Progress Report on Implementation of the Risk-Based Compliance Monitoring and Enforcement Program

Action
Update

Background
On a quarterly basis, NERC provides the Board of Trustees Compliance Committee (BOTCC) an update on the implementation of the Compliance Monitoring and Enforcement Program (CMEP). The instant report focuses on the ERO Enterprise's implementation of the risk-based CMEP in the third quarter of 2015 (Q3 2015). In particular, this report describes the ERO Enterprise's progress in self-logging, and Compliance Exceptions, among other CMEP activities. In addition, this report provides an update on the ERO Enterprise processing-related goals and metrics in 2015 and other relevant trends.

Finding and Analyzing Publicly Available NERC Enforcement Data
In addition to periodic reports such as this, NERC makes a significant amount of enforcement data and analysis available on its website and updates it regularly. An August 2013 presentation explains how to navigate the enforcement pages and analyze enforcement data.

The publicly available data includes searchable lists of all Notices of Penalty, Spreadsheet Notices of Penalty, and Find, Fix, Track, and Report issues processed since the inception of these enforcement mechanisms. Recently, NERC added a searchable list of Compliance Exceptions on its website. In addition to this quarterly compliance analysis, annual reports associated with the CMEP also are available on NERC's website.[1]

Questions regarding finding publicly available NERC enforcement data can be sent to enforcement@nerc.net.

---

[1] http://www.nerc.com/pa/comp/Resources/Pages/default.aspx

Compliance Monitoring and Enforcement Program Quarterly Update

Q3 2015

November 4, 2015

RELIABILITY | ACCOUNTABILITY

Table of Contents

Introduction

On a quarterly basis, NERC provides the Board of Trustees Compliance Committee (BOTCC) an update on the Compliance Monitoring and Enforcement Program (CMEP) trends. The instant report focuses on the ERO Enterprise's[1] implementation of the risk-based CMEP in the third quarter of 2015 (Q3 2015). In particular, this report describes the ERO Enterprise's progress in implementing self-logging and Compliance Exceptions among other CMEP activities. In addition, this report provides an update on the ERO Enterprise processing-related goals and metrics in 2015 and other relevant trends and includes information on the continued development of the ERO Enterprise's metrics related to the effectiveness of its programs.

---

[1] The ERO Enterprise includes NERC and the eight Regional Entities.

Serious Risk Violation Trends

The ERO Enterprise is committed to evaluating the effect of its compliance and enforcement processes on reliability performance, reduction of reliability risks, and compliance efficiencies.

Since 2010, NERC has gathered data on and regularly monitored violations posing serious risk to the bulk power system (BPS) and the Standards associated with these violations. These violations are show in Figure 1, below.[2] Since the Southwest Blackout in the third quarter of 2011, the number of serious risk violations has declined. Standards related to reliability coordination and transmission operations are the most violated Operations and Planning (O&P) standards associated with serious risk violations. From the CIP group of standards, CIP-007 is the most commonly violated standard leading to serious risk violations, but other CIP standards such as CIP-005 and CIP-006 have also been associated with serious risk violations.
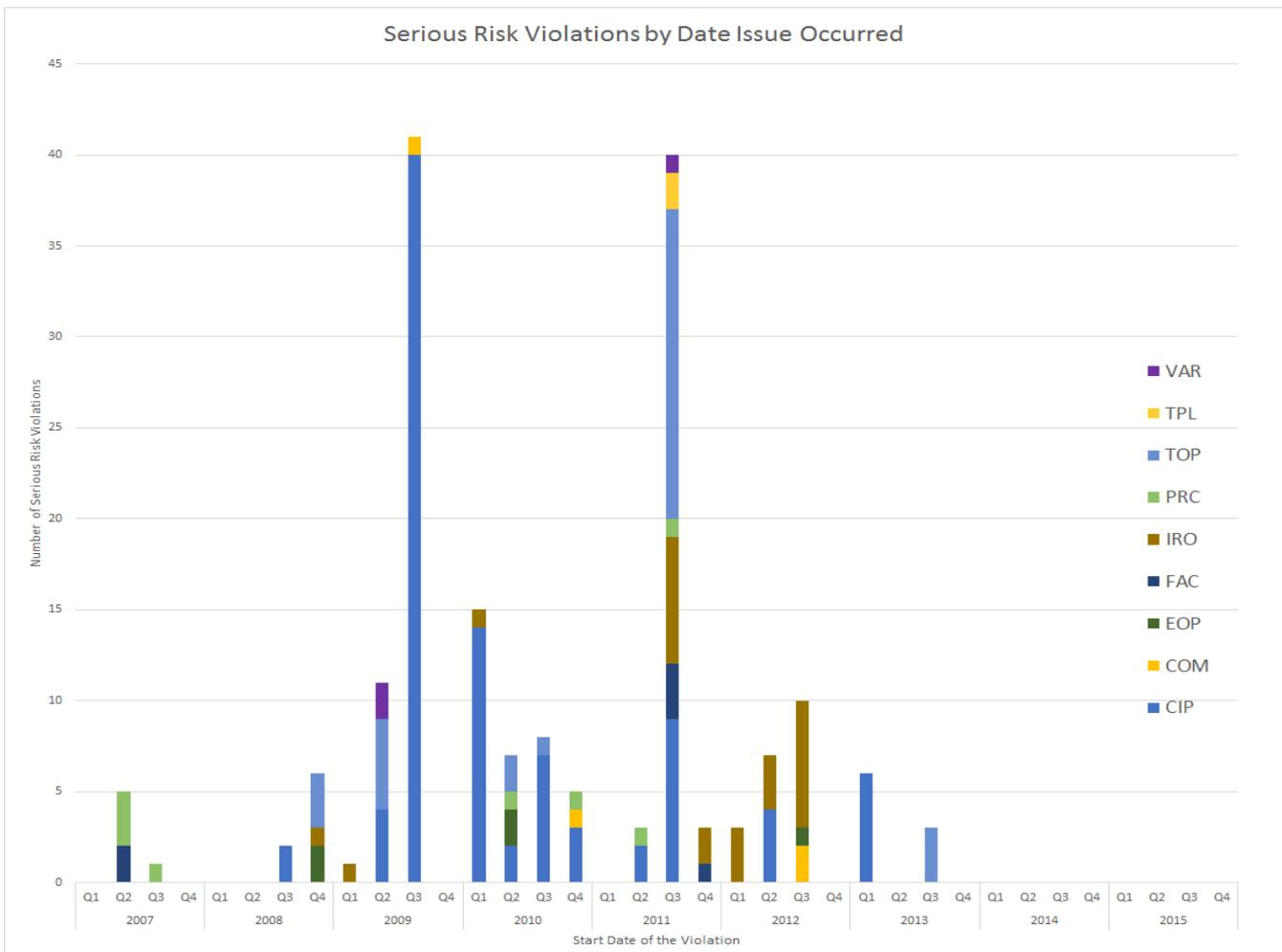
Figure 1: Serious Risk Violations by Quarter in Which the Violations Occurred

---

[2] The chart includes those violations that were processed between 2010 and Q3 2015. The chart only includes violations individually identified as having posed a serious or substantial risk to the reliability of the BPS. In some cases, individual instances of noncompliance may be classified as minimal or moderate but in the aggregate, pose a serious risk to the reliability of the BPS. See, for example, NERC Full Notice of Penalty regarding Unidentified Registered Entity, Docket No. NP15-33-000, filed August 31, 2015, available at: http://www.nerc.com/pa/comp/CE/Enforcement%20Actions%20DL/PUBLIC_FinalFiled_NOC-2435_Full_NOP_Settlement_8-31-15.pdf.

Figure 2: Most Commonly Violated Reliability Standards Associated With Serious Risk

As shown below in Figure 3, serious risk violations continue to account for a small portion of all instances of noncompliance reviewed by the ERO Enterprise.

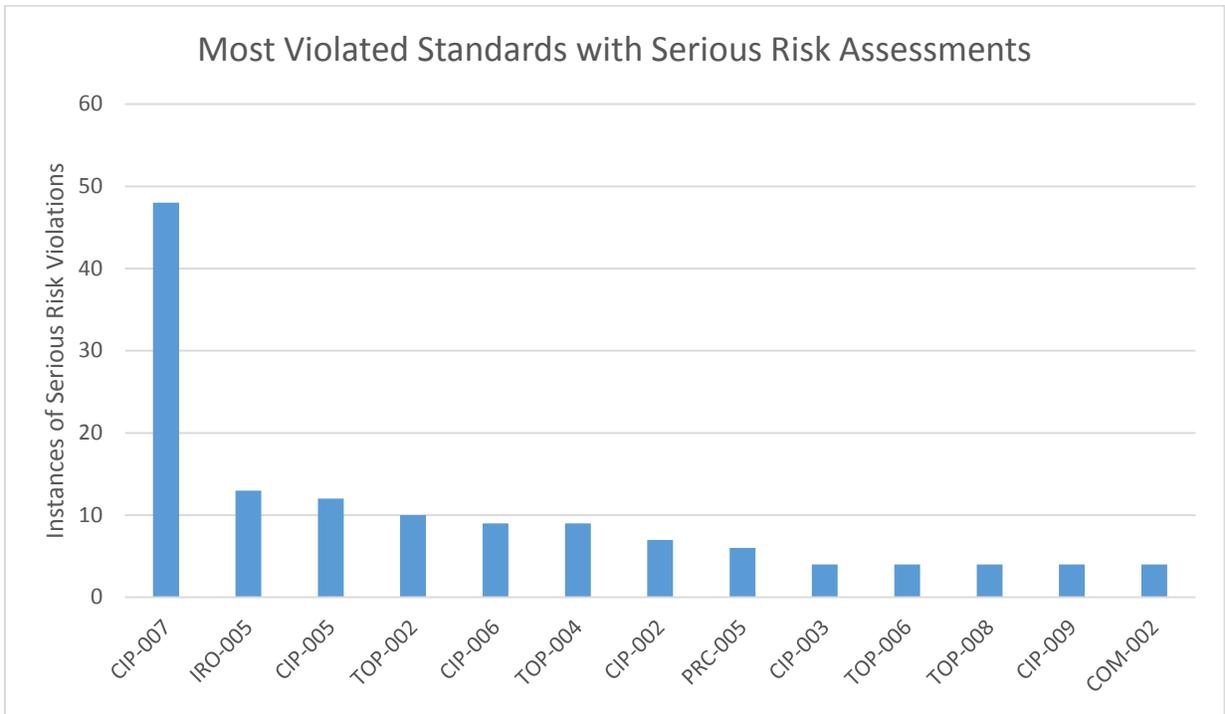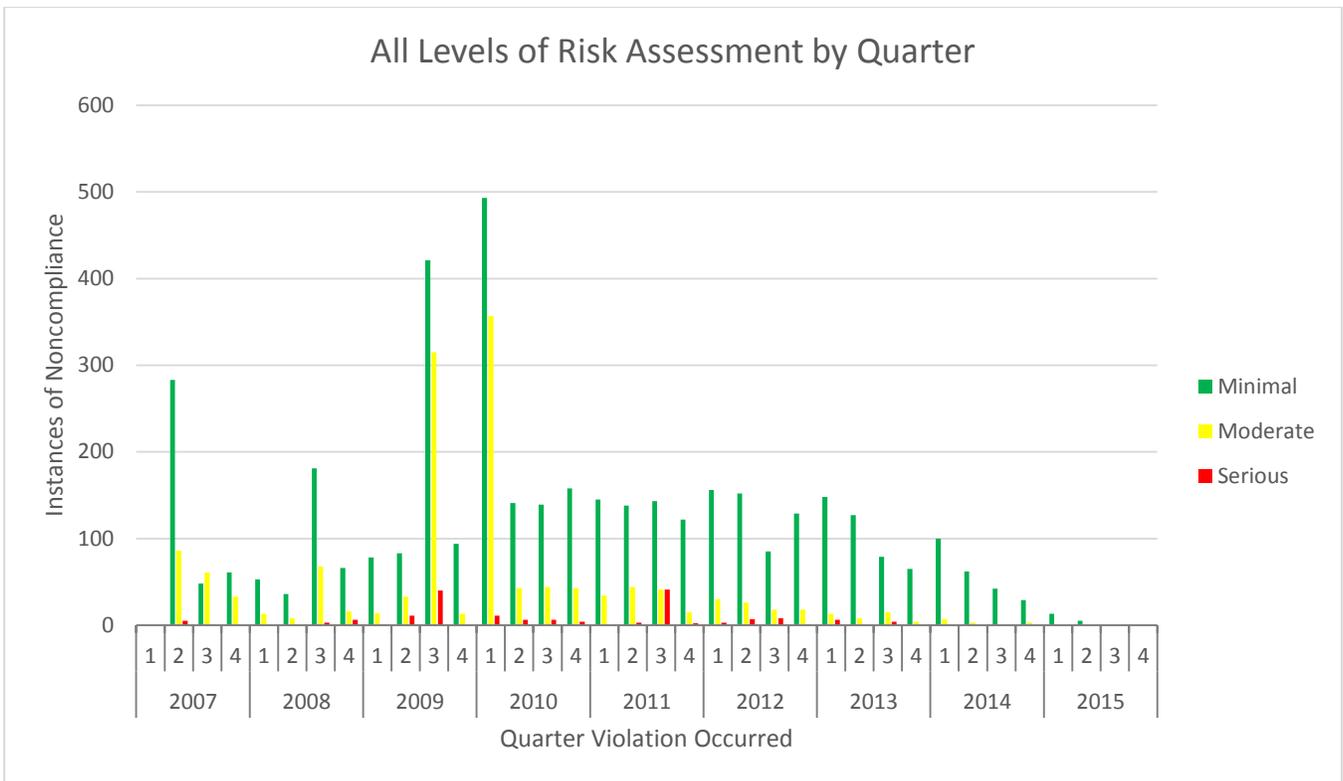## Figure 3: All Violations by Quarter in Which the Violations Occurred

