

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Q1 2018 ERO Enterprise Compliance Monitoring and Enforcement Program Report

May 9, 2018

**RELIABILITY | ACCOUNTABILITY**



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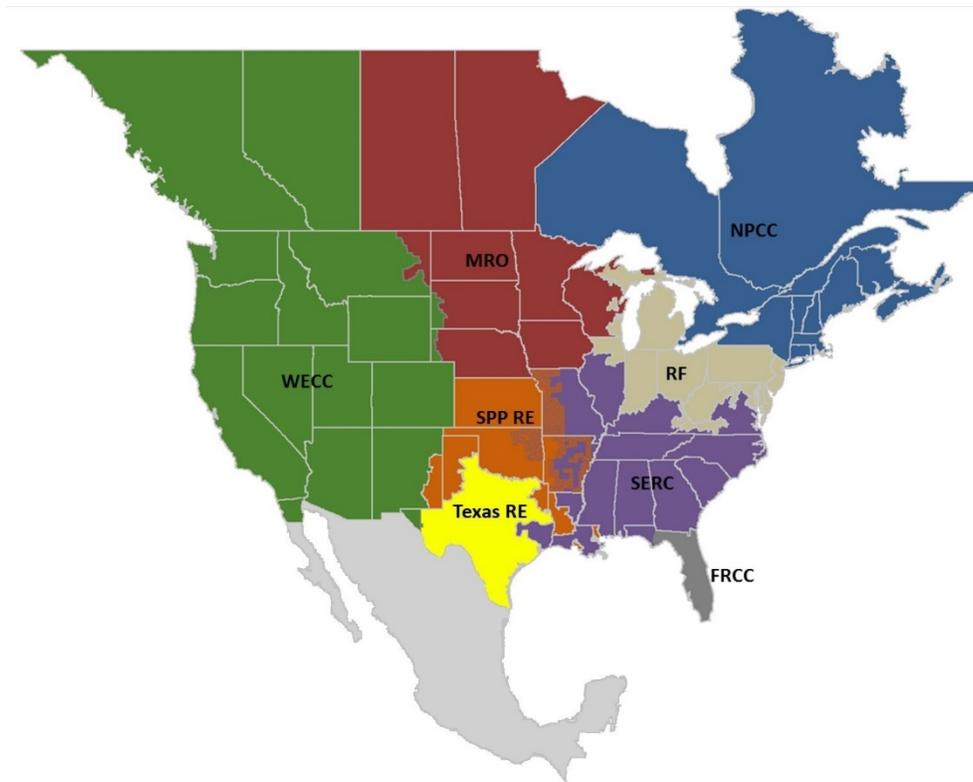
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## Preface

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The vision for the Electric Reliability Organization (ERO) Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the eight 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 eight RE boundaries as shown in the map and corresponding table below.



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

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

# Executive Summary

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This report highlights key ERO Enterprise<sup>1</sup> Compliance Monitoring and Enforcement Program (CMEP) activities that occurred in Q1 2018 and provides information and statistics regarding those activities. In Q1 2018, CMEP activities throughout the ERO Enterprise reflected continuing implementation of a risk-based approach that has allowed the ERO Enterprise to focus resources on risks to the reliability of the BPS, entity-specific risks, and serious risk noncompliance with Reliability Standards. NERC and the REs also collaborated on various compliance monitoring activities to identify lessons learned and provide additional insight and information to industry stakeholders. Most significantly, in Q1 2018, the ERO Enterprise focused on the continued alignment of core CMEP activities.

In Q1 2018, the ERO Enterprise resolved two reported consistency issues through its [ERO Enterprise Program Alignment Process](#) (Program Alignment).<sup>2</sup> NERC identified four new issues in Q1 2018—two through the consistency tool, one reported to NERC directly, and one identified by NERC.

In Q1 2018, the ERO Enterprise, in coordination with the Compliance and Certification Committee (CCC), revised its [Self-Report and Mitigation User Guide](#). The revised guide incorporates principles for how registered entities provide information to REs and clarifies expectations around registered entity self-reporting and design of mitigation activities to prevent recurrence. The ERO Enterprise also continued work on drafting a Self-Logging Program Best Practices document for registered entities currently admitted to the program, registered entities interested in requesting consideration for inclusion in the program, and other stakeholders interested in the program's administration.

In March 2018, NERC, MRO, and SERC submitted a joint petition in Docket No. RR18-3-000 for approvals in connection with the termination of the Regional Delegation Agreement with SPP RE.

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1 The “ERO Enterprise” refers to the affiliation between NERC and the eight REs for the purpose of coordinating goals, objectives, metrics, methods, and practices across statutory activities. The operation of the ERO Enterprise does not conflict with obligations of each organization through statutes, regulations, and delegation agreements. The activities discussed in this report relate to compliance monitoring and enforcement performed in connection with United States registered entities. ERO Enterprise activities outside of the United States are not specifically addressed.

2 The ERO Enterprise developed Program Alignment to track (identify and capture), triage (classify, analyze, and prioritize), and provide transparency on (post and report) alignment areas where the ERO Enterprise could improve or increase alignment.

# Chapter 1: CMEP Activities

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## Program Alignment

NERC is enhancing alignment of CMEP activities under a broader [ERO Enterprise Program Alignment Process](#). The program includes efforts to identify, prioritize, and resolve alignment issues across the ERO Enterprise. These efforts include multiple methods of identifying potential issues. Among others, these methods include the [Consistency Reporting Tool](#), oversight process reviews, and post-Compliance Audit and post-Spot Check surveys. In Q1 2018, the ERO Enterprise Program Alignment Process addressed two reported consistency issues, one related to disposition of noncompliance and the other related to registration. Additionally, NERC updated the [Issues and Recommendations Tracking](#) spreadsheet to include three issues related to one-time attestations, assessment criteria for VAR-002-4.1 R2, and the Self-Certification process.

The ERO Enterprise has six remaining issues under review. Of those six issues, registered entities submitted one issue through the Consistency Reporting Tool and one issue directly to NERC. NERC identified the other four issues.

## CMEP Technology Project

The CMEP Technology Project is a culmination of strategic efforts with the goal of improving and standardizing processes across the ERO Enterprise. The CMEP Technology Project is one of four strategic vision and technology programs within the broader ERO Enterprise Systems Initiative. NERC and the REs continue to make progress on the selection and implementation of a new technology solution and process changes for CMEP activities. Vendors completed demonstrations in early Q1 2018.

## 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. The ERO Enterprise bases inclusion decisions on 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.

In Q1 2018, the ERO Enterprise approved 16 additional MRREs for entry into the Coordinated Oversight Program, taking the total count of registered entity participation to 246.<sup>3</sup> In February 2018, NERC staff presented to the Board of Trustees Compliance Committee and stakeholders on the current state of the Coordinated Oversight Program and progress on continued enhancement.<sup>4</sup>

## ERO Enterprise Staff Training and Industry Outreach

### Industry Outreach via Webinar and Regional Workshops

The ERO Enterprise, along with CCC Alignment Working Group (AWG) representatives, will provide outreach for the Program Alignment Process during regional spring workshops in 2018. The AWG is a CCC working group tasked specifically to work on Program Alignment. In March 2018, NERC and AWG representatives presented at WECC, SPP RE, and SERC workshops, providing an overview of the program and ongoing work for open issues. Additionally, REs provided outreach throughout Q1 2018 through workshops, monthly newsletters, assist visit programs, and other events with industry stakeholders.

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<sup>3</sup> This report reflects the total number of registered entities participating in the program regardless of whether the NCR number is unique or identical across the REs.

<sup>4</sup> Information on the Coordinated Oversight of MRRE Program is available at:

<https://www.nerc.com/pa/comp/Reliability%20Assurance%20Initiative/Coordinated%20Oversight%20MRRE%20FAQ.pdf>

## **Retirement of Compliance Application Notices, Process Bulletins, and Directives**

In February 2018, in coordination with the CCC, the ERO Enterprise retired and archived four Compliance Application Notices, 17 Process Bulletins, and five Directives deemed no longer applicable to the effective Reliability Standards, outdated, or covered under NERC Rules of Procedure (ROP). The ERO Enterprise is reviewing the remaining compliance documents in effect to determine how to consolidate guidance into CMEP Practice Guides or other existing procedural processes, such as the ERO Enterprise CMEP Implementation Plan. NERC created a [Compliance Documents Archive](#) page that includes additional detail for [Future Actions on Cans, Process Bulletins, and Directives](#).

## **NERC Q1 2018 CMEP Filings and Postings**

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 March 15, 2018, NERC filed the CCC Charter with the Federal Energy Regulatory Commission (FERC) in Docket No. RR18-4-000 for approval. Comments were due April 5, 2018.

## Chapter 2: Enforcement Oversight

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### Annual Find, Fix, Track, and Report and Compliance Exception Programs Review

In Q1 2018, NERC and FERC staff began the annual review of the Find, Fix, Track, and Report (FFT) and Compliance Exception (CE) programs. NERC and FERC 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.

As of the end of Q1 2018, NERC and FERC staff have completed the initial review of the REs' implementation of the programs. NERC anticipates staff will be providing feedback to the REs and finalizing the results of the review over the course of Q2 2018.

### Self-Logging Program Improvements

In response to several surveys issued by NERC to registered entities regarding the Self-Logging Program, the ERO Enterprise created a Self-Logging Best Practices document in Q1 2018. Responses to the survey had included a request for a guide to supplement the information provided in the NERC CMEP, ROP, Appendix 4C, and Self-Report and Mitigation User Guide.

The document includes information to assist registered entities in the eligibility review, including the methodology REs use to determine inclusion in the program. This document also provides detailed guidance on the completeness and accuracy of submitted descriptions, risk, and mitigation activities. Finally, the best practices document includes multiple examples of self-logs and provides additional reference documents for registered entities' use.

NERC anticipates publicly posting the document in Q2 2018.

### Enforcement Q1 2018 Metrics Highlights

The following enforcement metrics updates are current as of the end of Q1 2018 (March 31, 2018):<sup>5</sup>

#### Focus on Serious Risk Issues

NERC filed one Full Notice of Penalty (NOP) in Q1 2018 with a penalty amount of \$2,700,000. This Full NOP included two serious risk violations of the Critical Infrastructure Protection (CIP) Reliability Standards. These violations stemmed from the actions of the registered entity's third-party contractor that exceeded its authorized access and improperly copied certain data related to Bulk Electric System (BES) Cyber Assets from the registered entity's network to the contractor's own network environment— outside of the registered entity's visibility or control. This information was available on the Internet for a total of 70 days.

#### Spreadsheet Notices of Penalty

In Q1 2018, NERC filed nine Spreadsheet NOPs (SNOPs) that included 27 violations of the NERC Reliability Standards and carried a total combined penalty of approximately \$156,000.

NERC oversight of SNOPs in Q1 2018 confirmed that the REs continue to use the disposition method appropriately. REs used the SNOP disposition to address penalties for larger groups of minimal and moderate risk noncompliance that did not pose an elevated risk to the BPS but that were not otherwise appropriate for FFT or CE treatment. Other reasons for SNOP treatment in Q1 2018 include lengthy durations of noncompliance, prior violations involving similar conduct, and “above and beyond” mitigation investments.

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<sup>5</sup> Appendix A includes the NERC enforcement metrics-related graphs and charts.

### Continued Success of Streamlined Disposition

As of the end of Q1 2018, the ERO Enterprise added three registered entities into the Self-Logging Program. There are now 69 registered entities self-logging.

Out of 158 instances of noncompliance posing a minimal risk to the reliability of the BPS processed during Q1 2018, the ERO Enterprise treated 147 (93 percent) as CEs. The ERO Enterprise processed the remaining instances of noncompliance posing a minimal risk as FFTs, SNOPs, and Full NOPs.

In Q1 2018, most REs continued to see significant reporting of noncompliance for the newly effective CIP, MOD-025, PRC-019, and PRC-024 NERC Reliability Standards beginning after their mandatory and enforceable date in 2016.<sup>6</sup> NERC has posted the majority of these instances as CEs. They tend to be the result of registered entities' lack of understanding related to the implementation plans for these new Reliability Standards. NERC expects reporting of these standards to begin to decrease in 2018 and the following years as registered entities become more familiar with the phased implementation and the ERO Enterprise continues its outreach efforts.

### Caseload

The trend of an overall continuing decrease in the noncompliance average age has begun to reverse in the last six months. In 2017, the average age of noncompliance was 8.0 months; in Q1 2018, the average age is 8.8 months. The slight rise in age is most likely due to a combination of the increase in reported noncompliance from 2016 without a corresponding increase in processing resources.

### Vegetation-Related Transmission Outages

In Q1 2018, the ERO Enterprise posted the [2017 Annual Vegetation Report](#) data regarding vegetation-related outages reported in 2017.<sup>7</sup> In 2017, the ERO Enterprise had two Category 1B outages and the first reporting of Category 4B outages as well as 20 Category 3 outages. Six additional vegetation contacts were the result of possible violations of FAC-003 in 2017.<sup>8</sup> The ERO Enterprise will continue to monitor these matters and enforce any noncompliance appropriately. NERC is also considering what additional efforts to undertake to address the increase in vegetation-related issues.

### Reduced Repeat Moderate and Severe Risk Violations

In its Five-Year Order,<sup>9</sup> FERC identified repeat noncompliance as a key indicator of the effectiveness of the CMEP in recognizing, mitigating, and preventing violations. In response to the Order, NERC tracks moderate and serious risk violations to identify whether there is prior relevant compliance history.<sup>10</sup> NERC uses this information to determine why the prior mitigation activities failed to prevent the more recent noncompliance. This focused review of mitigation activities then informs the review of mitigation activities going forward—leading to continued improvement.

