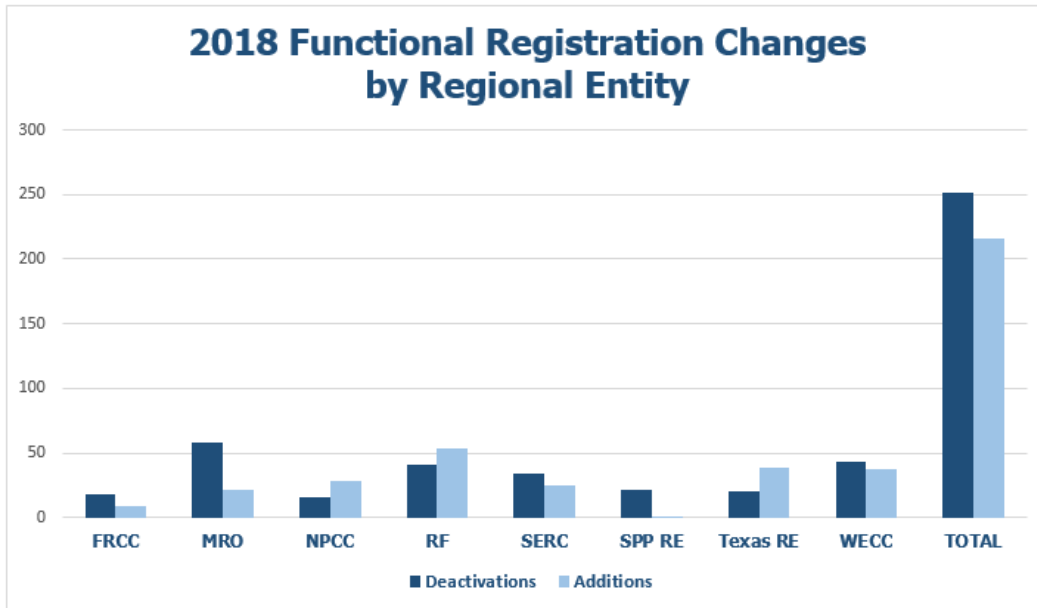
Table C.1: Functional Registration Change Activity by RE and Total 2018 Changes								
	FRCC	**MRO**	**NPCC**	**RF**	**SERC**	**SPP RE**	**Texas RE**	**WECC**	**TOTAL**
Deactivations	18	58	16	41	34	21	20	43	251
Additions	9	22	28	54	25	1	39	38	216

Figure C.2: 2018 Registration Change Activity by Function

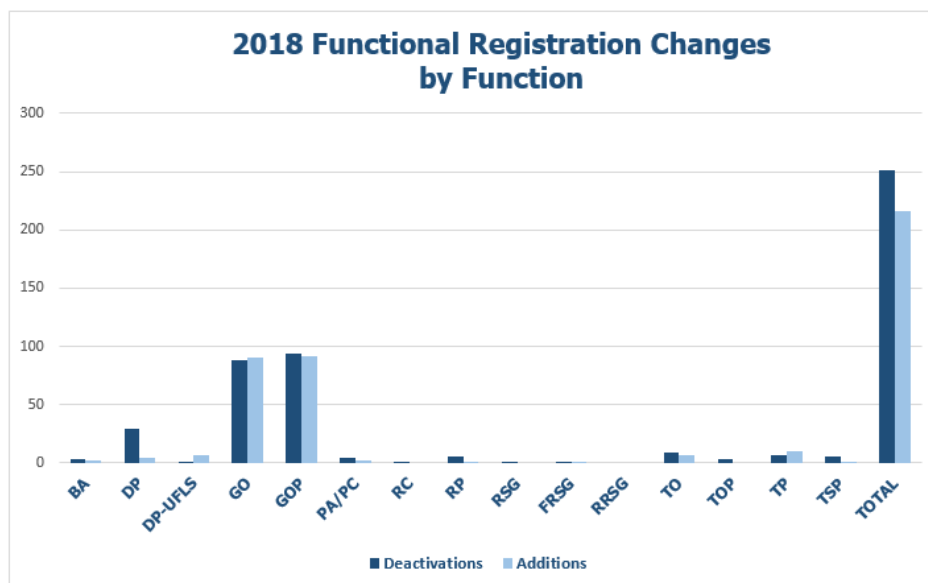| Table C.2: 2018 Registration Change Activity by Function															
	BA	**DP**	**DP-UFLS**	**GO**	**GOP**	**PA/PC**	**RC**	**RP**	**RSG**	**FRSG**	**TO**	**TOP**	**TP**	**TSP**	**TOTAL**
Deactivations	3	29	1	88	94	4	1	5	1	1	9	3	7	5	251
Additions	2	4	7	90	91	2	0	1	0	1	7	0	10	1	216

Table C.3 shows the basis for 2018 registration changes. NERC seeks justification from each RE when approving registration change activity.

Table C.3: 2018 Registration Change Basis	
Consolidation into Mutually Owned Entity Registration	120
Responsibilities Assumed by Another Registered Entity	38
Determined to Not Meet Registration Criteria	38
Sold to Another Registered Entity	27
Shutdown	10
BES Exception	7
Determined to Be and Registered as DP-UFLS	6
Transferred Compliance Oversight to Another RE	5

Annual Review of Compliance Committee Mandate

Action
Information

Summary
As part of the annual review of all Board committee mandates, the NERC Legal Department has reviewed the current Board of Trustees Compliance Committee (BOTCC) mandate. The current BOTCC mandate is attached.