NERC analyzes noncompliance at all risk levels to identify patterns, trends, and areas of focus. While the percentage of serious risk violations is small, the review and analysis of past issues can help identify practices that could be helpful in preventing similar violations. In Q3 2015, NERC conducted a preliminary analysis of the 93 non-CIP serious risk violations shown in Figure 1. This analysis used the cause code assignment process to identify applicable trends.[3]

Five main initial trends were identified through this review. Management/Organization, Individual Human Performance, Equipment/Material Problem, Communication and Training Deficiency were the most common causes identified within this set of serious risk violations. The analysis also highlighted the importance of comprehensive processes and controls in safeguarding reliability.

This section briefly summarizes examples of violations associated with the most prevalent causes observed and identifies opportunities and means for avoiding or minimizing the risk of similar violations in the future. However, nothing in this document is intended to create requirements or obligations.

Trend 1: Management/Organization

Management/organization deficiencies are related to a variety of areas such as: (a) insufficiency in guidance, monitoring, assessment, accountability, or corrective action, (b) inadequate resource allocation, work organization, and planning, and (c) supervisory methods and/or change management.

Management/organization deficiencies were particularly noticeable in violations discovered and reported prior to 2012 (71% of the serious risk violations reviewed). Nearly half of these issues were discovered through audits and investigations.

For violations discovered in 2007-2009, change management was the main cause of violations. In 45% of the cases, there was a failure to anticipate the challenges of transitioning from voluntary to mandatory Reliability Standards. Since that time, efforts related to preparedness from the ERO Enterprise and industry increased. These efforts include increased communication through reports, lessons learned, training, webinars and other activities in addition to higher engagement and collaboration between industry and ERO Enterprise staff.

NP11-18-000[4] is an example of typical issues that arose during the early years of mandatory compliance with Reliability Standards. During the early years, the registered entities often could not produce required evidence to demonstrate expected actions such as completion of periodic testing of protection systems. Entities often lacked evidence for a large number of assets and array of components. Also, registered entities lacked sufficient documentation of procedures. In other cases, existing documentation had not been reviewed or updated for years.

Less than adequate preparation has led to change management issues after the 2007-2009 period, but in those cases, the root cause of the problem was often related to delay or deficiencies in recognizing internal issues. In the majority of the filings reviewed, the entity did not recognize the problem until it manifested itself through a series of related or unrelated issues. Understanding the interdependencies among various processes, systems and tools is key to the organization's ability to identify, communicate, manage and mitigate risk.

For example, in NP15-24-000, the entity experienced a failure of its energy control system (ECS) for approximately 91 minutes. During this period, the transmission operations control center lost monitoring and control capabilities.

---

[3] The cause code assignment process was used for analysis of the violations and identification of frequent and common causes. It was not a factor in the determination of the risk or the outcome of the violations reviewed. The analysis was based on information available from the public filings associated with these serious risk violations. No additional information was collected.

[4] All notices of penalty discussed here are available in the Enforcement and Mitigation page.

The root cause of the service interruption was that the entity had not assessed a software upgrade released at the time of the ECS outage. Registered entities should closely evaluate the timing and potential consequences of software upgrades, use real-time monitoring tools, and have compensating measures in place to mitigate the risk of exposure. Issues experienced by registered entities in the filings reviewed often revealed problems in one or more areas that were previously unknown or were neglected.

Another observed trend stemmed from organizations' documentation methods. Documentation and recordkeeping are essential aspects of risk management and should be part of an organization's operations strategy. Proper, complete, and quality documentation allows entities to reduce their risk of exposure and provide a well-controlled change process that detects, identifies, and corrects issues that may have unintended consequences.

For example, in NP13-26-000, a line fault was caused when an aluminum carport was lifted by high winds and blown into a transmission line within a substation. During the commissioning of the breaker at the substation, wiring errors went unnoticed and the instructions for the design provided an incorrect current transformer ratio that the commissioning engineer followed while performing his duties. These two factors in conjunction exacerbated the event. The errors made during commissioning prevented the breaker from tripping as designed for the line fault. If the registered entity followed its commissioning procedure according to its protection system maintenance and testing program which contained a checklist of items to be performed and had a formal assurance process to verify completion of the work, the entity could have detected the errors and corrected the commissioning errors in order to prevent the event.

In summary, it is highly beneficial to implement controls to ensure internal processes are followed. Registered entities need tools, documentation, and periodic reviews in place to monitor the controls. By implementing proper controls any missed or unresolved issues can be identified sooner and compensating measures can be initiated to correct the issues before they manifest into larger complications.

Trend 2: Individual Human Performance

While it is not unusual to find a degree of individual human performance involved in noncompliance issues, the vast majority of individual errors in the violations reviewed were related to latent organizational weaknesses such as poor data integrity or less than ideal decision making tools. For example, in NP14-33-000, a skill-based error occurred when experienced staff was faced with a large number of issues occurring simultaneously. It is important to ensure proper assistance and support are available to an organization's staff, in order to decrease the likelihood of individual human errors. Decision making tools for individuals also need to be sufficient, functioning properly, and permanently available. In addition, proper contingency plans should also be ready to be deployed or implemented as needed. In the majority of serious risk violations reviewed, registered entities mitigated individual human error through training to correct and prevent recurrence. Training serves as a valuable tool to educate, restore, and emphasize expectations of an organization.

Trend 3: Equipment or Material Issues

Less than adequate inspection and testing methods was the most frequently observed subcategory under this main code. As an example, in NP13-10-000, the entity practices resulted in some of its protection system devices being tested outside of the entity's defined intervals established by its Protection System maintenance program. The significant number of Protection System devices and the wide range of missed test dates for such entity with a considerable amount of load were some of the contributing factors resulting in the serious assessment of the violation. Inadequate maintenance and testing practices can lead to performance degradation that may have otherwise been discovered and mitigated earlier. An organization may utilize a range of tools based on its level of risk to manage, track, communicate and alert risk owners of time-sensitive actions.

Trend 4: Indequate Communication

In many of the cases reviewed, the root cause of inadequate communication originated from a lapse in the organization in recognizing a change and its impact on various areas. For example, NP13-56-000 described an event involving multiple entities where a combination of misunderstanding, miscommunication, lack of communication, lack of knowledge and awareness including training on updated plans and procedure hindered the load shedding necessary to relieve the exceeded stability limit and restore the bulk power system to a stable mode.

It is important for organization to perform periodic reviews of policies, processes and procedures associated with areas of risk it identifies. The periodic review will also determine the need for further actions such as staff training, risk reevaluation, to address organization's current business needs.

Trend 5: Training Deficiency

Training is a key activity that could impact many different aspect of an organization's business and performance. The violations that resulted from training deficiencies often encompassed additional causes such as individual human error or management and organizational issues. Entities should continuously assess their training goals, objectives and needs of their organizations to identify deficiencies and opportunities which can be addressed through training and education. As an example, NP13-56-000 described a situation in which an entity did not fully execute its load shedding procedure because the entity had not completed training of its operations personnel on the new procedures prior to the event. Consequently, on the day of the event, the operator attempted to execute the superseded, older process for load shedding, resulting in less than the requested load being shed.

Mitigation Completion Status

The ERO Enterprise actively tracks mitigation of noncompliance through Mitigation Plans and mitigation activities. NERC also conducts oversight of the Mitigation Plan processes and procedures to identify deficiencies and establish best practices.

During the fourth quarter of 2014, NERC conducted a review of 120 Mitigation Plans submitted to FERC in the calendar year 2013. The purpose of the Mitigation Plan review was to evaluate the Regional Entities' internal procedures and practices related to Mitigation Plan review and acceptance, certification, and verification. The review was a supplement to NERC's ongoing review of all Mitigation Plans, which are accepted by the Regional Entities and submitted to NERC for approval before they are submitted to FERC.

Based on its analysis of the review results, NERC concluded that the Regional Entities follow the procedural and content requirements of the CMEP, as they relate to mitigation activities associated with noncompliance with the NERC Reliability Standards. During 2015, NERC observed improvement across the ERO Enterprise related to the description of interim risk mitigation and cause analysis in Mitigation Plans.