The number of noncompliance with similar prior conduct has remained relatively constant over the last five years despite the fluctuation in the number of filed violations. Though NERC is still working to analyze the underlying

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<sup>6</sup> See Appendix A, Figure A.5 for the most violated NERC Reliability Standards discovered in Q1 2018.

<sup>7</sup> Vegetation-related outage information is consolidated on a delayed quarterly basis. Information related to Q1 2018, will be available in Q2 2018.

<sup>8</sup> These possible violations have not yet been fully processed. NERC anticipates that these violations will be processed in 2018.

<sup>9</sup> “[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).

<sup>10</sup> To measure the effectiveness of the risk-based CMEP on reducing noncompliance, NERC reviews moderate and serious risk violations and includes them in one of three categories: 1) noncompliance with no prior compliance history; 2) noncompliance with prior compliance history that does not involve similar conduct; and 3) noncompliance with compliance history that includes similar conduct.

cause of repeats and identifying appropriate mitigation measures, the metric has served to provide NERC with additional visibility into repeat noncompliance.

Through the first quarter of 2018, there have been nine violations with moderate or serious risk with compliance history, but only three of these violations had similar prior conduct. In comparison, in 2016, NERC filed 111 violations with moderate or serious risk determinations that had prior noncompliance with similar conduct. The total number of violations with moderate or serious risk determinations with similar conduct was 48 in 2017.

### **Self-Assessment and Self-Identification of Noncompliance**

Prompt and accurate self-reporting is integral to identifying, mitigating, and preventing repeat noncompliance. Registered entities self-identify noncompliance for approximately 80 percent of new noncompliance. For purposes of this analysis, self-identification included Self-Reports, Self-Logs, Self-Certifications, and Periodic Data Submittals. In 2017, the self-identification rate was 87 percent, of which 94 percent was self-reported. The first quarter of 2018 has seen a consistent pace of internal discovery, with registered entities discovering 90 percent of noncompliance internally, but the rate of self-reporting has been lower; registered entities identified only 78 percent of noncompliance through Self-Reports in Q1. To provide additional insight into better self-reporting practices, NERC staff is performing additional analyses in 2018. NERC has begun to focus on the percentage of self-reported noncompliance (as opposed to all other types of self-identification).

## Chapter 3: Compliance Monitoring Oversight

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### NERC Oversight Activities

In Q1 2018, NERC executed its RE compliance monitoring oversight plan to assess implementation of risk-based compliance monitoring activities. Risk-based compliance monitoring aims to identify, prioritize, and assure effective and efficient mitigation of risks to the reliability and security of the BPS. To support this mission, and the ERO Enterprise's goal to have an objective and risk-based compliance monitoring program, NERC prioritized and conducted compliance monitoring oversight activities throughout the year.

During Q1 2018, NERC initiated its 2018 oversight activities, which will consist of on-site reviews and testing of regional processes for Inherent Risk Assessment (IRA) and Compliance Oversight Plan (COPs) development, audit observations, and observations and testing of Internal Controls Evaluations (ICEs). Oversight objectives will focus on determining whether REs:

- Conduct and document compliance monitoring activities informed by ERO Enterprise, RE, and entity-specific risks, including provisions related to Coordinated Functional Registration (CFR), Joint Registration Organizations (JROs), and other agreements among registered entities;
- Make compliance assessments that provide reasonable assurance of compliance and are supported by sufficient and adequate documentation for select Reliability Standards;
- Consider internal controls during compliance monitoring to understand how the registered entity mitigates the risk of noncompliance;
- Assess compliance with select Reliability Standards using consistent audit approaches and testing methods that lead to reasonable results;
- Implement Coordinated Oversight Program activities according to governing program documents to effectively and efficiently conduct activities (when applicable); and
- Implement NERC 2017 oversight recommendations, as applicable.

### NERC ROP Compliance

Using a risk-based approach to determine the frequency of review, NERC conducts oversight activities to assess NERC and RE compliance with the NERC ROP. During 2018, NERC will conduct oversight of RE processes for conducting Self-Certifications, as well as review and approval of the 2019 Regional Implementation Plans. Where appropriate, NERC will consider and incorporate other ROP requirements during other activities in support of the 2018 oversight priorities.

### Continuous Monitoring

Continuous monitoring consists of NERC staff's ongoing review of processes and information to evaluate program effectiveness, which informs NERC oversight, staff training, and guidance needs. Throughout the year, NERC conducts continuous monitoring by collecting and reviewing of IRA Summary Reports, Audit Notification Letters (ANLs), Post-audit Feedback Surveys, and Compliance Audit Reports to assess effectiveness of program implementation and inform ongoing ERO Enterprise staff training, industry outreach and education, and other opportunities for program improvements.

### Results

#### Registered Entity Post-Audit/Spot Check Feedback Surveys

As of the end of Q1 2018, registered entities submitted 17 surveys for recent compliance monitoring activities (16 Compliance Audits and 1 Spot Check) from registered entities within five regional footprints. NERC concluded that, overall, RE audit staff conducted Compliance Audits and Spot Checks in a professional, efficient, and effective manner. From the 17 surveys collected, NERC noted responses where the registered entity indicated it did not

receive the IRA summary results or did not fully understand how its audit scope related to the inherent risks that the registered entity poses to the reliability of the BPS. NERC will continue to monitor this type of registered entity feedback. Through ongoing oversight, NERC will work with the REs to help ensure registered entities understand how risk informs the audit scope.

### **Compliance Audit and Spot Check Reports**

During Q1 2018, NERC initiated review of 47 CIP audit reports and 4 CIP Spot Check reports pertaining to the CIP compliance engagements conducted by the REs in Q2 and Q3, 2017. The purpose of the review is to ensure REs are using a common reporting template and adequately justifying findings and determinations. NERC expects to complete the review of 51 CIP compliance engagement reports by the end of Q2 2018.

### **IRAs and ANLs for Q1 2018 Scheduled Audits and Spot Checks**

During Q1 2018, NERC received and reviewed IRA Summary Reports and ANLs for the 47 audits scheduled during the quarter. NERC's review ensured the REs were following the NERC ROP process and using ERO Enterprise templates.

Throughout 2018, NERC will perform analysis around IRA, COP, and Compliance Audit results to understand how REs conducted compliance monitoring around high-risk areas, specifically related to ERO and Regional Risk Elements.

## **Compliance Monitoring Metric Updates**

The following compliance monitoring metrics are current as of the end of Q1 2018.<sup>11</sup>

### **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 Standard Drafting Teams develop Implementation Guidance that 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 Q1 2018, the ERO Enterprise received four proposed Implementation Guidance documents. The ERO Enterprise reviewed and endorsed eight Implementation Guidance documents, which included seven submitted in 2017 and one submitted in Q1 2018, and declined to endorse one Implementation Guidance document. The ERO Enterprise is currently reviewing four proposed Implementation Guidance documents. Additionally, one new Pre-Qualified Organization became effective in Q1 2018. Details on Compliance Guidance, including Implementation Guidance and Pre-qualified Organizations, are available on the [NERC Compliance Guidance](#) website.

### **Reliability Standard Audit Worksheets**

During Q1 2018, NERC issued announcements for six Reliability Standard Audit Worksheets (RSAWs) available on the NERC public website under [Reliability Standard Audit Worksheets \(RSAWs\)](#). Additionally, on March 1, 2018, NERC posted a revised [NERC Reliability Standard Audit Worksheet \(RSAW\) Review and Revision Process](#).

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<sup>11</sup> Appendix B includes the NERC compliance monitoring metrics-related graphs and charts.

### **IRA and ICE Completion**

During Q1 2018, RE progress toward completion of initial IRAs continued on track according to regional plans within WECC and RF.<sup>12</sup> Completion plans for WECC and RF remain unchanged with expected completion by the end of 2018 and 2019, respectively. Completion plans consider the total number of registered entities, registered functions, risk priorities, and regional resources. At the end of Q1 2018, REs had completed two 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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<sup>12</sup>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.

## Chapter 4: Certification and Registration

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### Certification

The purpose of the Organization Certification Program (OCP) is to ensure that Reliability Coordinators, Balancing Authorities, and Transmission Operators have the tools, processes, training, and procedures to demonstrate their ability to become certified and then operational. The OCP includes review activities to certify changes to an already operating and certified registered entity. NERC anticipates significant certification activity to begin with the proposed Reliability Coordinator changes in the Western Interconnection in 2018.

#### Q1 2018 Certification Completions

During Q1 2018, NERC and the REs completed three certification reviews and conducted an initial site visit for one new Balancing Authority.

### Registration

#### SPP RE Registration Changes

On March 5, 2018, NERC filed a petition with FERC requesting approval of the transfer of 122 SPP RE registered entities and of the amended Regional Delegation Agreements with MRO and SERC.

The filing requested that FERC expedite their process to ensure an orderly transition of the affected registered entities to their new REs by July 1, 2018.

#### Centralized Entity Registration Process

In Q1 2018, planning began on a new project developing an application for automating the JRO process. This application, which would be accessible from the NERC ERO Portal, would provide registered entities, REs and NERC Registration with the ability to systematically submit and manage JRO requests. Based on a review of the work scope, it was determined that work on a JRO automated tool would fall best under the Entity Registration project, which includes all registration activities.

Also in Q1 2018, REs continued to work with registered entities that had a CFR and input the information into the new CFR tool that deployed in Q4 2017. NERC and the REs will continue to work with registered entities to upload the information and identify any areas for enhancement.

#### Q1 2018 Registration Changes

NERC verifies registration change activity by monitoring the REs and reviewing documentation relating to change requests to the registry. NERC processed 96 functional registration changes including 59 function activations and 37 functional deactivations.<sup>13</sup> Of the 37 functional deactivations:

- Four were BES Exception approvals,
- Twenty-two had their compliance responsibility assumed by another registered entity,
- Seven were determined not to meet registration criteria,
- Two were due to shut down facilities, and
- Two had their facilities purchased by another registered entity.

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<sup>13</sup> All BPS owners, operators, and users are required to register with NERC. Section 500 and Appendix 5A of the NERC ROP describe the process for registration. The NCR lists all organizations registered and therefore subject to compliance with approved Reliability Standards.

# Appendix A: Enforcement

## CMEP Metrics

### Mitigation Completion Status

Mitigation of the oldest noncompliance (dating from 2015 and earlier) is over 99 percent complete with only a single minimal risk instance of noncompliance with a date of 2014 or earlier.<sup>14</sup> NERC continues to monitor this instance of noncompliance, as well as those from 2016 and 2017, as priorities for mitigation completion.

Time Frame	Required Mitigation	On-going	Progress Toward Goal	Threshold	Target	Progress Since Last Quarter
2015 and Older	10209	11	99.9%	99%	100%	0.02%
2016	1155	168	85.5%	85%	90%	5.34%
2017	2014	1086	46.1%	70%	75%	10.68%

### 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.<sup>15</sup> The inventory of noncompliance less than one year old has fallen from 87 percent to 71 percent since October 2017. This is due in part to an increase in the number of new noncompliance. The ERO Enterprise is focusing on processing these new instances of noncompliance at an appropriate pace.

Age of Noncompliance in ERO Enterprise's Inventory

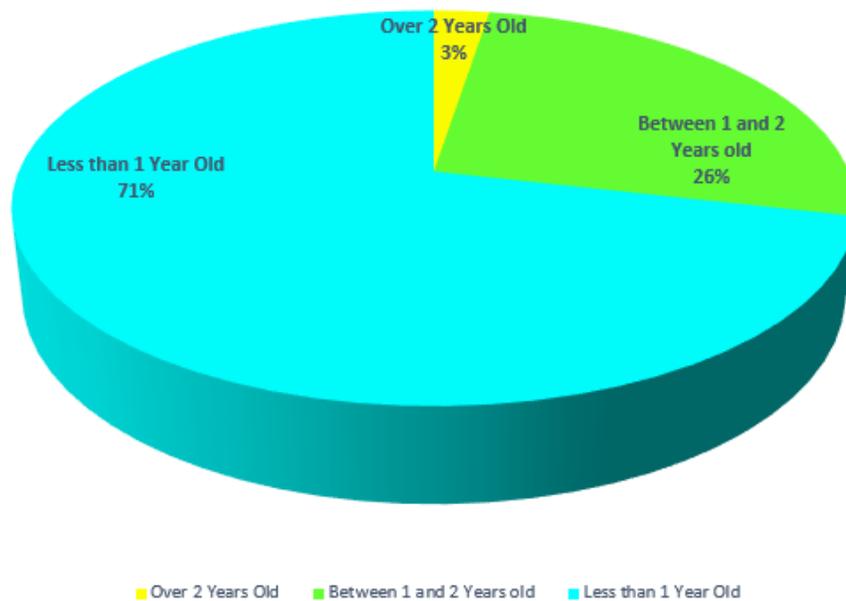


Figure A.1: Age of Noncompliance in the ERO Enterprise Inventory

<sup>14</sup> The registered entity at issue requires an outage to address its last milestone—the outage is scheduled for Q4 2018.

<sup>15</sup> The U.S. Court of Appeals for the District of Columbia Circuit ruled in November 2014 that monetary penalties could not be imposed on federal entities. All previously reported federal entity violations were formerly on hold pending the court’s decision. The pre-court case federal entity violations and the post-court case violations have been separated because routine processing was interrupted.

### Average Age of Noncompliance in the ERO Enterprise Inventory

The average age of noncompliance in Q1 2018 was 8.8 months.<sup>16</sup> The average age of noncompliance in the ERO Enterprise inventory has been steadily rising since September 2017 when it was at 7.0 months. The rising 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 (21 percent) and CIP-010-2 (14 percent) make up over a third of all noncompliance in the inventory.