The Legal Department is not recommending any further revisions at this time.

Board of Trustees Compliance Committee Mandate

Approved by the Board of Trustees: February 2, 2018

Committee Membership

The Board of Trustees Compliance Committee (BOTCC) of the North American Electric Reliability Corporation (NERC) shall be composed of not less than three and not more than seven of the Independent members of the Board of Trustees (Board). The members of the BOTCC shall be appointed or reappointed by the Board at the regular meeting of the Board immediately following each Annual Meeting of the Members Representative Committee. Each member of the BOTCC shall continue to be a member thereof until a successor is appointed, unless a member resigns, is removed, or ceases to be a trustee of the corporation. When a vacancy occurs at any time in the membership of the BOTCC, it may be filled by the Board.

Purpose

The purpose of the BOTCC is to assist the Board with governance, oversight, guidance, and policies to help assure the NERC Compliance Monitoring and Enforcement Program (CMEP) and the NERC Organization Registration and Certification Program (ORCP), as administered by NERC and the Regional Entities to which NERC has delegated authority pursuant to Regional Delegation Agreements, support the reliability of the North American bulk power system, and are administered fairly and efficiently.

Committee Authority and Responsibilities

To carry out its purpose, the BOTCC shall have the following authority and responsibilities:

Oversight

1. Oversee the CMEP and ORCP strategies and approaches developed and implemented by the management of NERC and the Regional Entities to assure the reliability of the bulk power system, including identification of key risks to be addressed through CMEP and ORCP activities.

2. Evaluate the effectiveness of CMEP strategies and program execution by reviewing measures of bulk electric system reliability performance and other CMEP program metrics.

3. Oversee and review implementation of CMEP and ORCP programs by management of NERC and Regional Entities to ensure the programs are operated in a consistent manner and conform to all regulatory requirements, Rules of Procedure, and other practices needed to provide objective, fair, and effective compliance and enforcement.

4. Oversee and review penalties, sanctions, and mitigation of noncompliance to ensure such actions are effective in maintaining and improving bulk power system reliability.

Approvals and Appeals

1. Approve Notices of Penalty or Sanction and other enforcement actions required to be filed with the Federal Energy Regulatory Commission and other applicable governmental authorities, provided that the BOTCC may delegate its authority to NERC staff with respect to the approval of any matter.

2. Serve as the appeal body of compliance violations, penalties, or sanctions pursuant to NERC's Rules of Procedure and any other applicable laws, rules, regulations, orders, or policies.

3. Serve as the appeal body for any appeals of findings resulting from audits of the regional implementation of the CMEP heard by the NERC Compliance and Certification Committee, pursuant to NERC's Rules of Procedure and any other applicable laws, rules, regulations, orders, or policies.

4. Hear and adjudicate any challenges by candidates for inclusion on the NERC compliance registry, pursuant to NERC's Rules of Procedure and any other applicable laws, rules, regulations, orders, or policies.

5. When resolving CMEP and ORCP conflicts among NERC, Regional Entities, and Registered Entities, where appropriate, provide a supplementary explanation for the BOTCC's decision due to issues raised or to provide future guidance.

6. Serve as the Level 2 Appeals Panel as set forth in the NERC Standard Processes Manual, which is an Appendix to the NERC Rules of Procedure.

7. Review the appropriateness of proposed amendments to Reliability Standard Auditor Worksheets (RSAWs) to resolve comments that have not been addressed through other applicable steps pursuant to the NERC Reliability Standard Audit Worksheet Revision Process (RSAW Revision Process), as such Process may be amended.

Communication and Coordination

1. Ensure CMEP and ORCP programs and results are transparent, when appropriate, to reliability stakeholders.

2. Recommend to the Board such actions as may further the purposes of the CMEP and ORCP.

Additional Responsibilities

1. Perform such other functions as may be delegated to it by the Board.

Committee Meetings

The BOTCC shall meet at least quarterly by conference call or in person. Meetings may occur at the same place in conjunction with the regular board meetings of the corporation, or as determined by the members of the BOTCC, using the same meeting procedures established for the Board. Meetings may be held in either open or closed session as set forth in the Bylaws of the Corporation.

A majority of the BOTCC members shall constitute a quorum. Except where prescribed differently by law: (a) any action or decision of the BOTCC requires a vote of a majority of the BOTCC members then in attendance at any BOTCC meeting provided a quorum is present; and (b) participation may be telephonic or by Action without a Meeting. The BOTCC may hold special meetings as circumstances require. Minutes of each BOTCC meeting shall be maintained as part of the BOTCC's record.

Governance

The Board, or in the event of their failure to do so, the members of the BOTCC, shall appoint a chair from among their members. The BOTCC Chair shall be responsible for leadership of the BOTCC, including scheduling of meetings, setting agendas, presiding over BOTCC meetings, and making reports to the Board. A member(s) of the NERC staff shall assist the Chair and shall serve as the non-voting secretary.

Review

The BOTCC shall review this mandate annually and recommend to the Board Corporate Governance and Human Resources Committee (CGHR) any changes it considers advisable. Any changes must be approved by the full Board. The BOTCC shall complete a self-assessment annually to determine its effectiveness.