NERC is closely monitoring noncompliance for which mitigation has not been completed. The ERO Enterprise encourages all registered entities to submit timely and detailed certifications of completion of Mitigation Plans or mitigation activities.
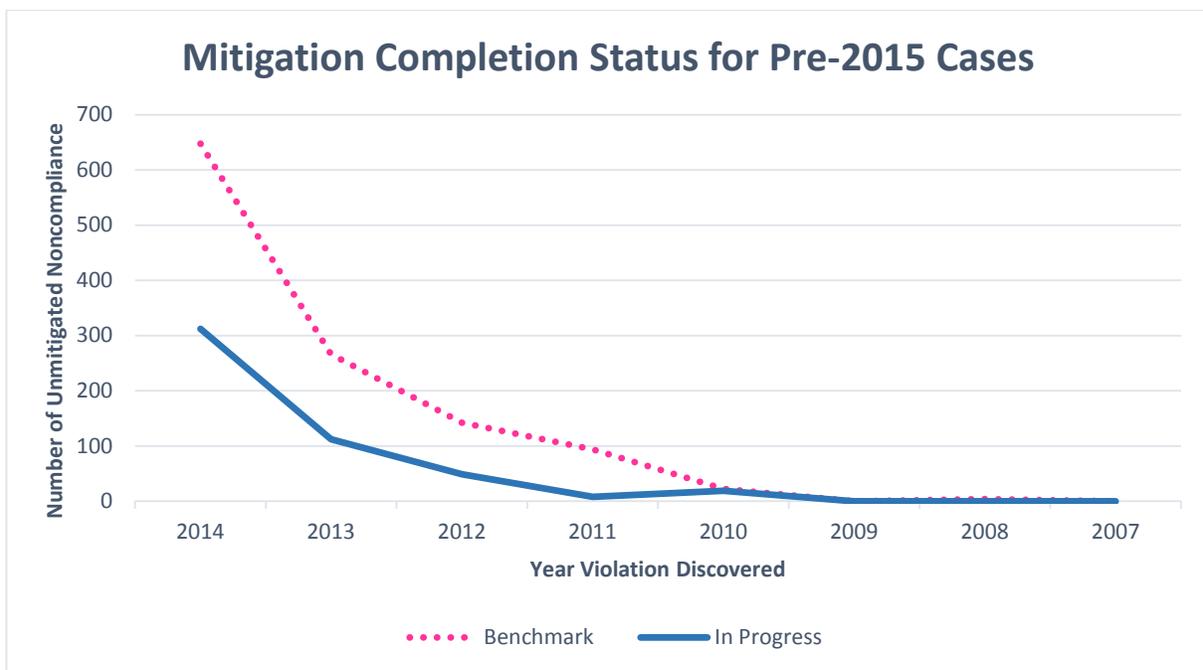

Figure 4: Mitigation Completion Status by Discovery Year

The outstanding mitigation activities from 2010 and before largely involve federal entities that have had limited interaction with their Regional Entities during the pendency of federal litigation related to NERC's ability to assess financial penalties against federal entities. Since the litigation has been resolved in 2014, the Regional Entities have made significant progress in working with the federal registered entities to resolve their noncompliance and associated mitigation. (See Figure 24.)

As of Q3 2015, mitigation has been completed for 67.9% of the instances of noncompliance discovered in 2014, which is an increase from 53.25% in Q2 2015.

The table below shows the ERO Enterprise's targets and thresholds for mitigation activity completion by discovery year of the noncompliance.

Time frame	Required Mitigation	On going	Progress toward the goal	Threshold	Target
2010 and older	4182	19	99.55%	98%	100%
2011	1742	8	99.54%	95%	98%
2012	1461	49	96.65%	90%	95%
2013	1159	112	90.34%	75%	80%
2014	972	312	67.90%	75%	80%

Table 1: Mitigation Completion Status Table

Improved Self-Assessment and Identification of Noncompliance

The ERO Enterprise Continues to Promote Self-Assessment and Identification of Noncompliance

The ERO Enterprise monitors noncompliance discovery trends and promotes self-identification of noncompliance. The ERO Enterprise has set a target that the registered entities should discover 75% of noncompliance in 2015 through internal discovery methods. Since the beginning of the year, registered entities self-identified 86% of the instances of noncompliance discovered in the year. Typically, registered entities identify a higher percentage of noncompliance in the first quarter of each year when they conduct internal compliance evaluations and submit self-certification forms to the Regional Entities. In Q1, Q2, and Q3 2015, the percentage of internally discovered instances of noncompliance was higher compared to the same periods in 2014. In Q3 2015, the registered entities self-identified about 78% of noncompliance internally, compared to less than 74% in Q3 2014. The first three quarters of 2015 identified more internally discovered noncompliance than any other compared year.[5]

Registered entities' ability to self-identify noncompliance allows for timely mitigation of such noncompliance, which in turn results in a more timely reduction of risk to the BPS. The ERO Enterprise continues to encourage all registered entities to develop internal processes that would allow them to promptly self-identify and mitigate instances of noncompliance.
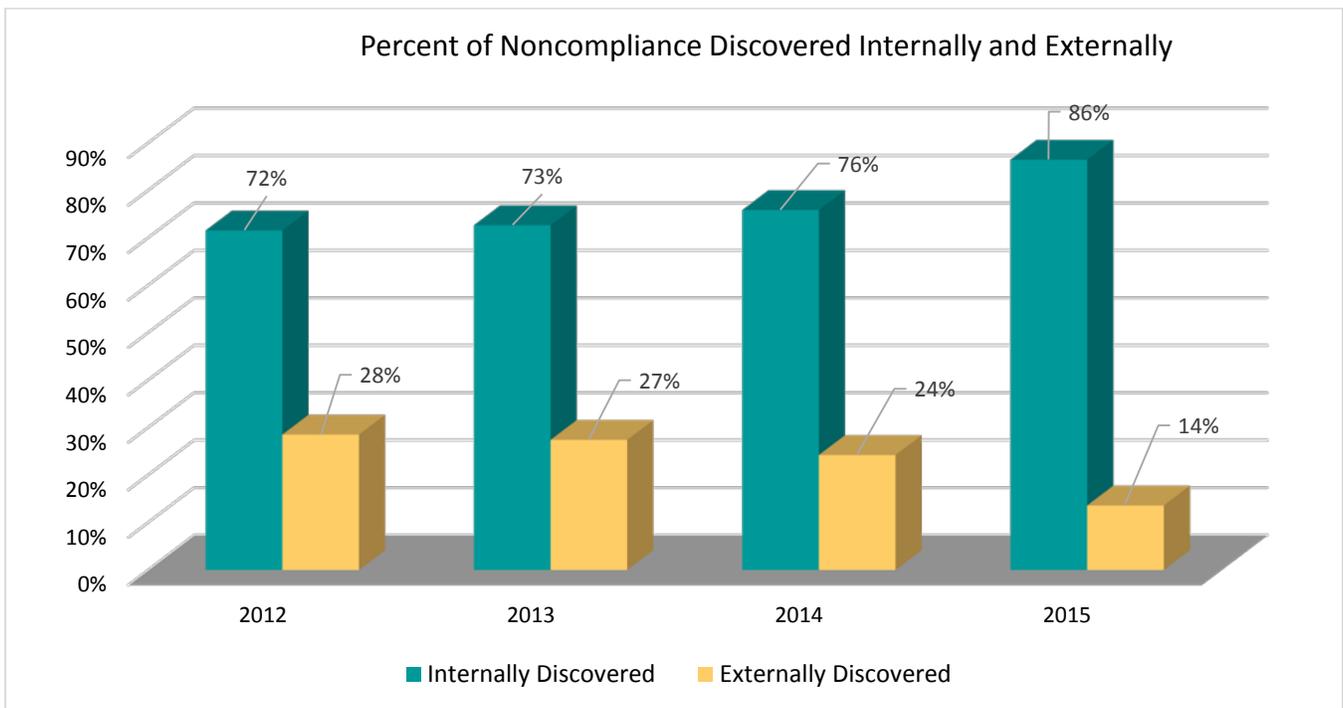

Figure 5: Continued High Rates of Internal Discovery of Noncompliance in 2015

---

[5] The number of reported instances of noncompliance has been on the decline since 2011. In 2011, there were 2,618 total violations discovered; in 2014, there were 1,191; and as of Q3 2015, there have been 667 violations discovered as of Q3.
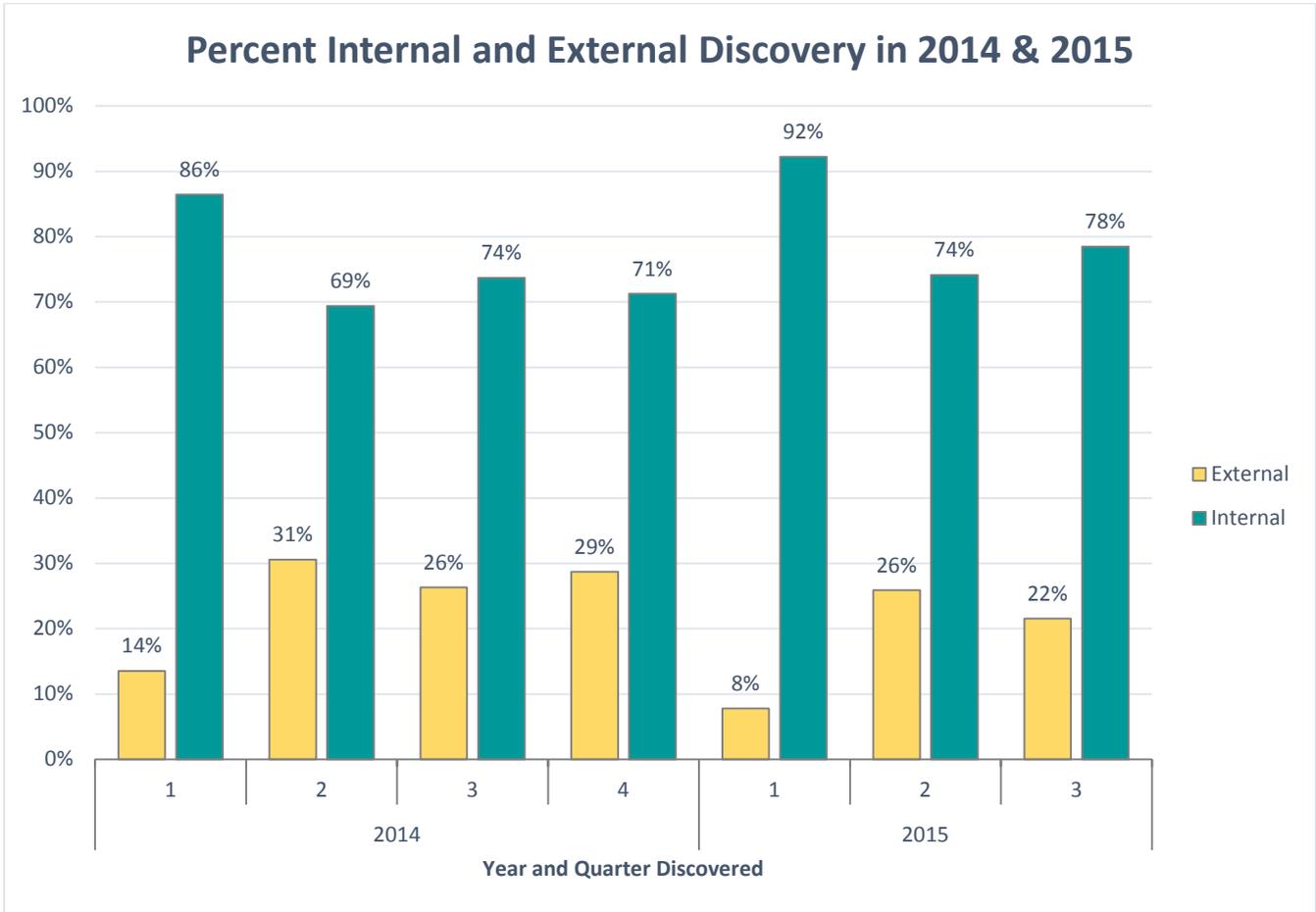
Figure 6: Internal Discovery Increased in 2015 Compared With the Prior Year

Risk-Based CMEP Implementation

In November 2014, NERC management identified a number of success factors, listed below, to be measured over the course of 2015 in connection with the implementation of the risk-based CMEP. NERC, in coordination with the Regional Entities, collects information related to each measurement and will, over the course of the year, determine the appropriate benchmarks and possible targets for future years, as well as identify refinements to these metrics, as appropriate. Each metric described in this report may support more than one of the 2015 success factors. In addition to the measures and metrics described below, NERC and the Regional Entities continue to measure qualitatively the implementation of the risk-based CMEP activities. NERC also considers the results of stakeholder surveys, such as the 2015 ERO Effectiveness Survey, in measuring success under these factors. In particular, the 2015 ERO Effectiveness Survey provided the baseline information that NERC will use in connection with success factors 1, 2, 5, and 7.