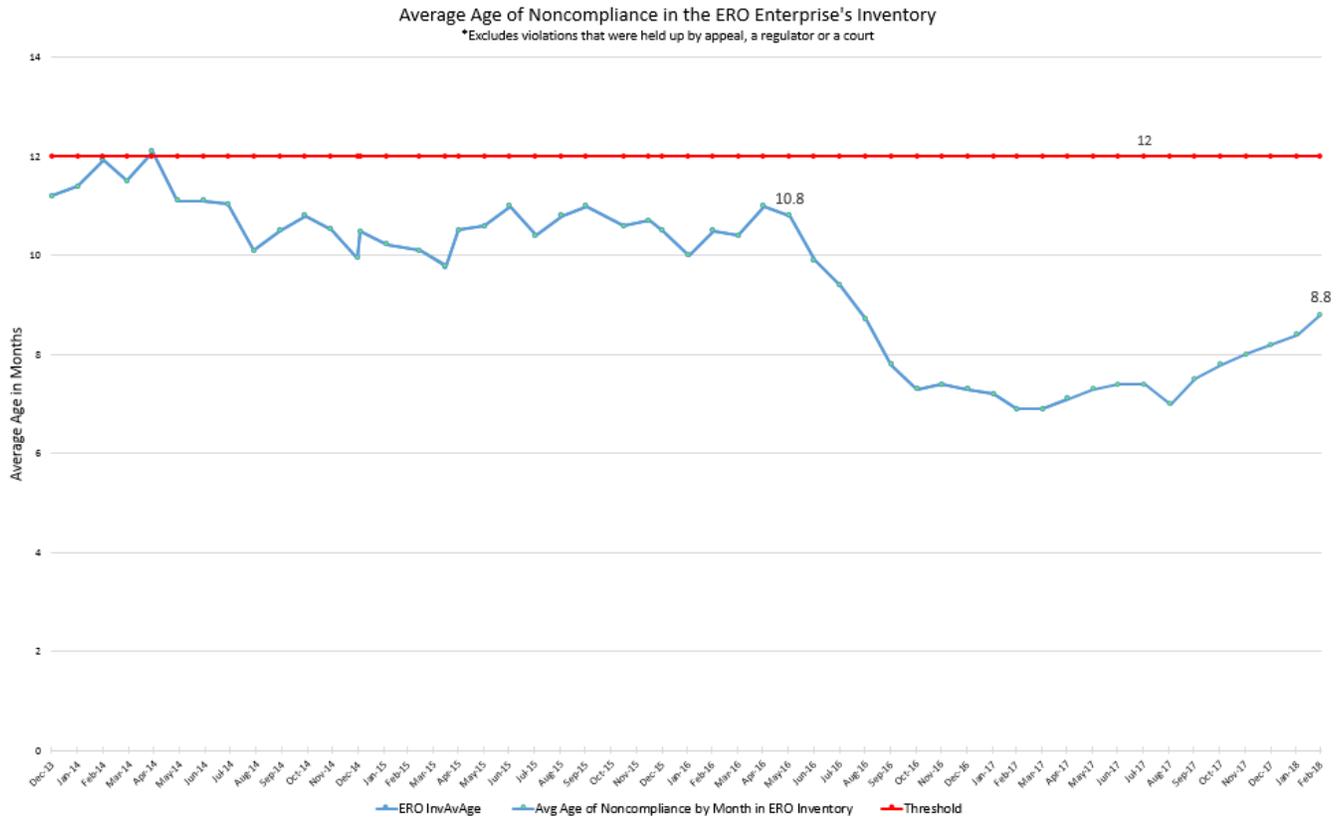


Figure A.2: Average Age of Noncompliance in the ERO Enterprise Inventory

<sup>16</sup> The age of noncompliance runs from the time the noncompliance is identified to the time it is resolved (i.e., through CE, FFT, SNOP, or Full NOP processing).

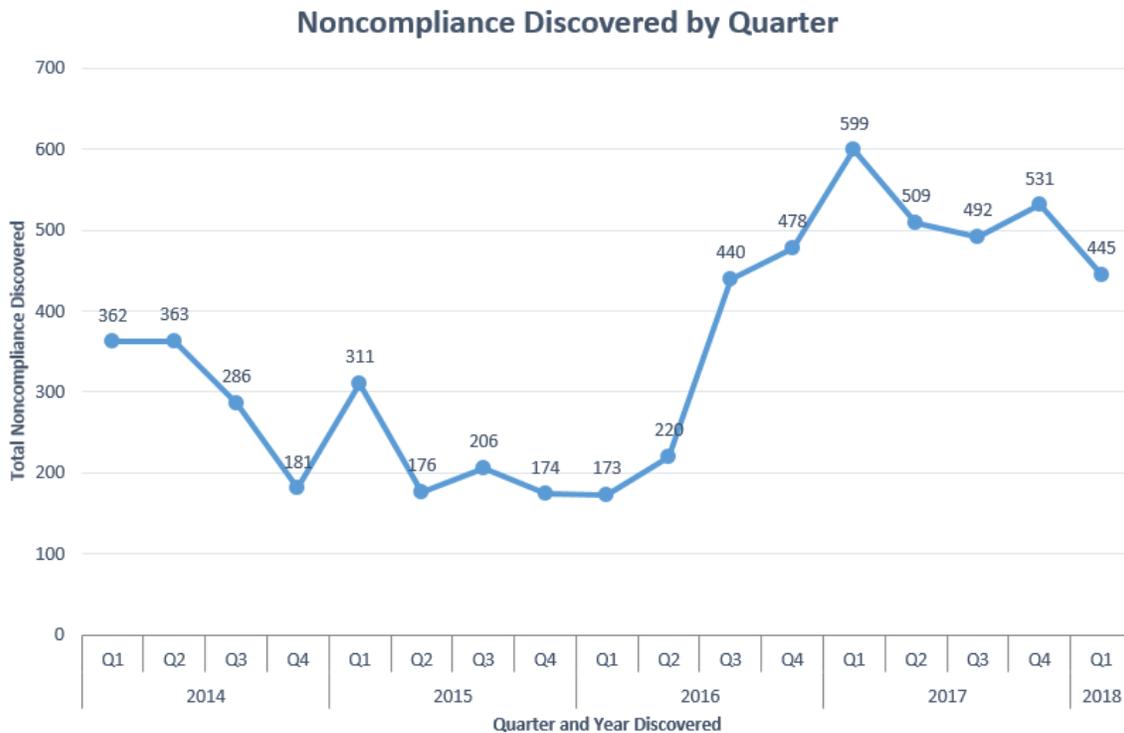
### Number of New Noncompliance Discovered in Q1 2018

The number of new noncompliance has continued to climb in Q1 2018. The 2,050 instances of noncompliance discovered in 2017 represented approximately 1.5 times the number discovered in 2016 (1,301), which had already nearly doubled from 2015 (867). The increase between 2015 and 2016 reversed a trend of declining discovered noncompliance that had peaked in 2011 with 2,597 and fell steadily through 2015.

Approximately 80 percent of all newly discovered noncompliance in the first quarter of 2018 involved Reliability Standards that have gone into effect since July 2016.<sup>17</sup> The disproportionate representation of these Reliability Standards is a trend that continued through 2017 and appears to be continuing in 2018.

Discovery Month	FRCC	MRO	NPCC	RF	SERC	SPP RE	Texas RE	WECC	Total
January	10	21	7	23	30	11	15	45	152
February	1		30	33	18	24	21	54	180
March	4	2	11	14	31	5	9	30	106
<b>Total</b>	<b>15</b>	<b>23</b>	<b>48</b>	<b>70</b>	<b>79</b>	<b>40</b>	<b>45</b>	<b>129</b>	<b>438</b>

Prior spikes in reported noncompliance may provide insights into this trend. As illustrated by Figure A.3, the last surge of noncompliance – also associated with new Reliability Standards – lasted approximately three years, peaking after the completion of the first full year the new Reliability Standards were in effect. If this increase follows a similar pattern and 2017 is the peak, the total discovered noncompliance should begin to fall sometime in 2018 and fall again more significantly in 2019. The 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.



**Figure A.3: Noncompliance Discovered by Quarter**

<sup>17</sup> For MRREs participating in the Coordinated Oversight Program, noncompliance will be accounted for in its Lead RE statistics, but may actually affect assets in the Affected RE’s regional footprint.

### Percentage of Self-Logging and CEs

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

### Percentage of Self-Logged Compliance Exceptions Since June 2014

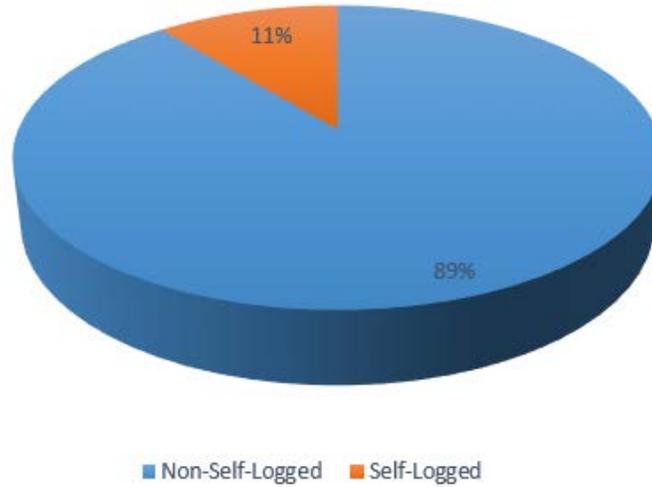


Figure A.4: Percentage of Self-Logged CEs since June 2014

### Disposition of Noncompliance

The chart below reviews the number of all noncompliance processed by disposition type and RE in Q1 2018.

### Disposition Breakdown by Region in 2018

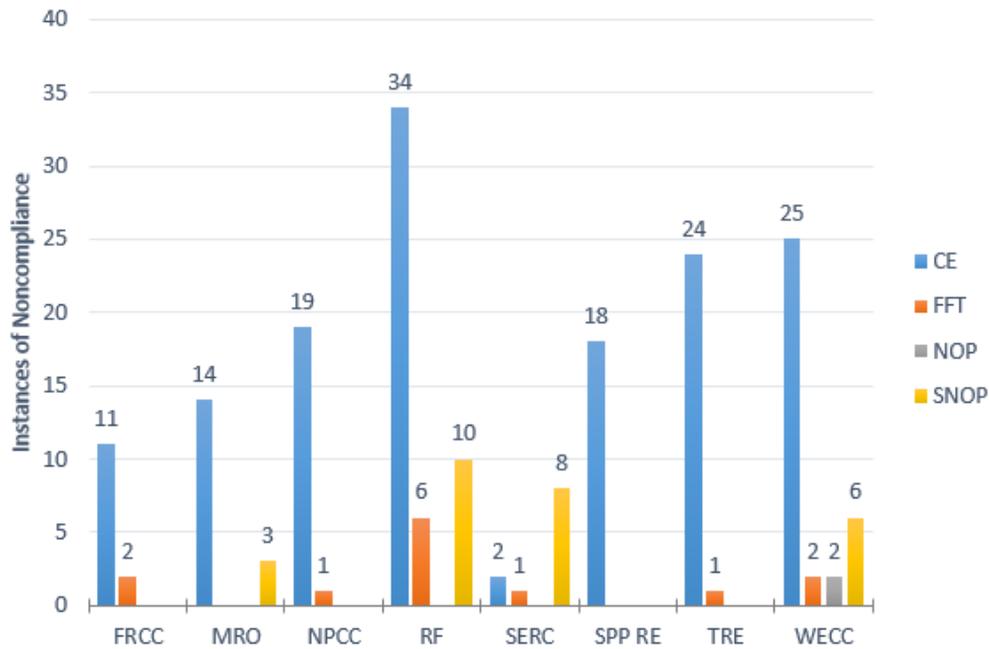
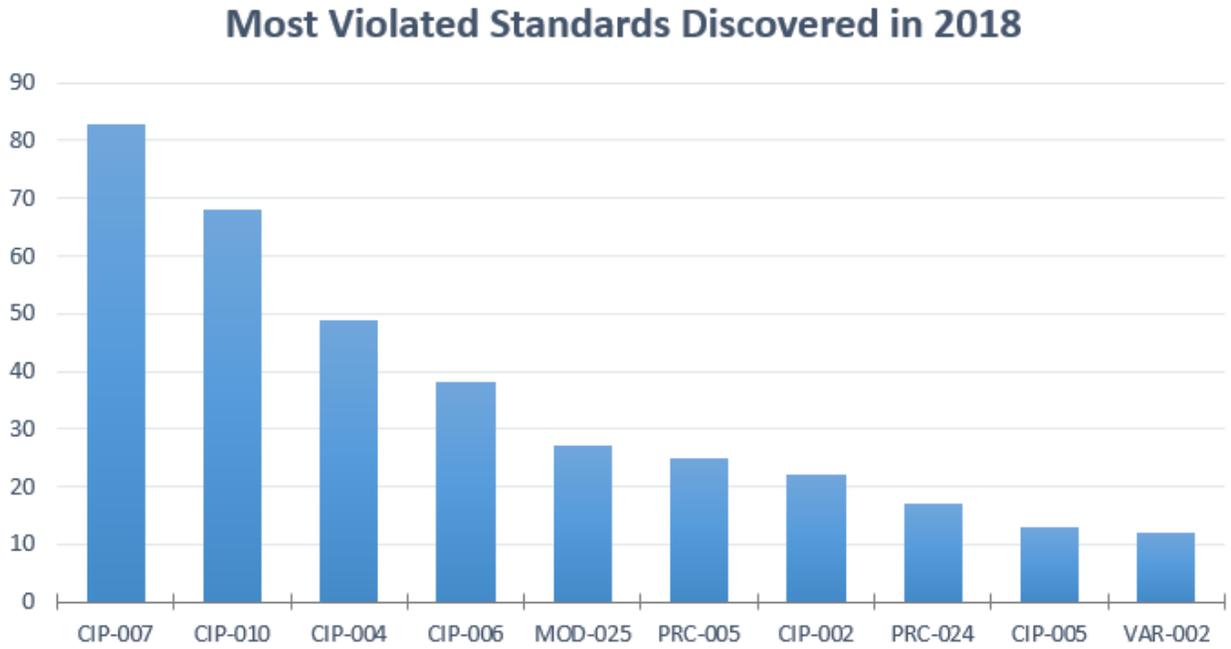


Figure A.5: Disposition Type of Noncompliance Processed in Q1 2018 by RE

**Most Violated Standards Discovered in Q1 2018**

CIP-004, CIP-007, and CIP-010 have the highest frequency of noncompliance in Q1 2018. CIP-004, CIP-007, PRC-005, and VAR-002, are historically among the most violated Reliability Standards.<sup>18</sup> There was a significant increase in reporting of CIP-010 in 2017 and into the first quarter of 2018. While the CIP-010 standard did appear in the most violated Reliability Standards lists at the beginning of 2017, it was the ninth-most discovered violation. Since last year, the increase in identified CIP-010 noncompliance has led it to be the second most violated Reliability Standard.