1. ERO Enterprise Staff Competency (Competency and Perception): ERO Enterprise staff performing key activities are trained and competent in their areas of responsibility, such as risk assessment, audit, internal controls evaluation, and enforcement, and are regarded by registered entities as being well qualified in their roles.

2. Information and Outreach: Registered entities have the information they need—through outreach, program transparency, and sharing of best practices—to prepare for engaging with the Regional Entities and NERC in the risk-based compliance and enforcement activities.

3. Consistency: The common tools, processes, and templates used by Regional Entities for risk-based compliance activities with registered entities are consistent on matters where consistency is important, and NERC has adequate oversight of that interface.

4. Regulator Trust: The ERO Enterprise has strengthened the trust of the Federal Energy Regulatory Commission (FERC) and applicable Canadian government authorities regarding risk-based compliance and enforcement.

5. Balanced Transparency: An appropriate level of transparency has been determined for various facets of risk-based compliance and enforcement, balancing efficiency and the confidentiality needs of a registered entity with the needs of the industry as a whole to learn from others (e.g., transparency of Compliance Exceptions and self-logs, as well as feedback to each entity regarding Inherent Risk Assessment (IRA) and Internal Control Evaluation (ICE)).

6. Metrics Identified: Metrics are identified for key expected results from risk-based compliance and enforcement and benchmarked for 2015.

7. Recognized Value: The value of risk-based compliance and enforcement of registered entities is of demonstrable value to the consuming public and can be articulated clearly and publicly.

Utilization of Self-Logging (success factor 3)

The self-logging program[6] allows participating registered entities to keep track of minimal risk noncompliance and their mitigation activities on a log that is periodically reviewed by the Regional Entity. Under the program, all properly mitigated minimal risk issues that the registered entity tracks on its log are presumed to be resolved as Compliance Exceptions. As of September 30, 2015, 40 registered entities are self-logging.[7] This represents a slight increase from the number of entities self-logging at the end of 2014 (23). The registered entities that have been

---

[6] See ERO Enterprise Self-Logging Program.

[7] There were a few registered entities that were deregistered from the NERC Compliance Registry while other new registered entities were added, increasing the overall number of self-logging entities. Many of the registered entities currently in self-logging program are carry-overs from the pilot programs.

approved for self-logging represent a diverse group performing various reliability functions. Currently, seven out of eight Regional Entities have registered entities participating in the self-logging program.[8]
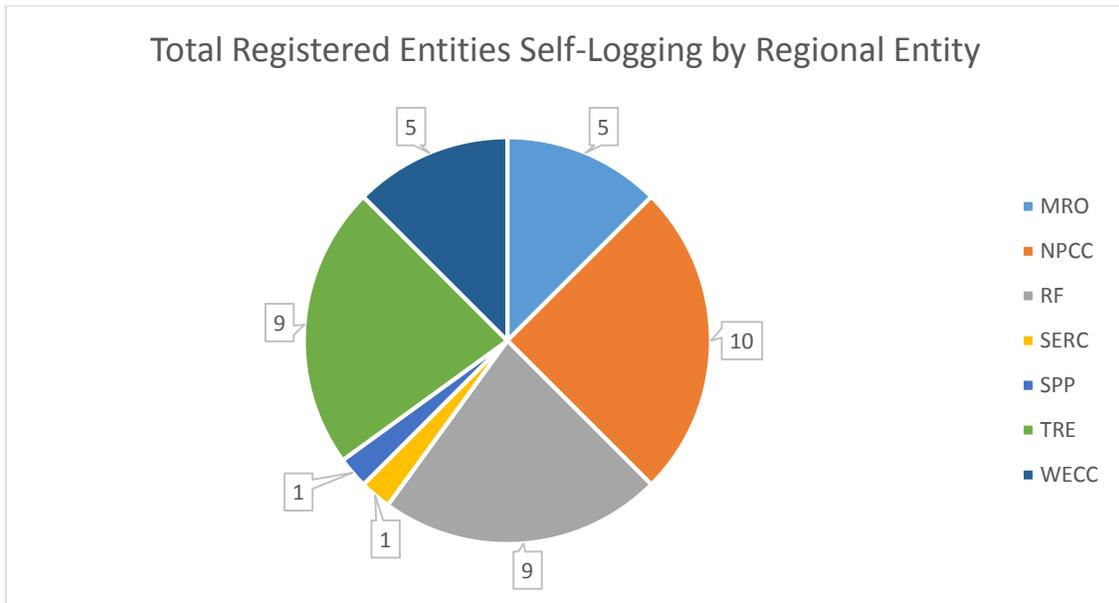

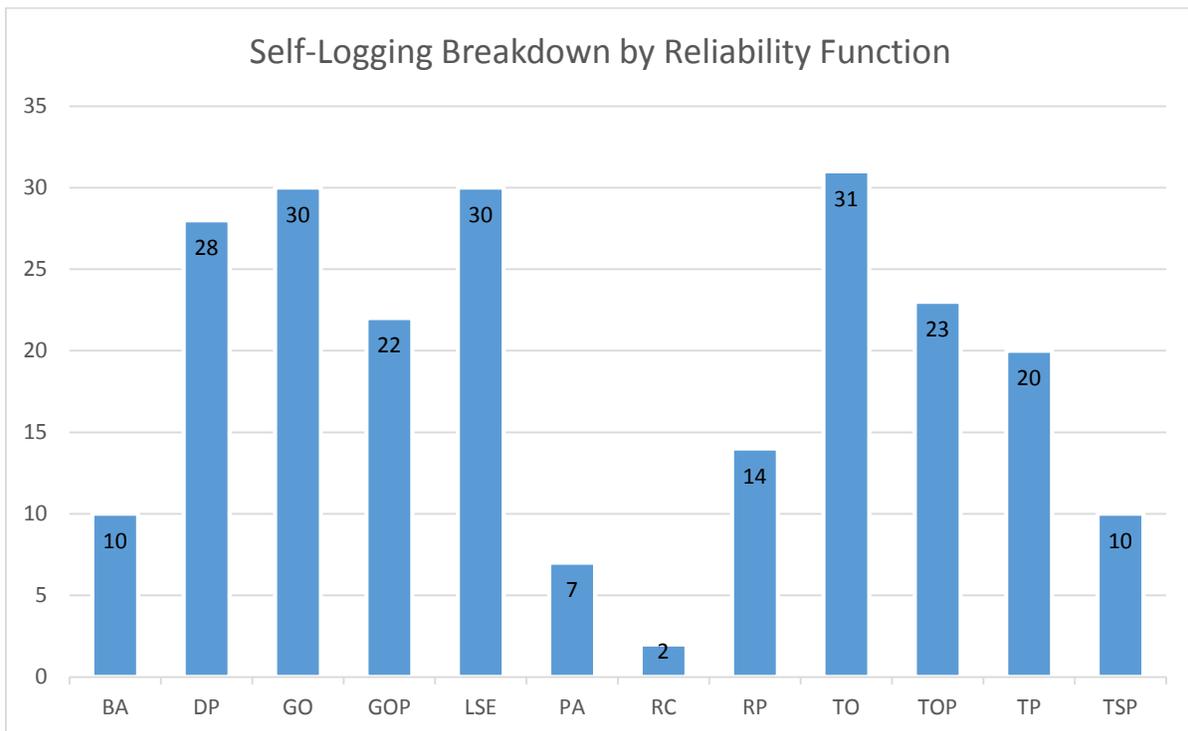**Figure 7: 40 Registered Entities Are Self-Logging**

Figure 8: All Reliability Functions Represented by Registered Entities That Self-Log

---

[8] One of the ReliabilityFirst entities in the program logs noncompliance associated with activities in the SPP RE footprint as well. Currently, no registered entities are self-logging at FRCC and FRCC has not had any formal requests from entities to date. The fact that a new program document is currently pending before FERC may have delayed or reduced applications in recent months.

Trends in Compliance Exceptions and Find, Fix, Track, and Report (FFT) Issues (success factor 3)

<u>The ERO Enterprise Has Appropriately Treated Instances of Noncompliance Posing Minimal and Moderate Risk as Compliance Exceptions and Find, Fix, Track, and Report issues, respectively</u>

In Q3 2015, out of 178 instances of noncompliance posing a minimal risk to the reliability of the BPS, the ERO Enterprise disposed of 114 (64%) as Compliance Exceptions. The Compliance Exception disposition track allows the Regional Entities to dispose noncompliance posing a minimal risk efficiently, so that they can focus on noncompliance posing a moderate or serious risk to the reliability of the BPS.

The use of various processing tracks in the third quarter of 2015 is consistent with prior periods, except for an increase in the number of violations disposed through the Notice of Penalty (NOP) disposition track, as shown in Figures 9 through 11. That increase is due to the filing of three NOPs disposing of 48 minimal risk noncompliance along with violations posing a more serious or substantial risk to the reliability of the BPS.[9] Use of the NOP was necessary because of the aggregated risk of the subject violations, unusual circumstances, and subsequent above and beyond mitigation activities—the important details of which would not have been adequately conveyed in spreadsheet format.

The ERO Enterprise treated the remaining instances of noncompliance posing a minimal risk as FFTs, Spreadsheet Notices of Penalty (SNOPs), or Compliance Exceptions based on the underlying facts and circumstances.
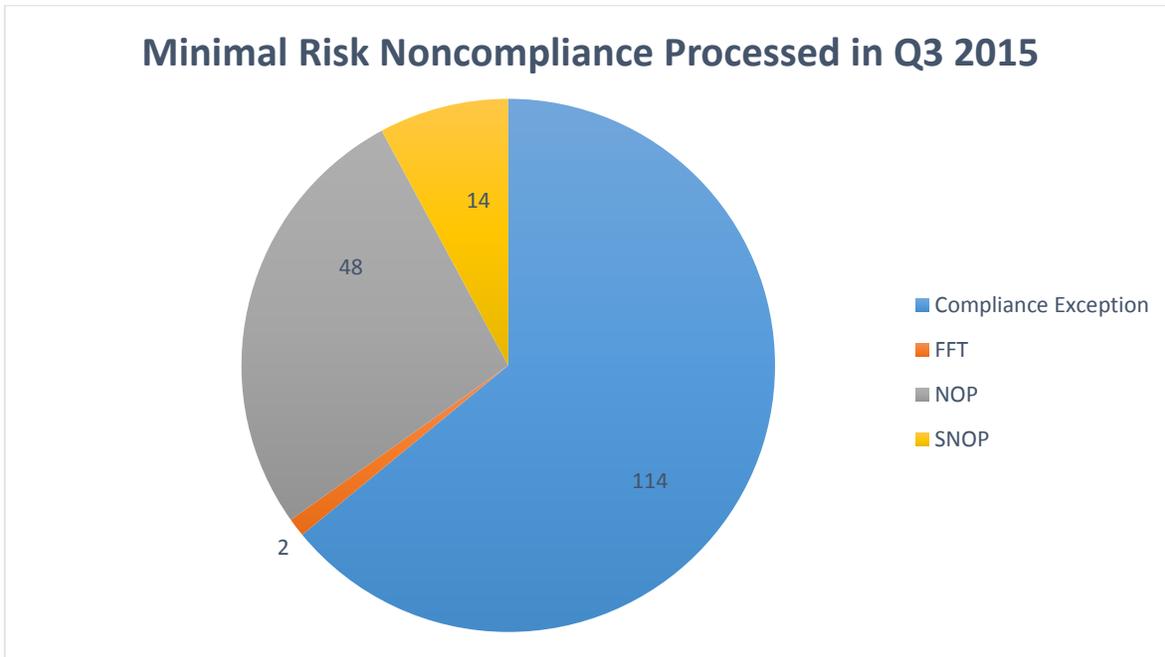

Figure 9: Compliance Exceptions Account for Over 64% of All Minimal Risk Noncompliance Dispositions

---

[9] See, e.g. http://www.nerc.com/pa/comp/CE/Enforcement%20Actions%20DL/PUBLIC_FinalFiled_NOC-2435_Full_NOP_Settlement_8-31-15.pdf.
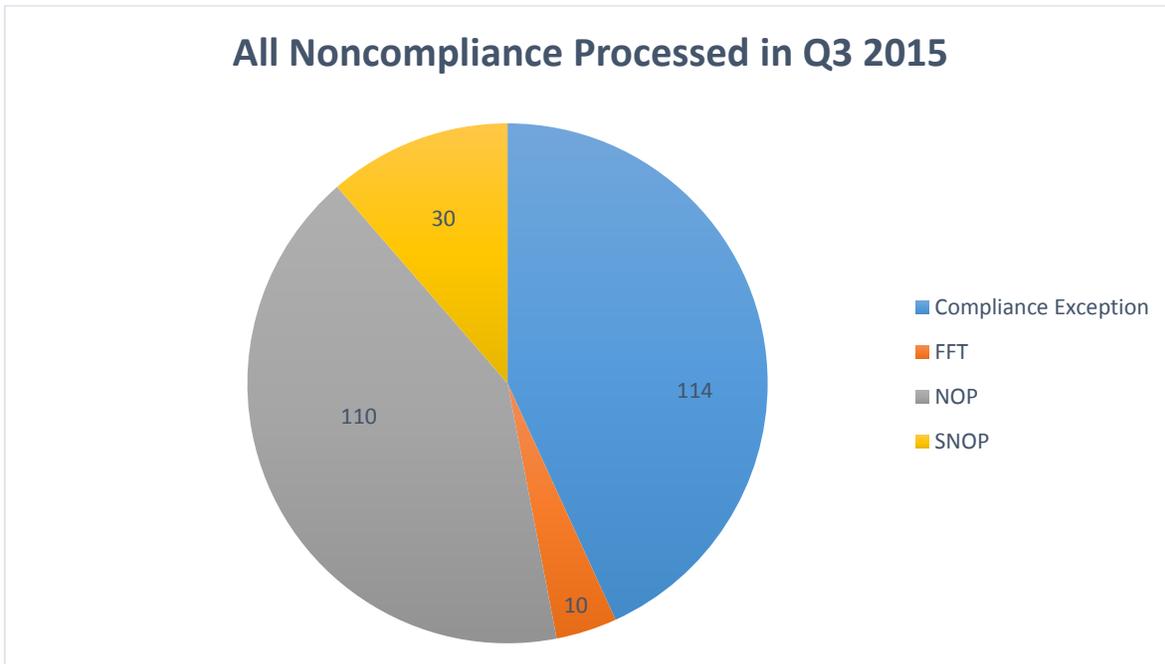
Figure 10: Compliance Exceptions Continue to Lead as a Disposition Track

The NOP disposition track included three Settlement Agreements filed in Q3. One of these agreements disposed of 102 violations.
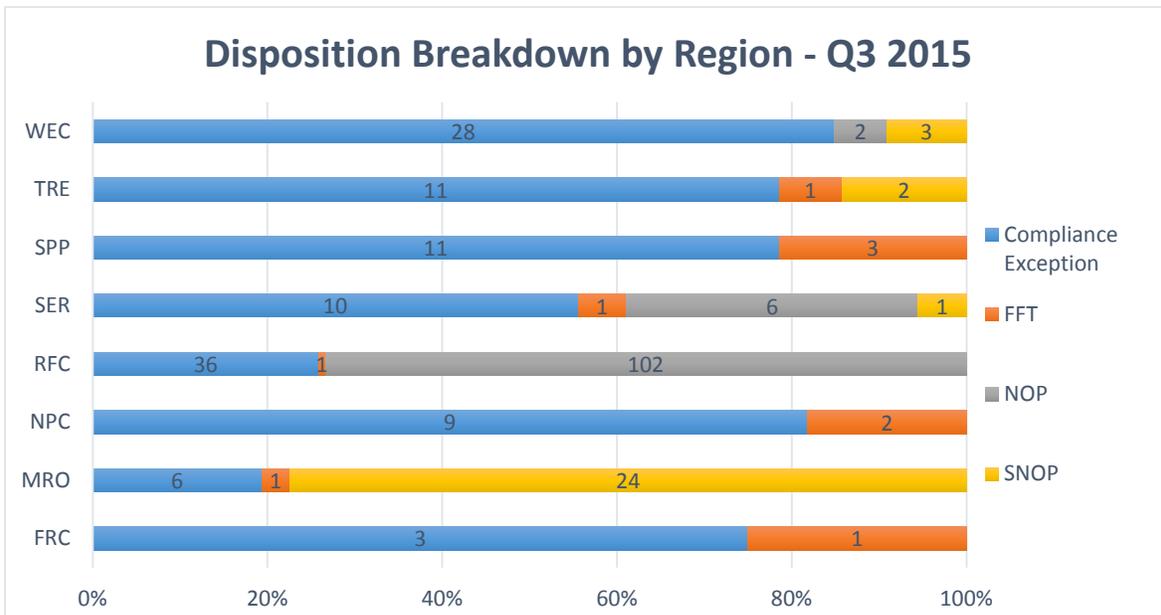

Figure 11: Regional Entities Use All Disposition Methods Appropriately

ERO Enterprise Staff Risk-based Compliance and Enforcement Training and Education (success factor 1)

NERC and the Regional Entities recognize the importance of training and education to help support and ensure their staffs are equipped with a comprehensive understanding needed to implement consistent IRA and ICE processes and develop compliance oversight plans for registered entities. The information below reports on both NERC-led and Regional Entity-specific training conducted during the reporting period. The ERO Enterprise does not anticipate or expect to conduct risk-based compliance and enforcement training every month but rather will assess and provide training based on needs identified throughout the year. Regional Entities can also identify training and education needs and conduct activities as appropriate. Although reporting on these metrics focuses on risk-based CMEP training, NERC and the Regional Entities continue to train on other topics related to CMEP activities such as performance audits and Reliability Standards.

Figure 12 provides information on total training hours delivered to ERO Enterprise staff through various delivery methods by competency area and content. Figure 12 represents 42 Regional Entity training sessions for Regional Entity staff that included at least two participants and up to 21 participants. In addition to the Regional Entity-led training hours represented in Figure 12, NERC hosted Regional Entity staff for 16 hours of vendor-led training on internal controls.
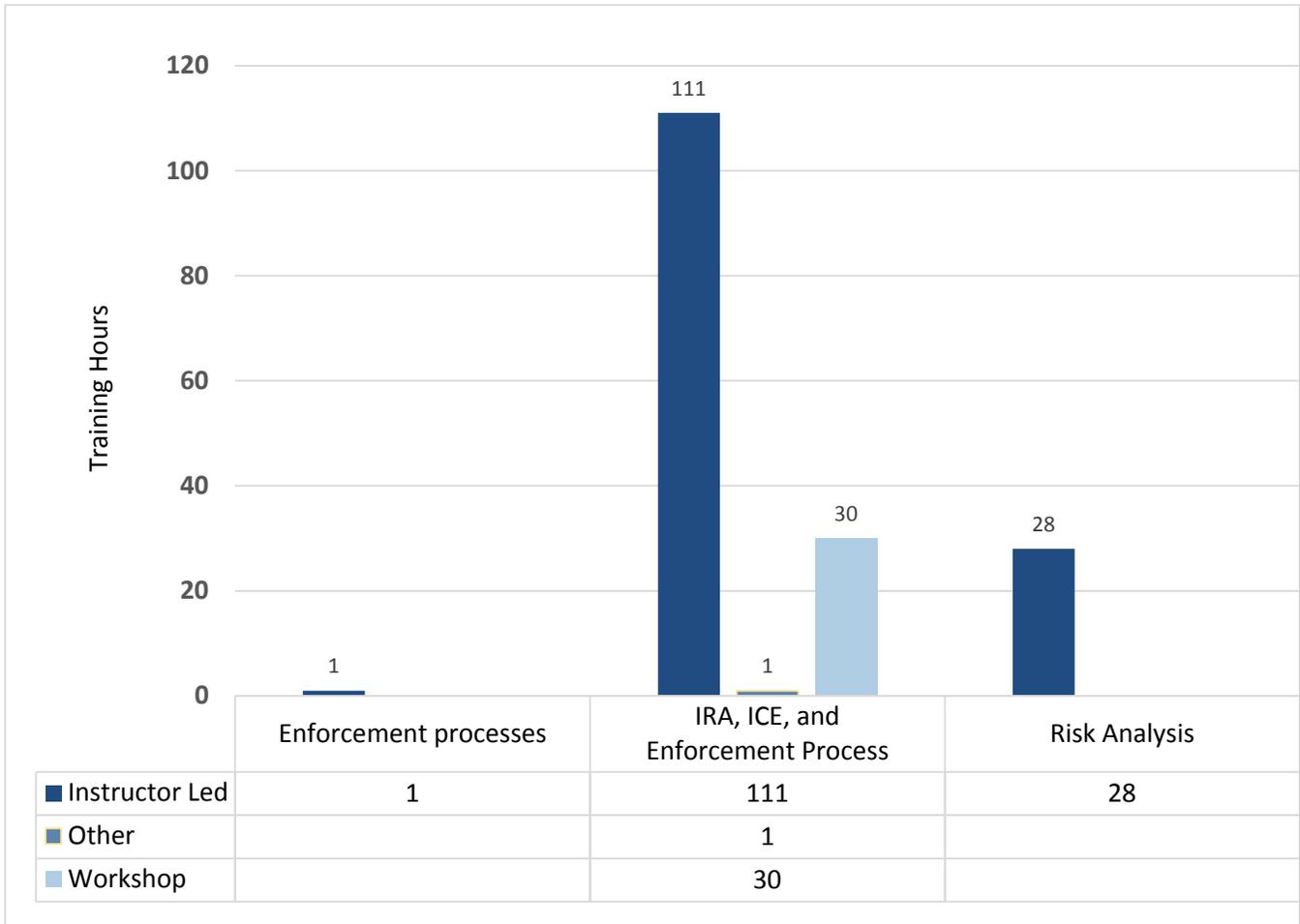

	Enforcement processes	IRA, ICE, and Enforcement Process	Risk Analysis
■ Instructor Led	1	111	28
■ Other		1	
■ Workshop		30	

Figure 12: Regional Entity-led Training Hours by Competency Type YTD

Figure 13 demonstrates that Regional Entity staff received a collective 2,318 man-hours[10] of training during Regional Entity-led events such as workshops and instructor-led training. The training included the following topics:

- IRA, ICE, and Enforcement Process (286 attendees);

- Risk Analysis (114 attendees); and

- Enforcement Processes (32 attendees).