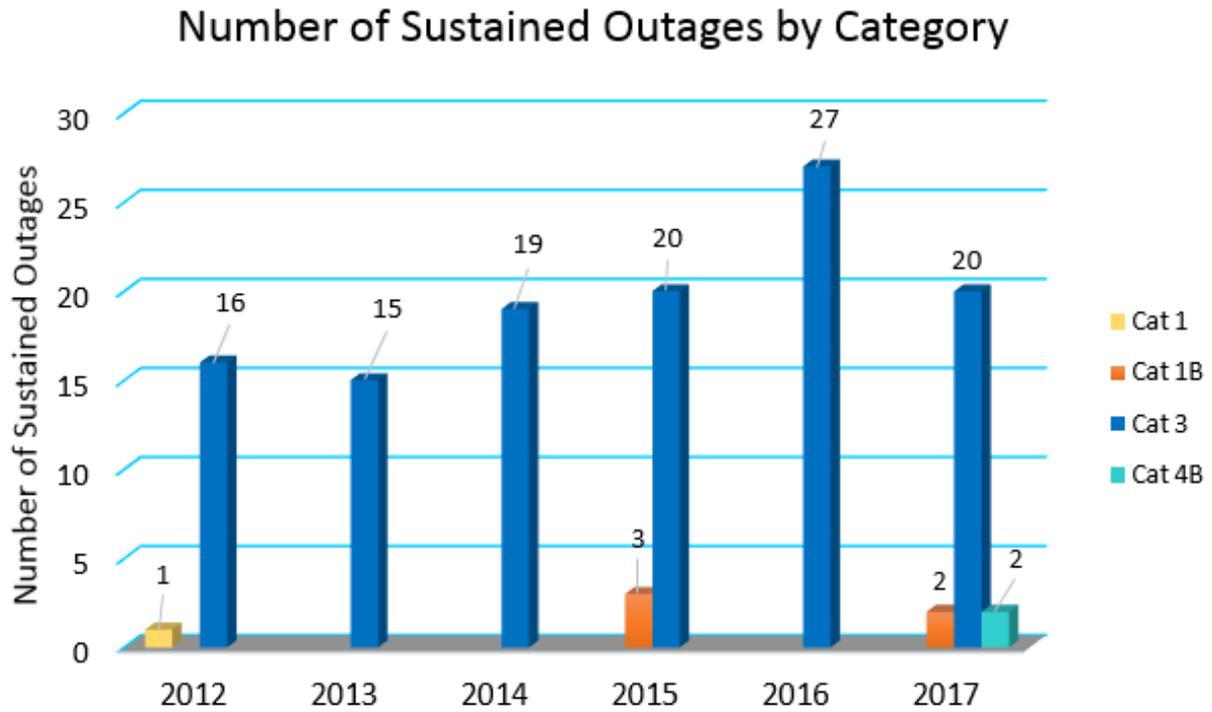


**Figure A.6: Most Violated Reliability Standards Discovered in Q1 2018**

<sup>18</sup> The high frequency of noncompliance for these specific Reliability Standards is primarily due to these Reliability Standards having requirements that apply to large quantities of assets or numbers of personnel, resulting in a higher number of potential areas to experience instances of noncompliance.

## Vegetation Management

There were four vegetation-related Category 3 outages in the fourth quarter of 2017.<sup>19</sup> In 2017, the ERO Enterprise monitored a total of 20 Category 3 outages, 2 Category 1B outages, and 2 Category 4B outages. Registered entities report these outages through Periodic Data Submittals on a quarterly basis as displayed in Figure A.7. The 24 vegetation-related outages were fewer than the year prior, though it is still too early to make conclusions about the trend.



**Figure A.7: Vegetation-related Outages by Category**

<sup>19</sup>Vegetation-related outage information is consolidated on a delayed quarterly basis. Information related to Q1 2018 will be available in Q2 2018.

### Violations Posing a Serious Risk

Since 2010, NERC has gathered data and regularly monitored violations posing serious risk to the reliability of the BPS. As shown below, serious risk violations have declined over time, and they continue to account for a small portion of all instances of noncompliance reviewed by the ERO Enterprise. In Q1 2018, NERC filed two serious risk violations that occurred in 2016.

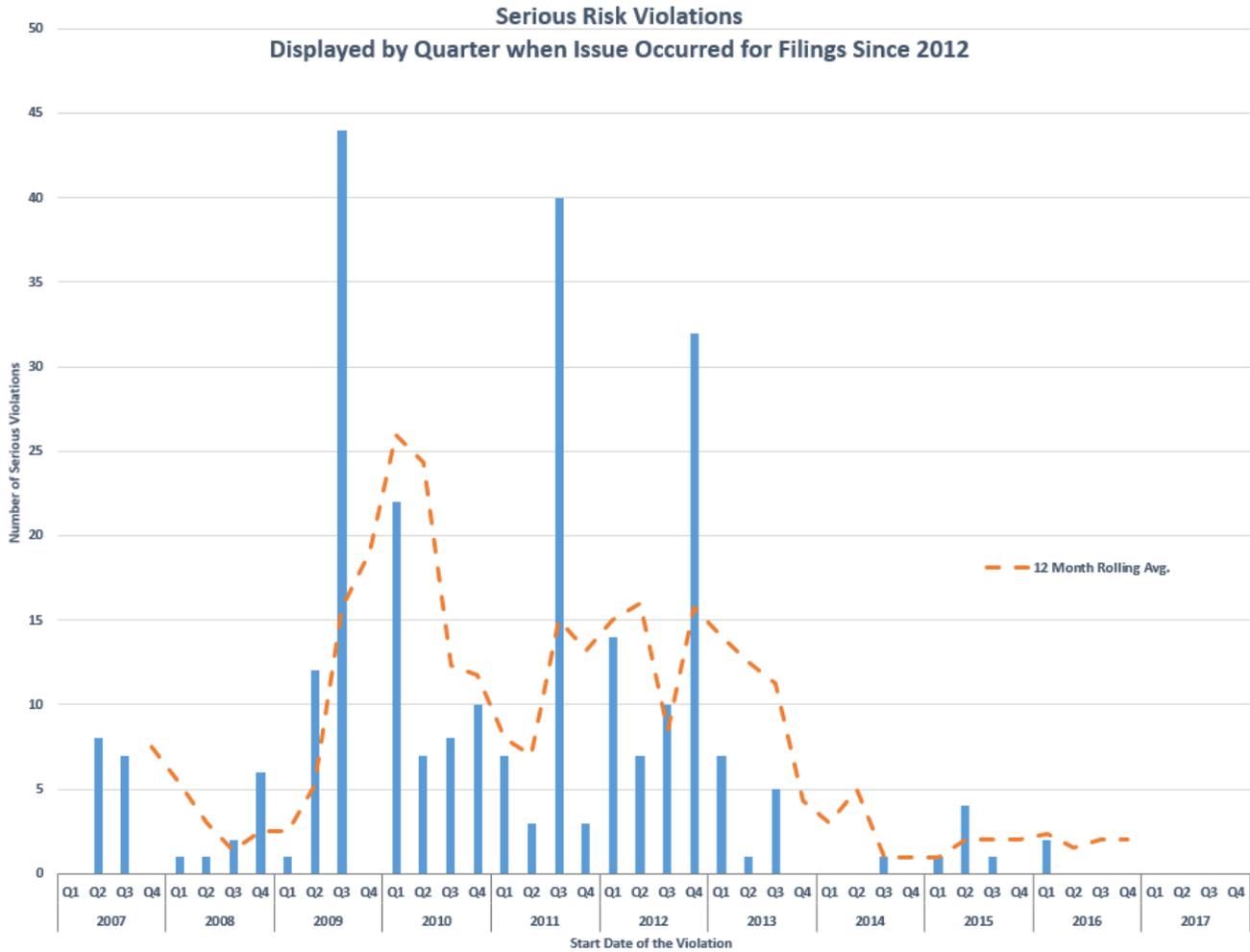


Figure A.8: Serious Risk Violations by Date of Occurrence for Filings Post-2012

### Violations with a Measured Reliability Impact

NERC gathers enforcement data using metrics that measure reliability impact to the BPS. Figure A.8 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.<sup>20</sup> The moving averages provide an indicator of the rate of impactful noncompliance. Figure A.8 illustrates that noncompliance appears to be decreasing and is better controlled. The impact chart saw no significant changes in the first quarter of 2018.

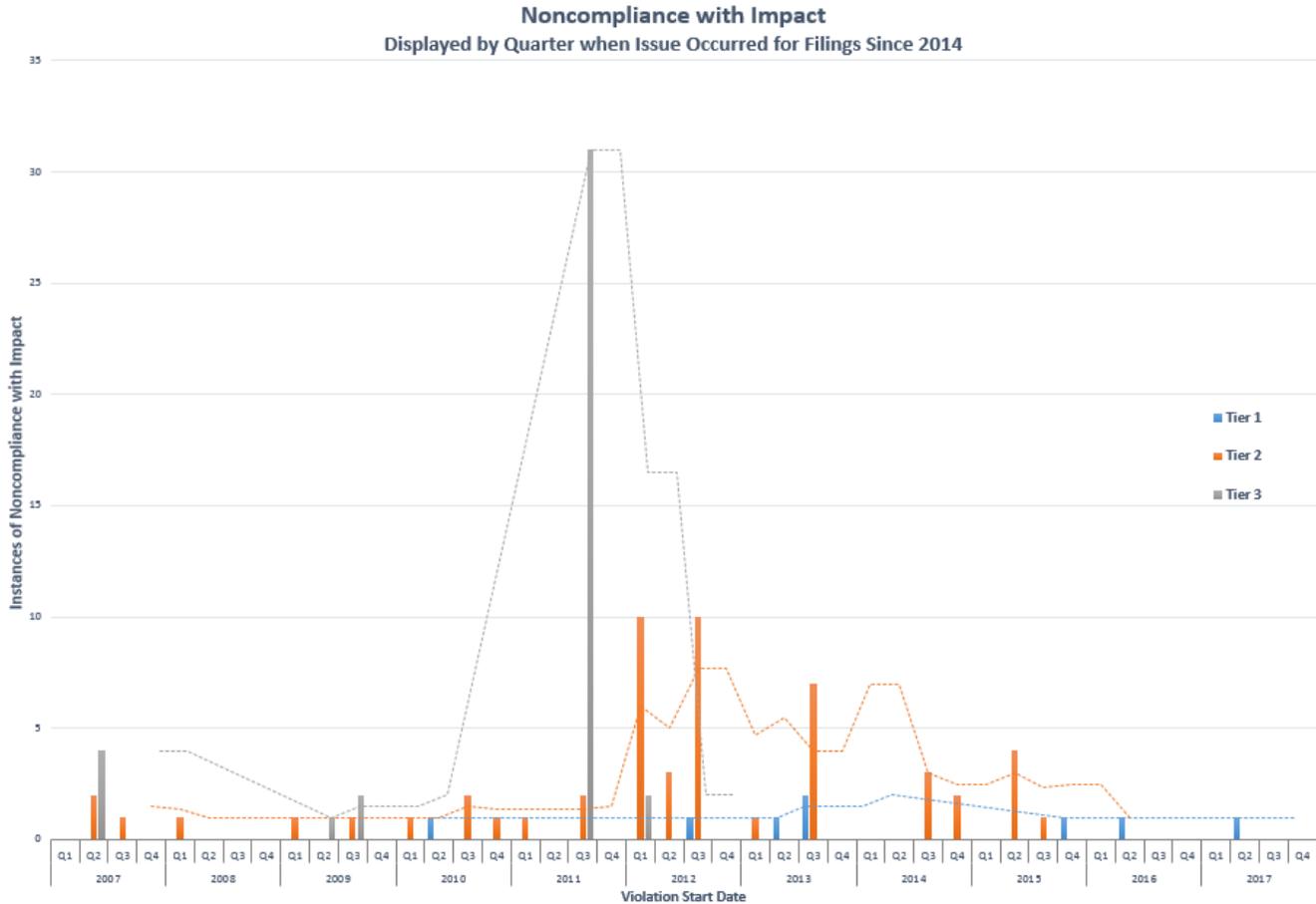


Figure A.9: Noncompliance with Impact by Quarter

<sup>20</sup> Tier 0 observations (no observed impact) are not depicted. Tier 1 violations are minor impacts of lesser magnitude. Tier 2 violations 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.10 and A.11 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. Enforcement has a target of keeping the percentage of serious risk violations for each period below five percent for 2018. Figure A.10 shows the breakdown excluding CIP Version 5 noncompliance, and the following chart includes all CIP Versions. Both are currently below the five percent threshold.