Altogether, Regional Entity staff attended an average of 5.4 hours of training per person led by the respective Regional Entities
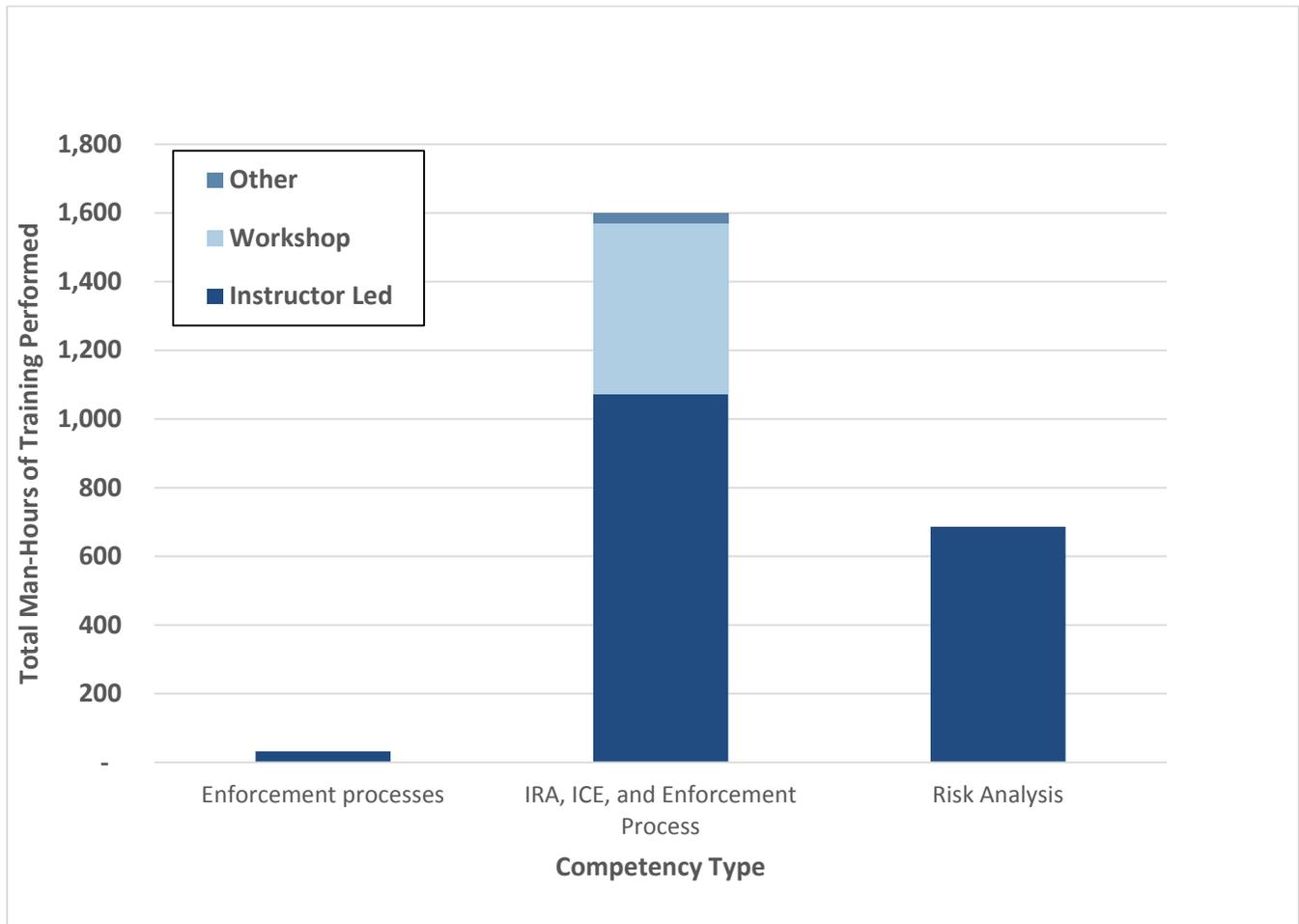

Figure 13: Total Training Hours Completed by Competency Type YTD

Upcoming Training Activities in 2015 (success factor 1)

NERC, working with Regional Entity staff, continues to identify relevant and available online courses to include as part of the overall ERO Enterprise risk-based training curriculum within the learning management system. In addition, NERC will continue to develop training on risk-based concepts, which may include a course coordinated with NERC Events Analysis staff members on risk analysis.

---

[10] One man-hour is one hour of training for one person.

Furthermore, during Q2 2015, NERC hired a vendor to perform a compliance monitoring personnel competency analysis to be performed during Q3-Q4 2015, to assist with long-term curriculum development for the risk-based compliance monitoring portion of the CMEP. The product deliverables for this effort will include a well-defined task list by role and a recommended training and education plan to inform the qualification program for the ERO risk-based CMEP.

ERO Enterprise Industry Outreach Events for Risk-based Compliance Monitoring and Enforcement (success factor 2)

This metric reports on the number of industry outreach activities completed by the ERO Enterprise and includes activities such as webinars, workshops, bulletins, etc. This metric also provides results from post-outreach event surveys that will support ongoing and continued outreach.

During Q3 2015, and as part of the ERO Enterprise's continued outreach efforts in the implementation of its risk-based CMEP, the ERO Enterprise continued the risk element webinar series. Each webinar focuses on one risk element, and includes guidance and discussion on the areas of focus identified in the 2015 ERO Enterprise CMEP Implementation Plan. During the webinars, presentations are given by NERC and Regional Entities. The webinar series started on April 16, 2015, and takes place on the third Thursday of every month. The length of each webinar is dependent on the content and areas of focus associated with the featured risk element, but the webinars usually are no longer than one hour.
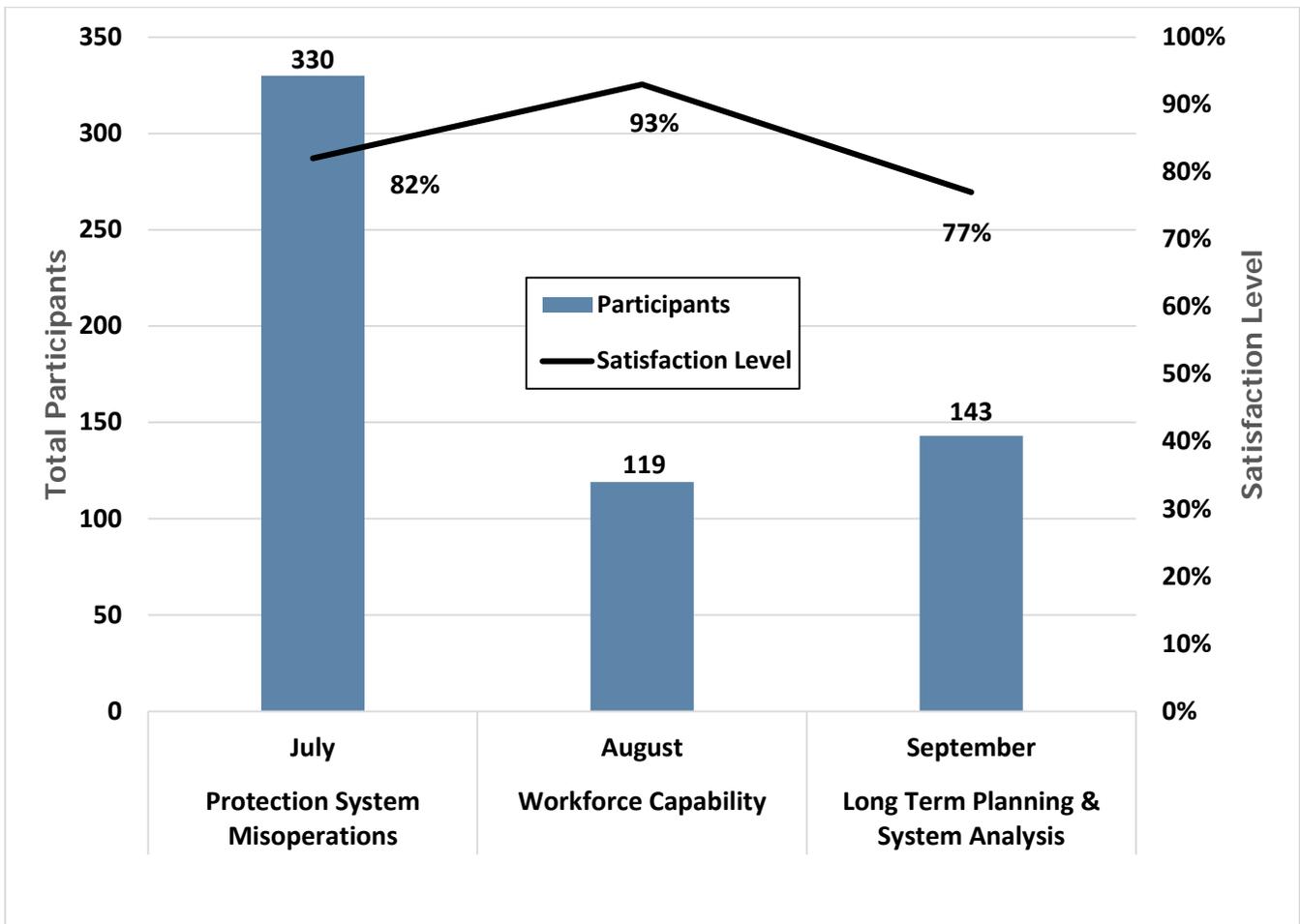

Figure 14: NERC-hosted Risk Elements Webinar Attendance for Q3 2015

Participant feedback noted that the webinar series provides a good overview of how a particular risk element was identified and how Reliability Standards are used to mitigate the risk identified. Participants mentioned that the webinar series provides helpful information to registered entities that may be used to target areas that pose a material risk to reliability. Feedback on the webinar series has been highly positive and participants have appreciated the content.

Throughout 2015, Regional Entities continue to conduct webinars, workshops, and other outreach events to address the industry's questions and concerns. Although there is a continued focus of outreach activities on the risk-based CMEP approach, Regional Entities have also conducted outreach for other areas such as new Reliability Standards and the CIP Version 5 transition through face-to-face meetings and conferences with industry.