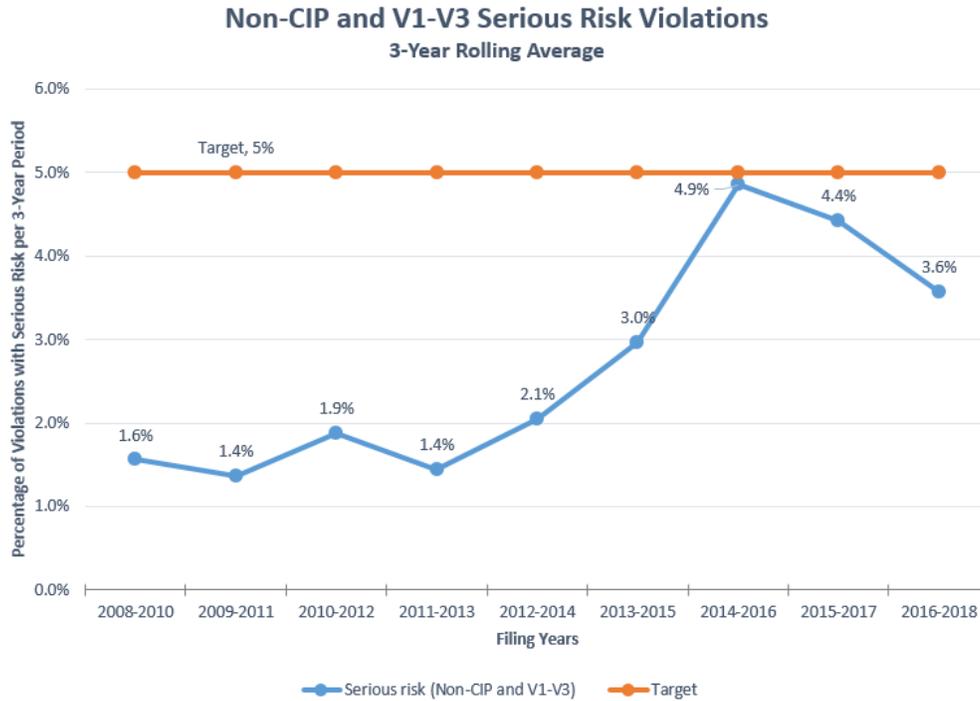


Figure A.10: Rolling Average of Serious Risk Violations (Excluding CIP Version 5)



Figure A.11: Rolling Average of Serious Risk Violations (Including All CIP Versions)

### Compliance Severity Risk Index

Figures A.12 and A.13 show the ERO Enterprise’s Compliance Severity Risk Index. The total value of the stacked columns indicates the index for the ERO Enterprise for a given discovery year; however, more recent years have not yet been fully processed. The dotted line represents the percentage of violations discovered that have been filed or posted and can indicate what percentage may still change and continue to have an impact on a given year’s index. For the non-CIP and CIP V1-V3 (Figure A.12), the threshold was a value chosen that was considered part of a downward trend that was statistically significant. The target was set at 50 percent or less of the 2011 index for the non-CIP and CIP V1-V3. For all CIP violations (Figure A.13), the threshold and target was set at 65 and 55 percent of the 2011 index, respectively.

At the end of 2017, the index for noncompliance discovered in 2015 and 2016 was below the established target ceiling and remains so after the first quarter of 2018. 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 assigned and no index calculated. Assuming an approximate breakdown in risk based on historical trends, NERC was able to project how the indices for 2015 and 2016 would appear once it filed all noncompliance discovered in those years. Projections indicate remaining below the targeted ceiling for both years.

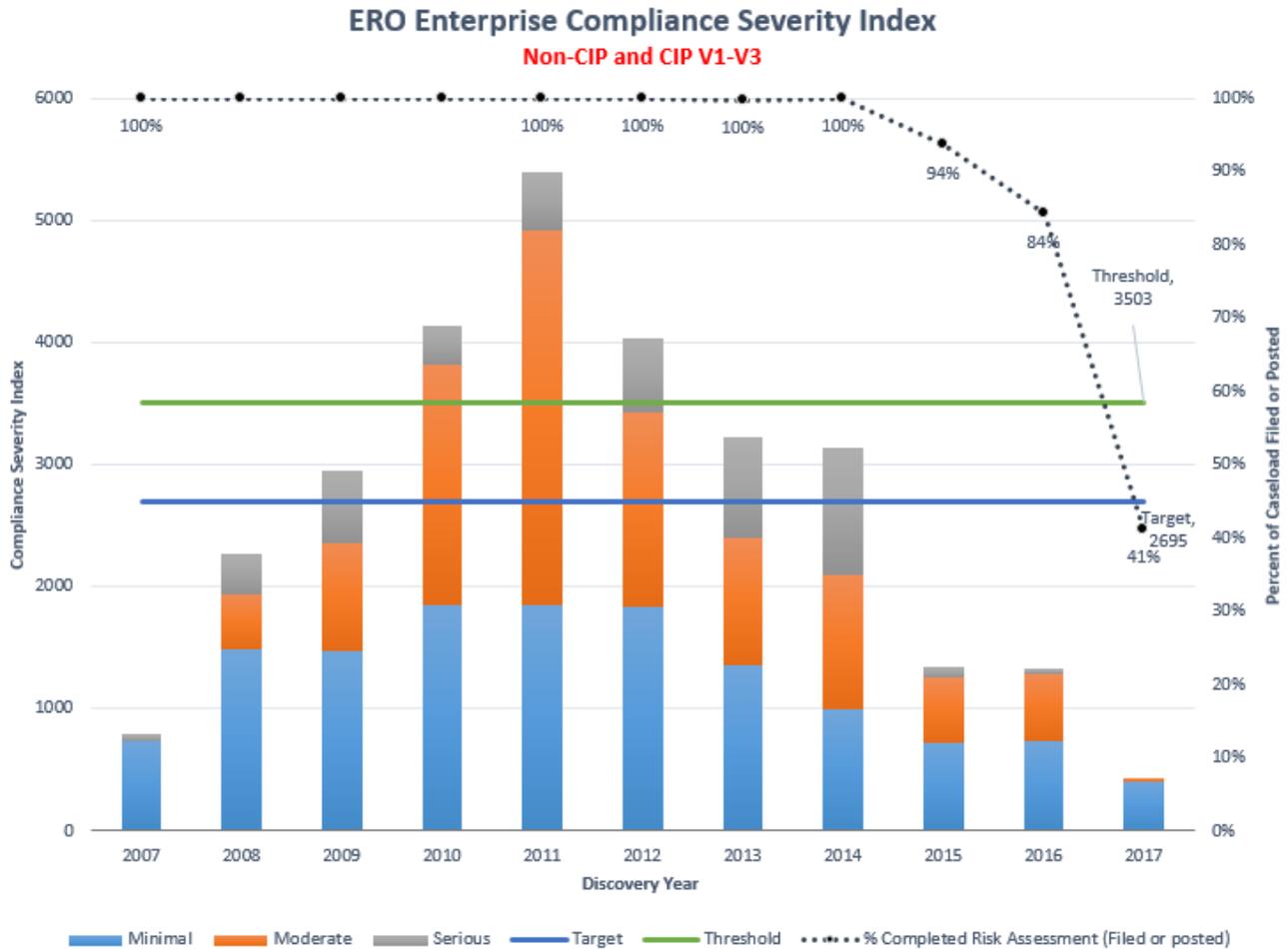


Figure A.12: Compliance Severity Risk Index for non-CIP and CIP V1 through V3

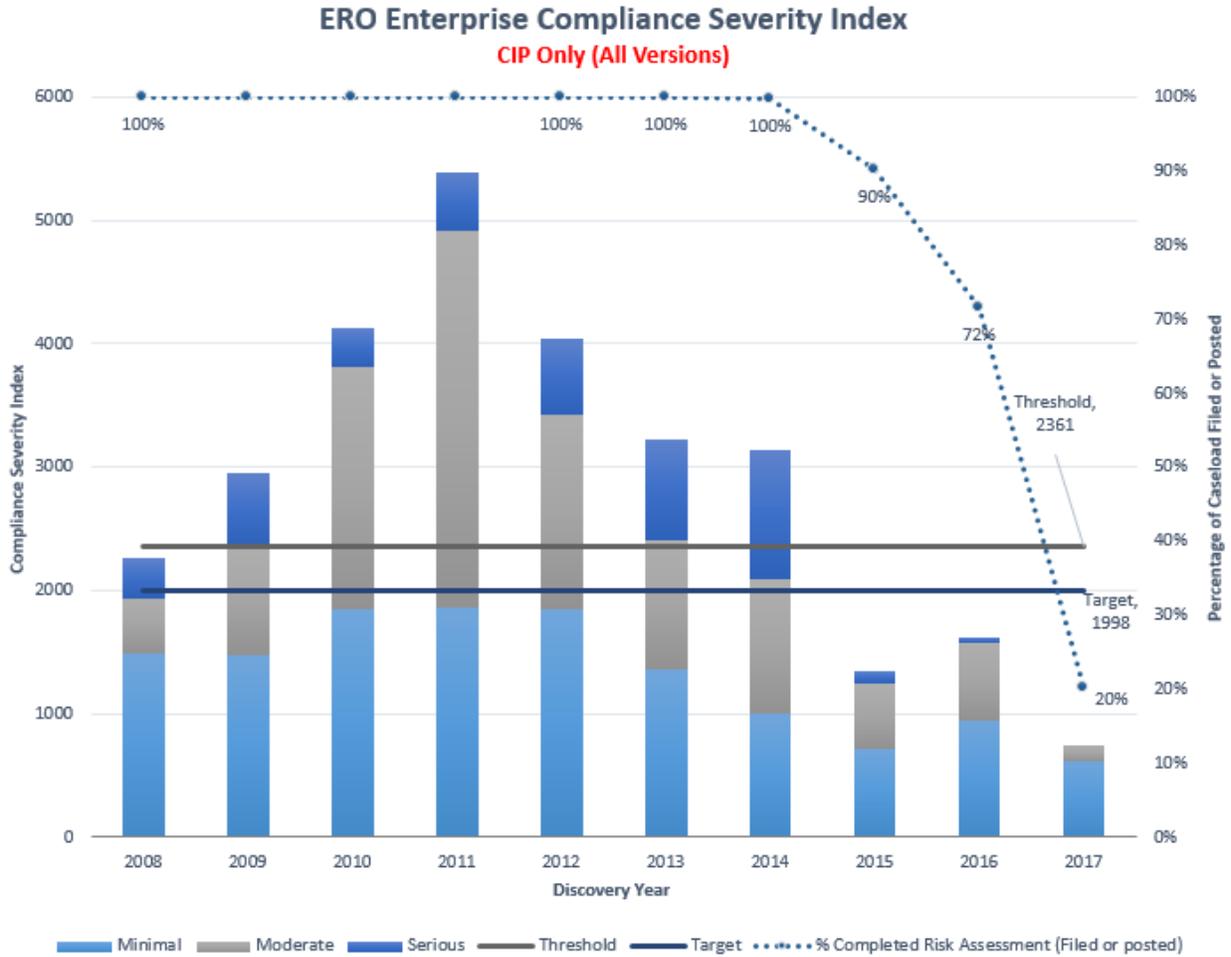
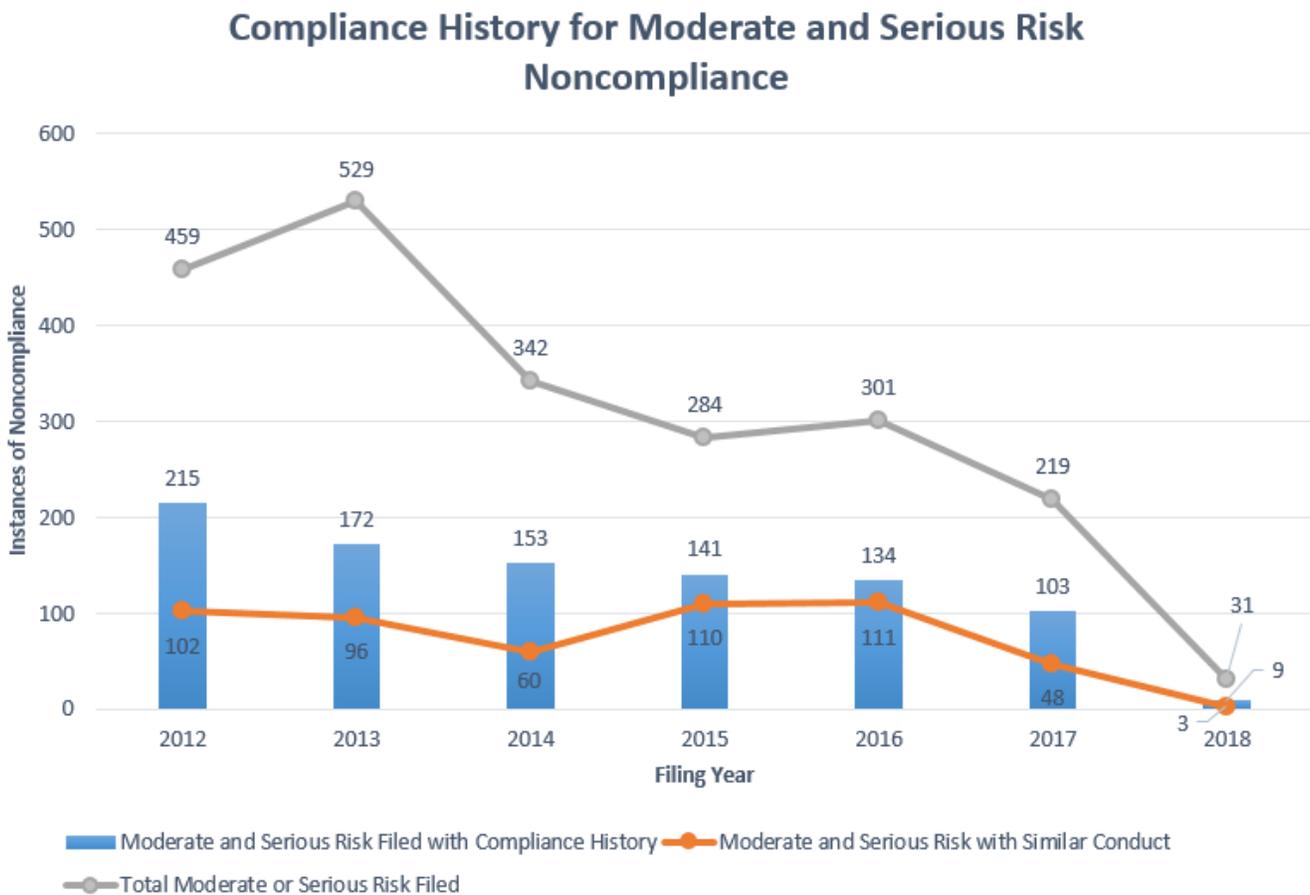


Figure A.13: ERO Enterprise Compliance Severity Risk Index for all CIP Violations

### Reduced Repeat Moderate and Severe Risk Violations

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

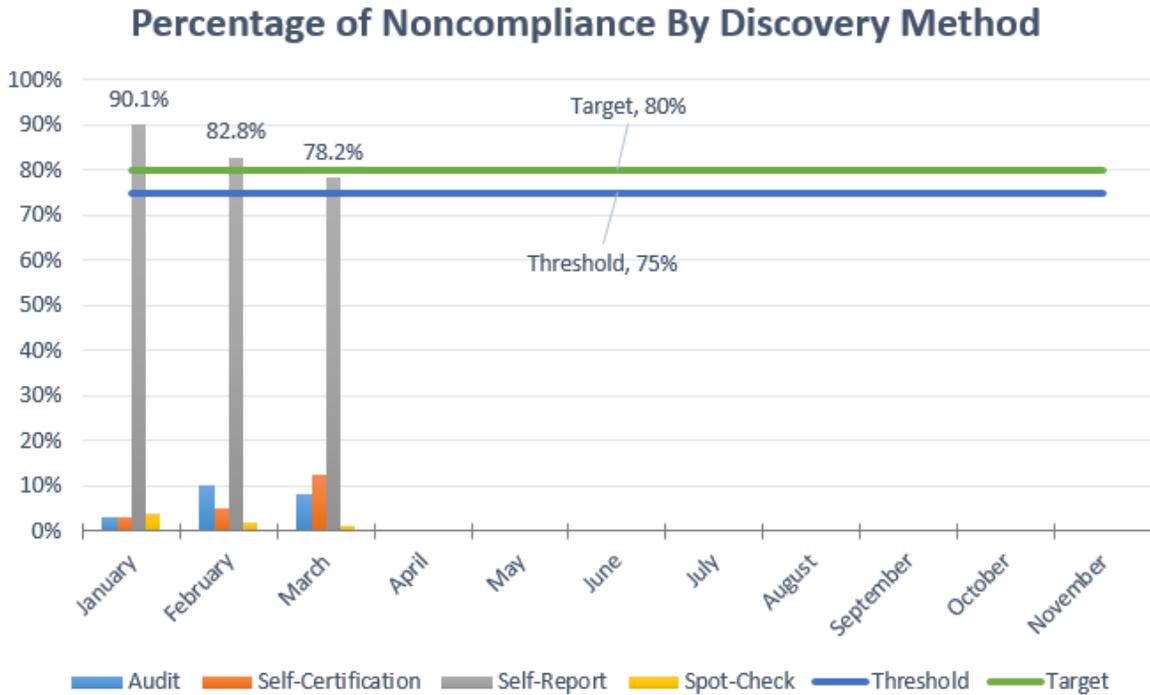
Figure A.14 juxtaposes three categories of moderate and serious risk noncompliance: noncompliance with compliance history (blue columns), noncompliance with compliance history involving similar conduct (orange line), and all filed moderate and serious risk noncompliance (gray line). Noncompliance with 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. Out of 31 moderate and serious risk violations filed so far in 2018, there have been nine moderate or serious risk violations with compliance history and three with similar prior conduct.



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

### Self-Assessment and Self-Identification of Noncompliance

As part of an effort to reduce risk from noncompliance, the ERO Enterprise is looking beyond the broad categories of internal and external discovery and instead closely monitoring self-reported issues in 2018. Figure A.15 shows the percentage of noncompliance by discovery method.

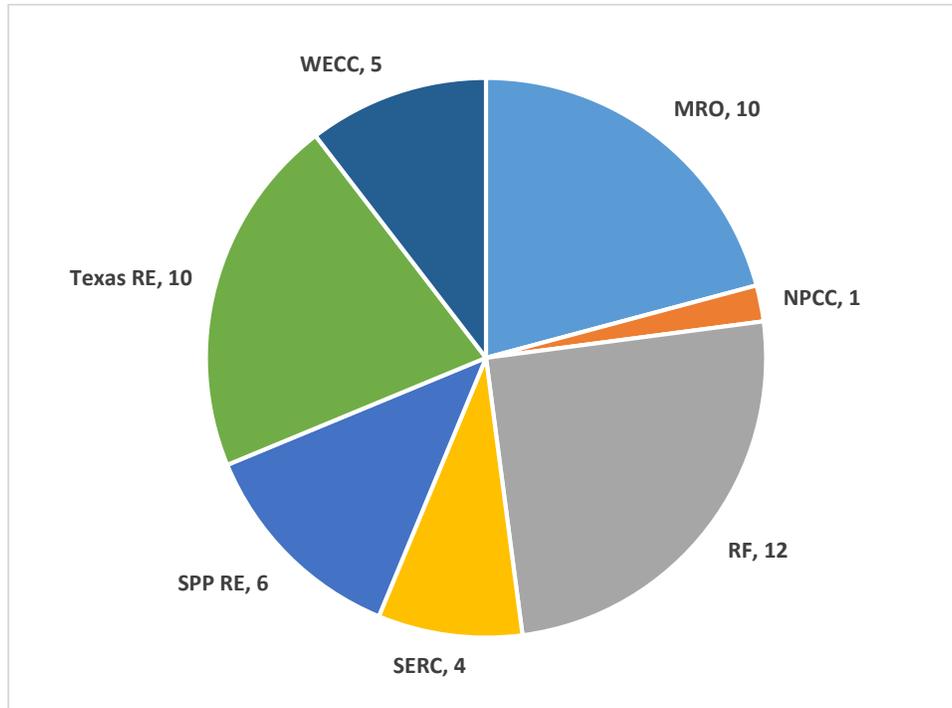


**Figure A.15: Percent of Noncompliance by Discovery Method**

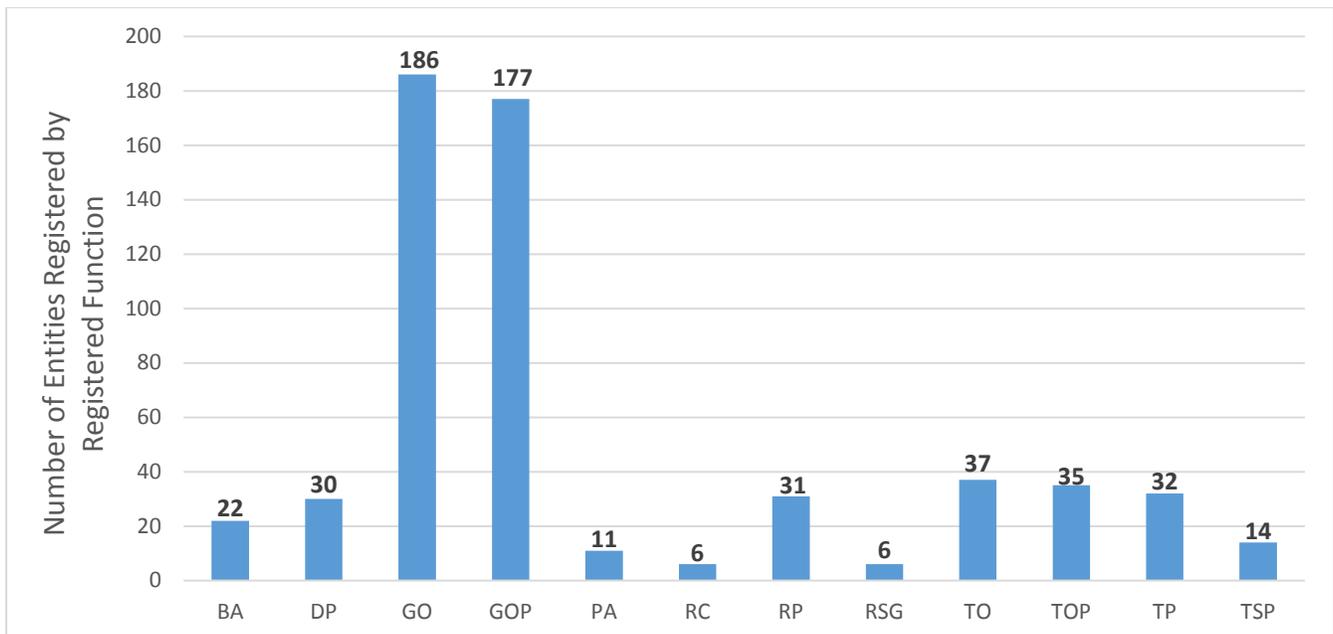
## Appendix B: Compliance Assurance

### Coordinated Oversight Program for MRREs

Figure B.1 represents the distribution of the 48 MRRE groups by Lead RE, comprised of 246 MRREs, and Figure B.2 represents the distribution of MRREs by registered function.



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



**Figure B.2: Coordinated Oversight Distribution by Registered Function**

## ERO Enterprise Completion of Initial IRAs

The chart below identifies the number of IRAs completed by each RE. Since beginning the assessments in Q1 2018, the REs have completed 1,197 IRAs for 1,524 registered entities.<sup>21</sup> The ERO Enterprise completed IRAs for approximately 79 percent of the total number of registered entities.<sup>22</sup> All REs have completed IRAs for all entities registered as Reliability Coordinators and Balancing Authorities with two recently registered Transmission Operator entities scheduled for completion in 2018. NERC and the REs anticipate registration changes that will affect overall IRA completion. Therefore, IRA activity prioritization will consider registered functions and registration changes to ensure IRAs are completed.

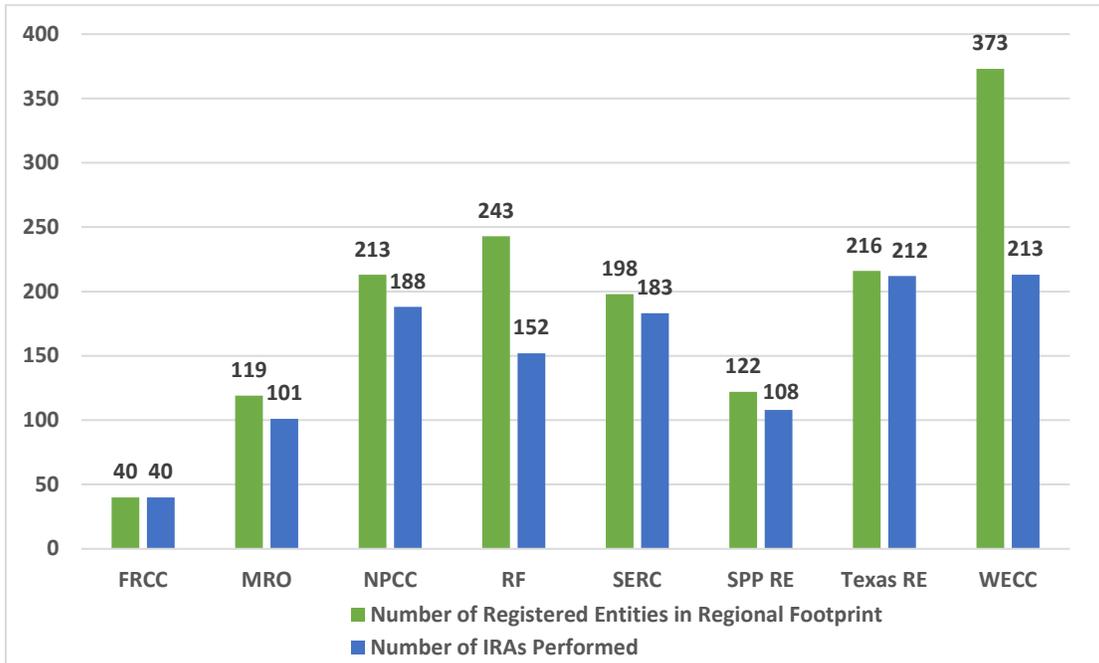


Figure B.3: RE Completion of IRAs

<sup>21</sup> NERC bases the number of registered entities on the registration cut-off date in Q1 2018, which includes all newly registered entities. NERC does not include deregistered entities.