Figure 15 summarizes the outreach events conducted by Regional Entities year-to-date for 2015. Due to scheduling of reoccurring outreach events, like Regional Entity compliance workshops and compliance user group meetings, some Regional Entities may have no events during a specific quarter.
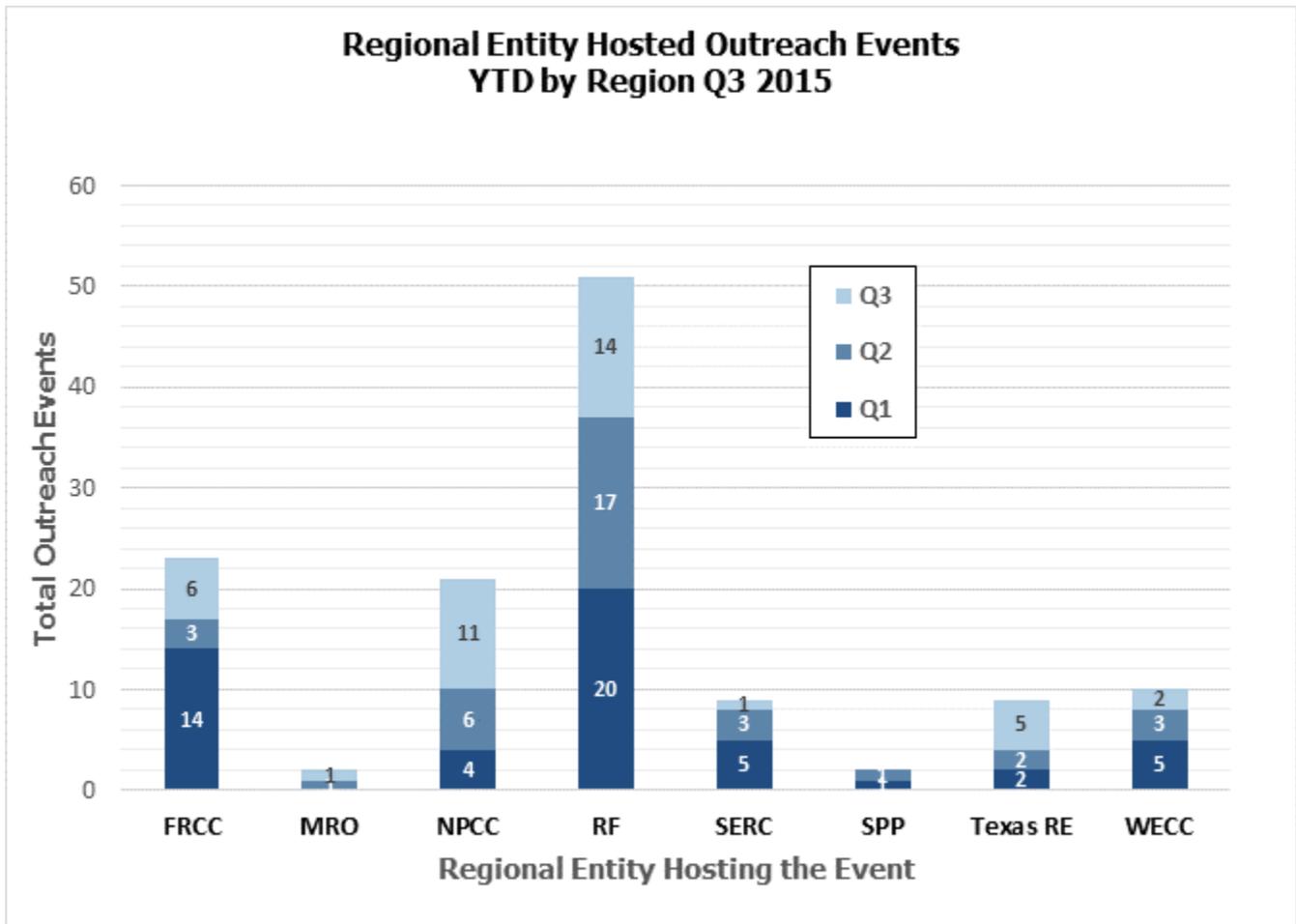

Figure 15: Regional Industry Outreach Events Year-to-date for Risk-based Compliance Monitoring

Figure 16 summarizes the year-to-date stakeholder participation at Regional Entity outreach events. Based on the feedback received, NERC and Regional Entities will continue to conduct outreach activities that focus on self-logging, Compliance Exceptions, risk elements, frequently asked questions, and examples of completed IRAs and

ICEs. NERC plans to use existing industry events, like the Standards and Compliance workshops, to provide information on risk-based activities.
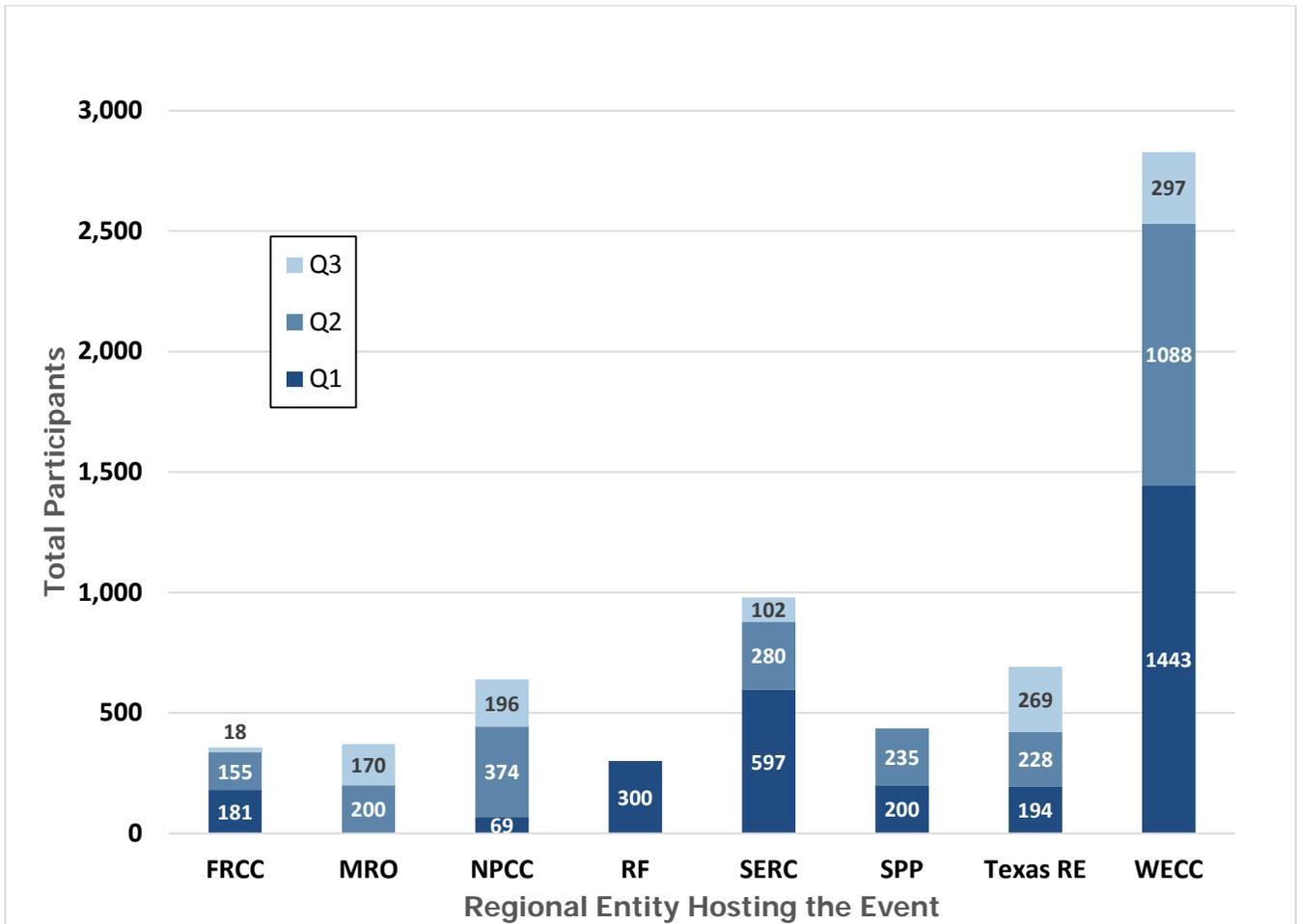

Figure 16: Total Participation in Regional Entity Outreach Events YTD

ERO Enterprise IRA and ICE Utilization (success factor 3)

These metrics track the completion of IRAs and ICEs for registered entities across the ERO Enterprise. The purpose of these metrics is to demonstrate the ERO Enterprise's progress in implementation of this portion of risk-based compliance monitoring, as well as to represent effort by Regional Entities in assessing the myriad risks posed to the BPS by a variety of registered entities within a given audit cycle.

At the end of this reporting period, there are 246 registered entities scheduled to be audited in 2015 in the United States. Throughout the year, Regional Entities update their audit schedules based on possible changes in entity registrations, assessments of risks and decisions to change monitoring tools, decisions to combine or separate audits involving CIP and O&P scope areas, etc.

The ERO Enterprise is committed to complete IRAs for all registered entities on the 2015 audit schedule. Figure 17 below shows that Regional Entities completed IRAs for 194 registered entities, 79% of the entities scheduled for an audit in 2015.
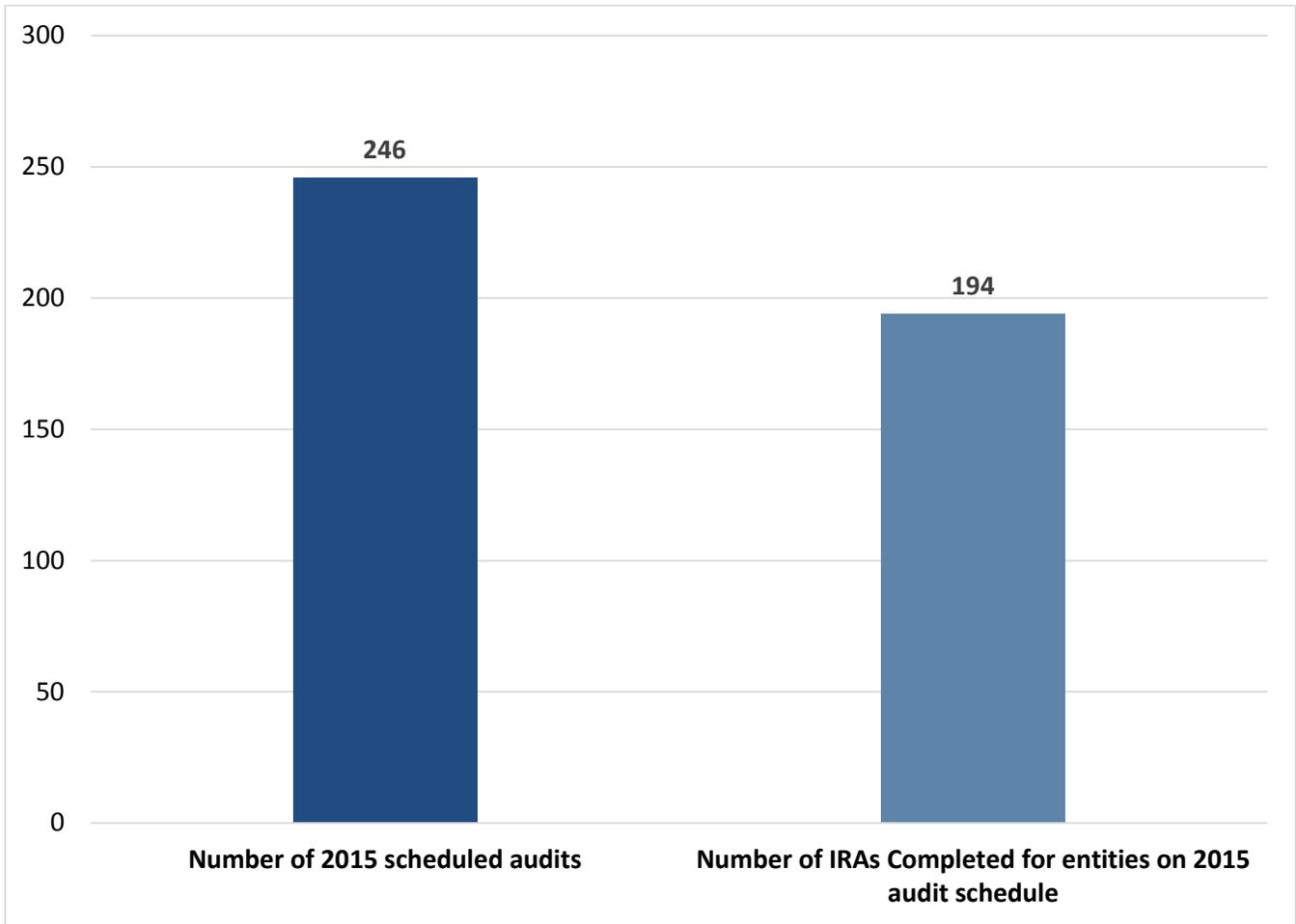
Figure 17: Total Number of Entities on 2015 Audit Schedule Compared to Total Number of IRAs Completed for Audit Schedule