<sup>22</sup> Some of the registered entities are MRREs in the Coordinated Oversight Program. As such, until the Lead RE completes the IRA for that MRRE Group, the numbers do not update for the Affected REs. Therefore, some of the REs included in Figure B.3 do not receive credit until their IRAs are completed.

## Appendix C: Registration

The following charts depict Q1 2018 registration change activity by RE and by function.

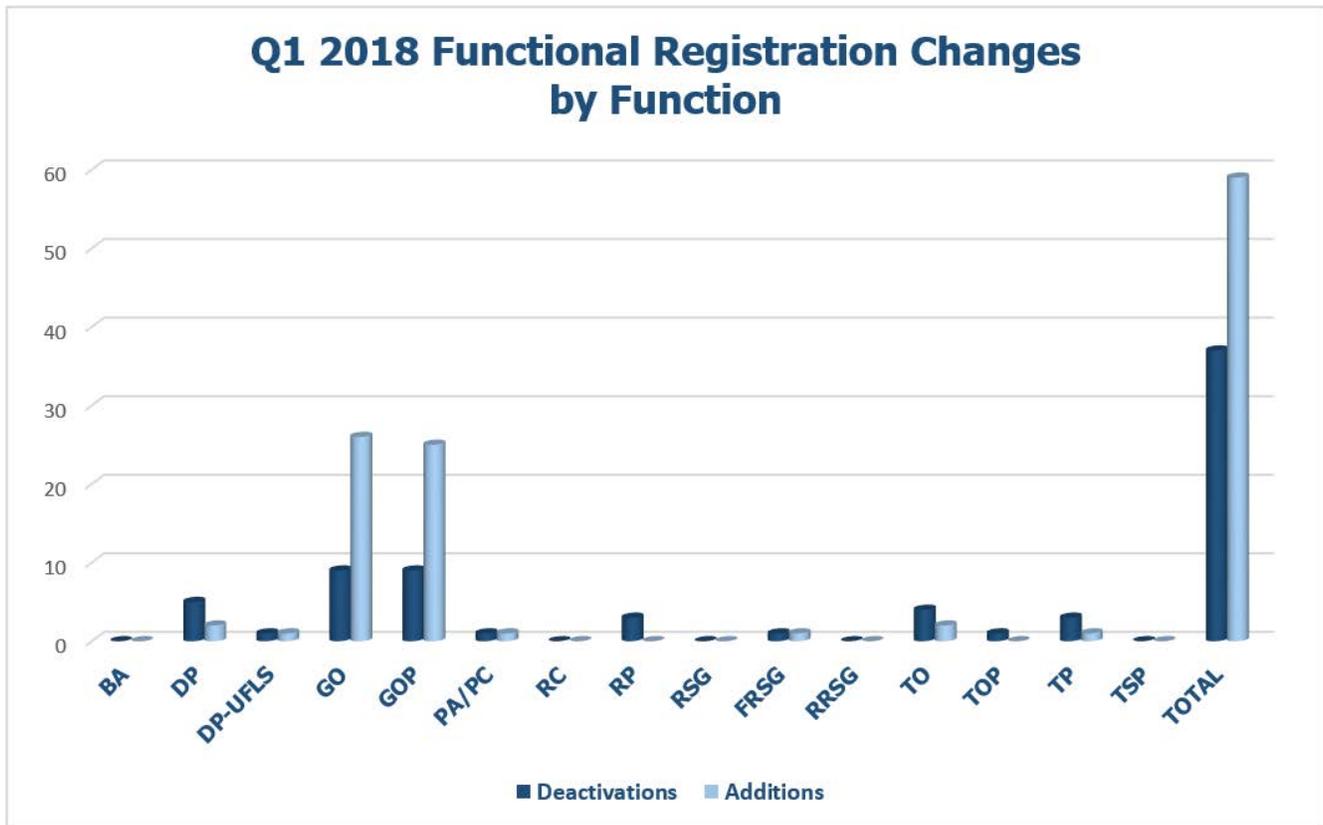


Figure C.1: Q1 2018 Registration Change Activity by Function

Table C.2: Functional Registration Change Activity by Function and Total Q1 2018 Changes

	BA	DP	DP-UFLS	GO	GOP	PA/PC	RC	RP	RSG	FRSG	RRSR	TO	TOP	TP	TSP	TOTAL
<b>Deactivations</b>	0	5	1	9	9	1	0	3	0	1	0	4	1	3	0	37
<b>Activations</b>	0	2	1	26	25	1	0	0	0	1	0	2	0	1	0	59

REs provide justification when approving registration change activity, as shown in Table C.3.

Table C.3: Q1 2018 Registration Change Basis	
BES Exception Approval	4
Compliance responsibility assumed by another registered entity	22
Determined not to meet registration criteria	7
Facilities shut down	2
Sold to another registered entity	2

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Compliance Monitoring and Enforcement Program Quarterly Report

Q1 2018

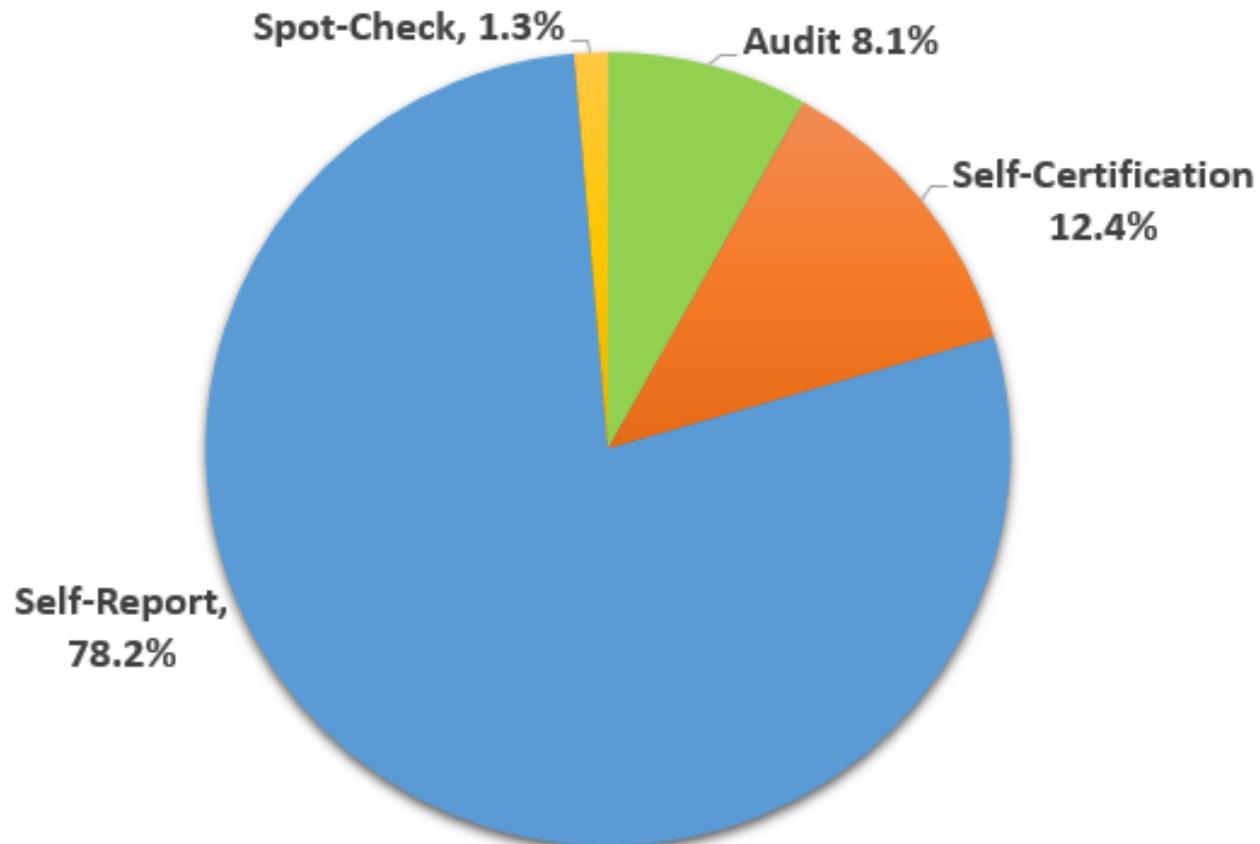
Sonia Mendonça, Vice President, Deputy General Counsel, and Director of Enforcement  
Ken McIntyre, Vice President of Standards and Compliance  
Compliance Committee Meeting

May 9, 2018

**RELIABILITY | ACCOUNTABILITY**



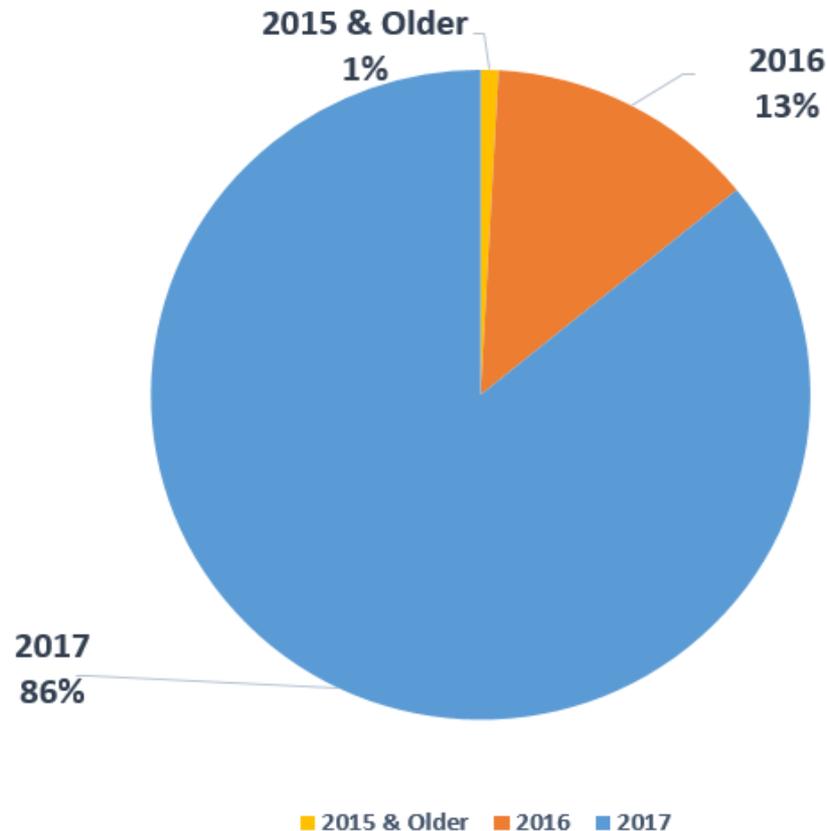
## Percentage of Noncompliance by Discovery Method in Q1 2018



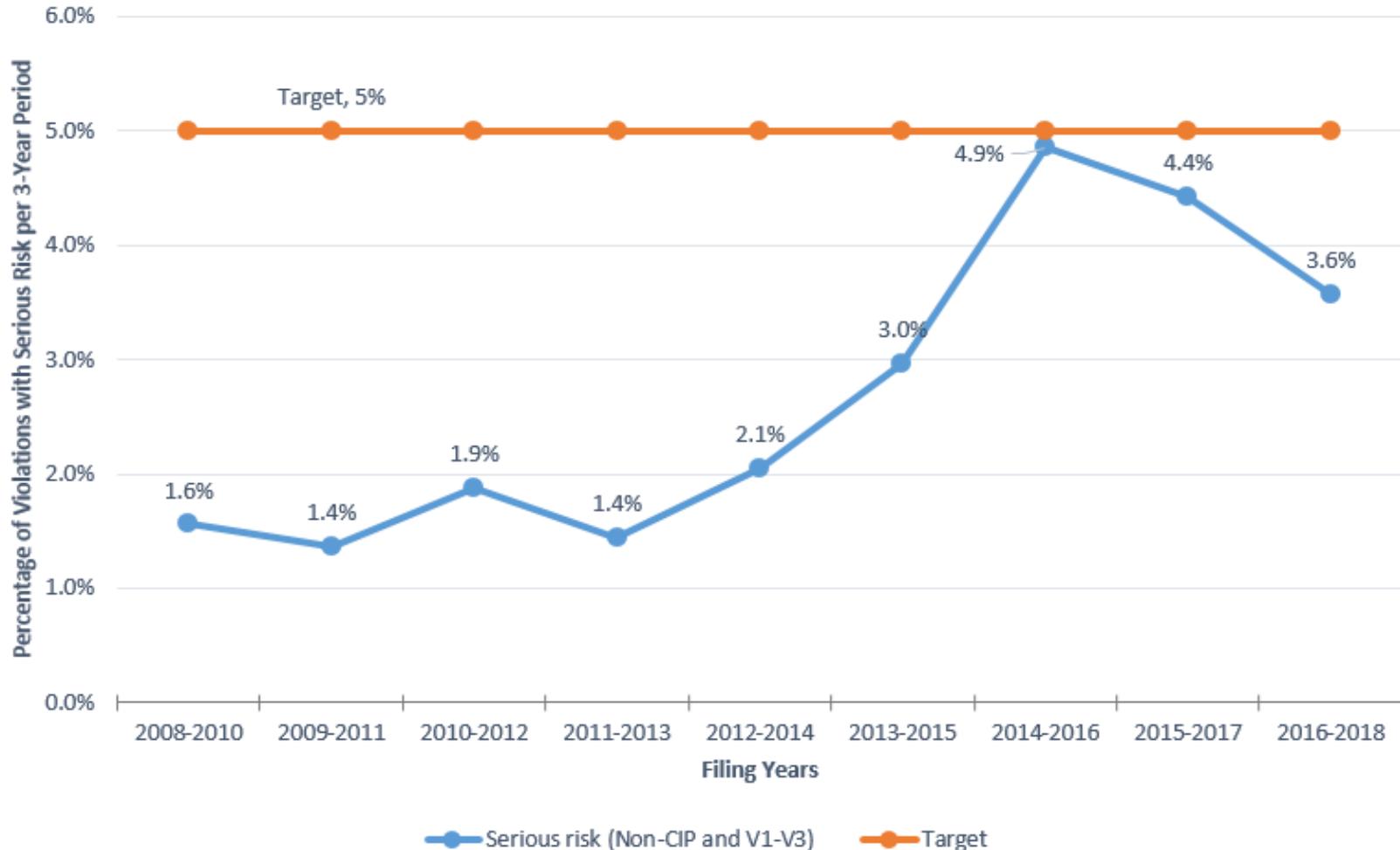
**Table A.1: Mitigation Completion Status**

Time Frame	Required Mitigation	On-going	Progress Toward Goal	Threshold	Target	Progress Since Last Quarter
2015 and Older	10209	11	99.9%	99%	100%	0.02%
2016	1155	168	85.5%	85%	90%	5.34%
2017	2014	1086	46.1%	70%	75%	10.68%

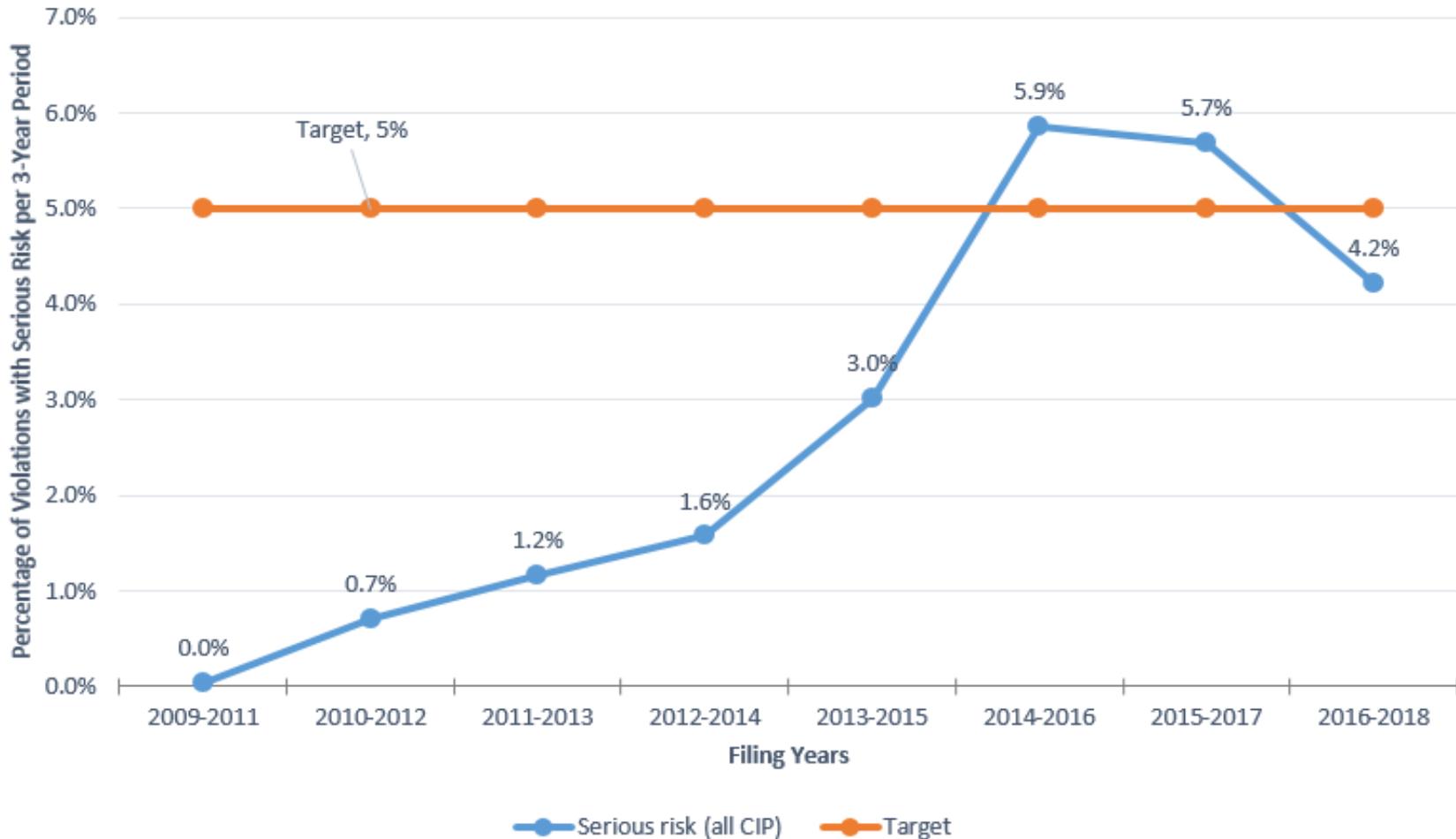
**Ongoing Mitigation by Discovery Year**



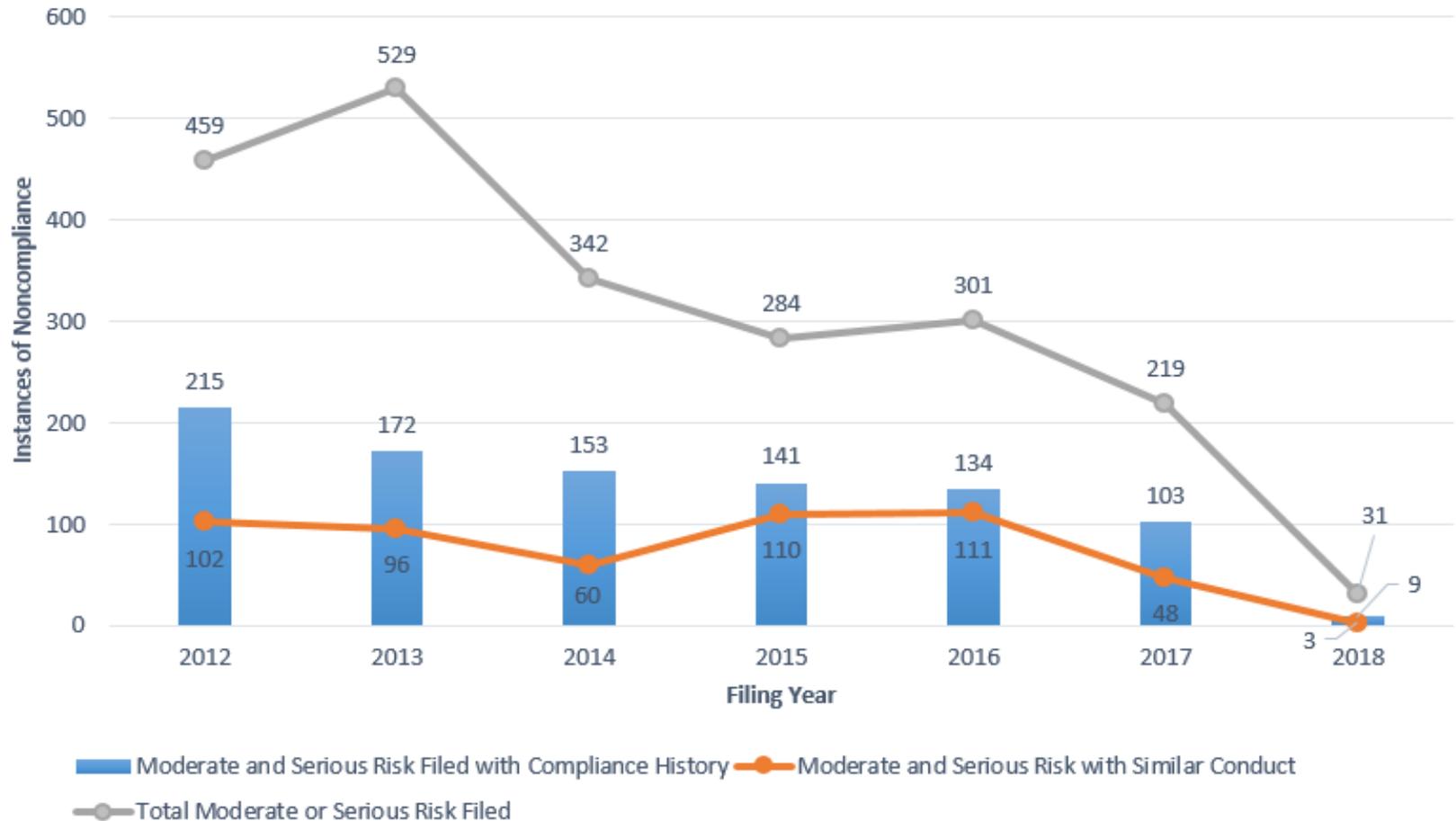
## Non-CIP and V1-V3 Serious Risk Violations 3-Year Rolling Average



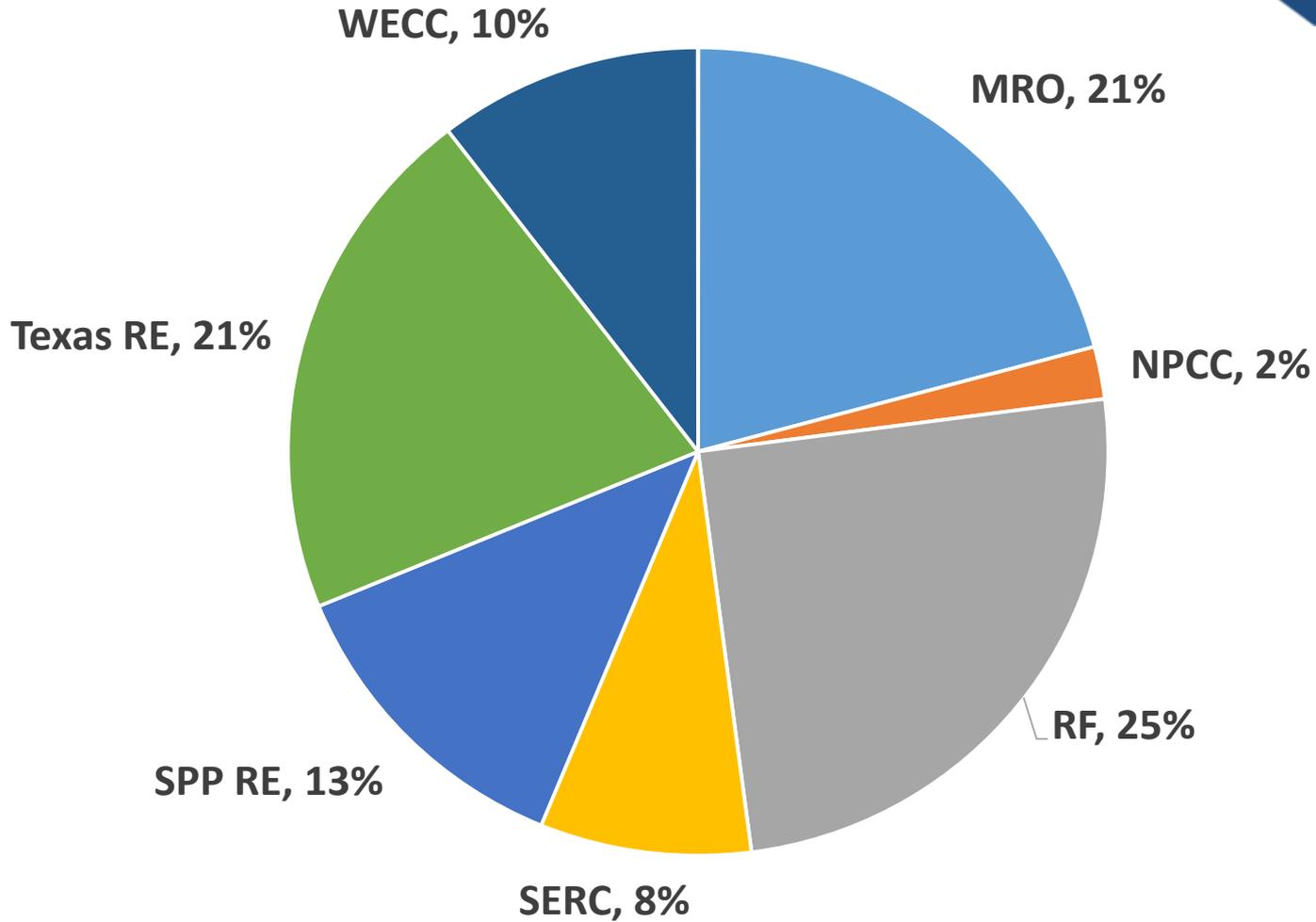
## CIP Only Serious Risk Violations 3-Year Rolling Average



## Compliance History for Moderate and Serious Risk Noncompliance



- Implementation Guidance
  - Eight endorsed, one non-endorsed, and four currently under review
- The Compliance and Certification Committee (CCC) approved a new Pre-qualified Organization.
  - EnergySec



Percentage of MRREs under Coordinated Oversight by Lead RE

- Program Alignment Items:
  - Twelve completed, and
  - Five in progress.
- Continued outreach in collaboration with CCC Alignment Working Group at Regional Entity workshops



# Questions and Answers