Figure 18 below depicts that before the end of Q3 2015, Regional Entities have completed a total of 255 IRAs, which represents approximately 18% of registered entities in the United States and Canada.[11] Approximately 194 of these completed IRAs are for entities currently on the 2015 audit schedule. An additional 61 IRAs were completed for entities that are not on the 2015 audit schedule.

---

[11] Due to activities occurring under risk-based registration, like the de-registration of Purchasing-Selling Entities and Interchange Authorities, the total number of registered entities across the ERO Enterprise has decreased. The number of registered entities is based on the NCR list at the end of the reporting period.
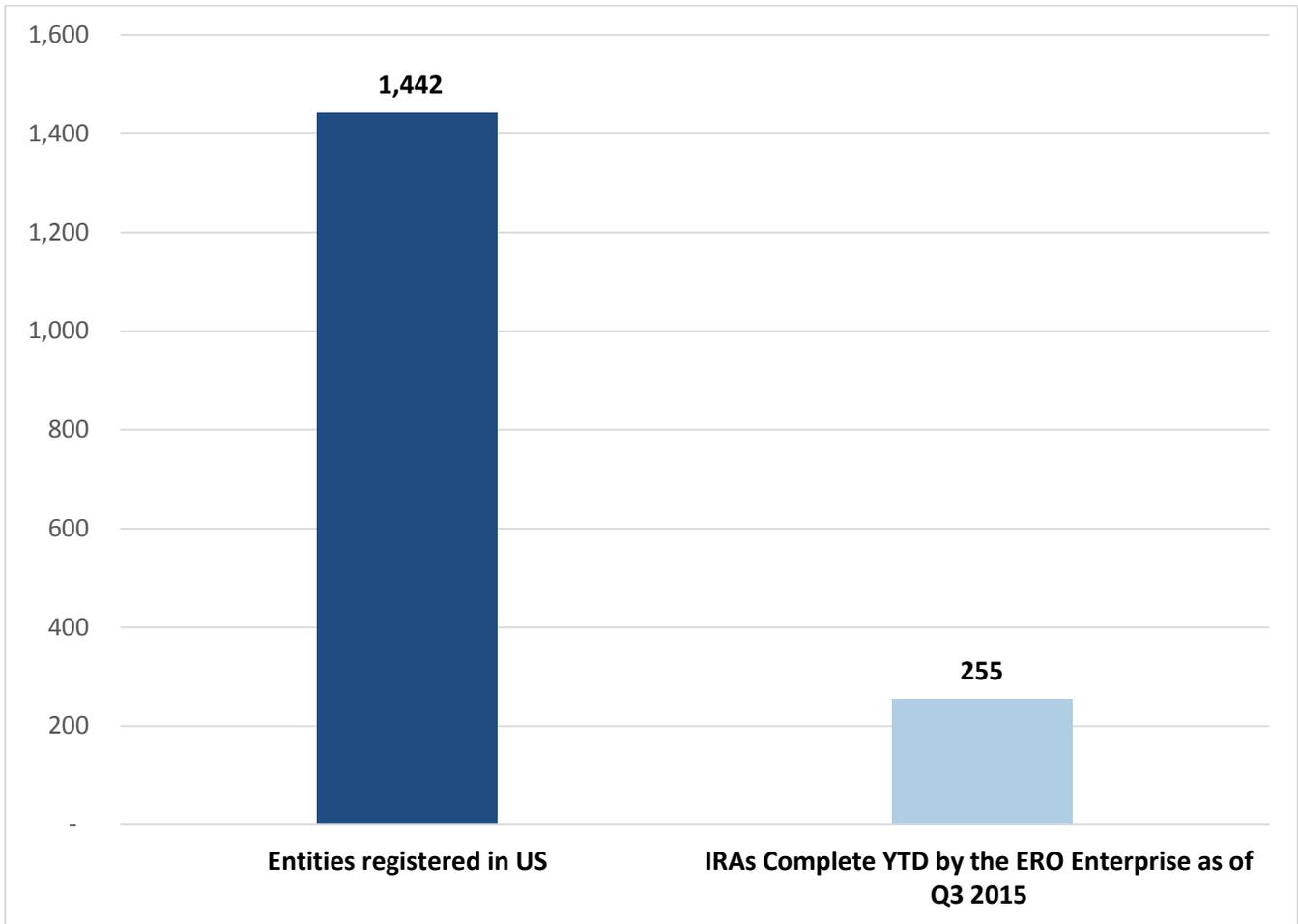
Figure 18: Total Number of IRAs Completed for Registered Entities in US

Regional Entities will continue conducting IRAs over the next few years to assess inherent risk. NERC and the Regional Entities have identified an opportunity to assess performance of IRAs across the ERO Enterprise and are subsequently developing an associated compliance oversight plan for all registered entities.

Regional Entities also completed 26 ICEs associated with 194 completed IRAs for registered entities on the 2015 audit schedule, as referenced in Figure 19. As mentioned previously, Regional Entities have completed 61 IRAs and 18 ICEs for entities that are not scheduled for an audit in 2015. Ongoing ICE related activities, not reflected in the figure below, also continue for registered entities who opt-in for an ICE or who are interested in having an ICE performed. For example, Regional Entities may have held initial discussions with registered entities or sent internal control questionnaires to registered entities to begin the ICE process.
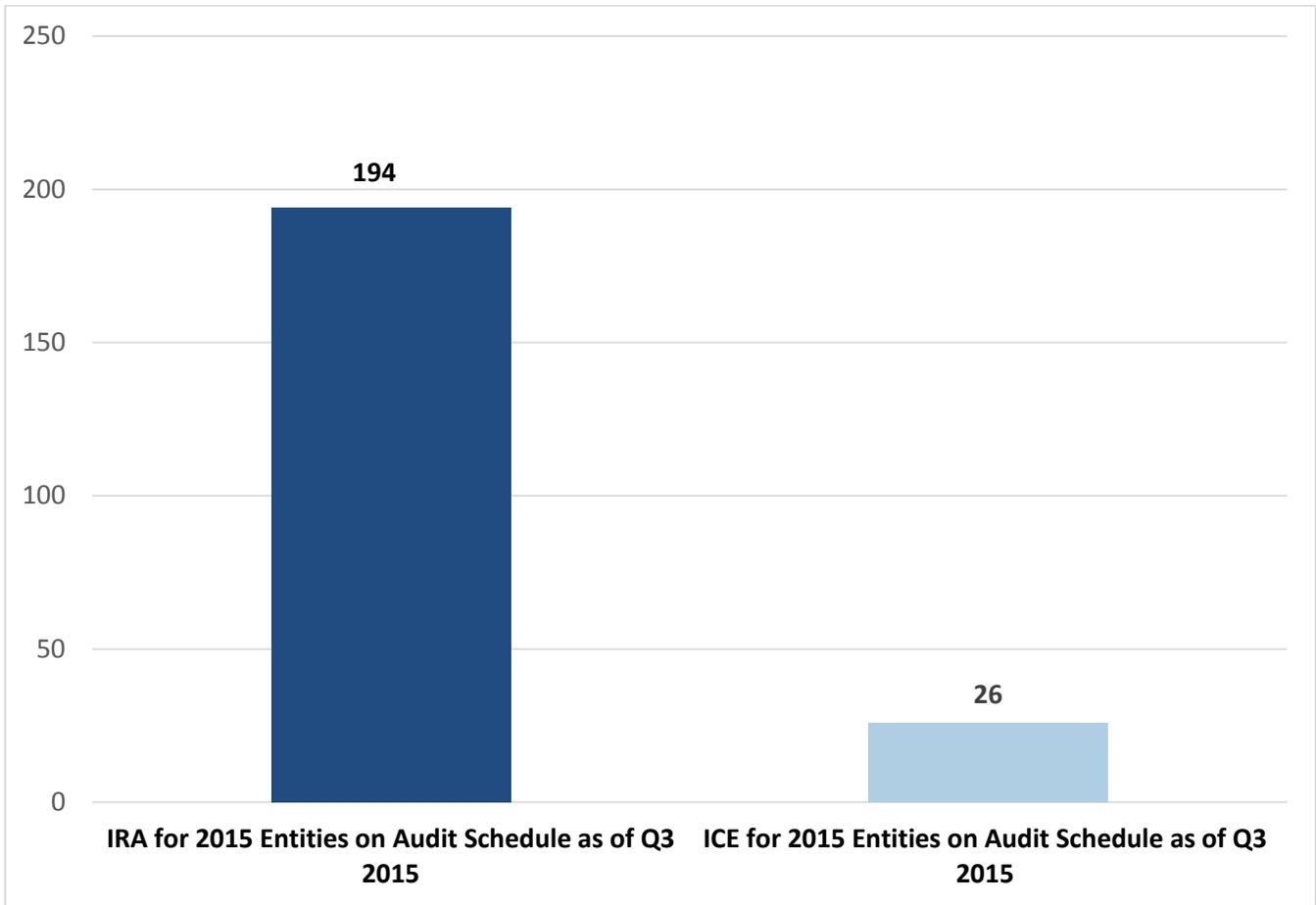
Figure 19: Total Number of IRAs and ICEs Conducted YTD for Entities on 2015 Audit Schedule

Though the primary focus during this implementation year is on completing IRAs for registered entities on the 2015 audit schedule, Regional Entities are also coordinating with registered entities and performing other IRAs and ICEs outside the audit schedule. In some instances, IRAs and ICEs are performed as a risk-based measure to preemptively gauge, outside of the normal audit cycle, the level of risk that a particular entity poses to the BPS. An example would be when an IRA is performed after an organization makes an acquisition or a significant change to its footprint. ICEs outside the Regional Entity's current work plan will be scheduled and planned based on availability of Regional Entity resources and at the discretion of the Regional Entity. Additional ICEs are in progress or are in planning stages and will be completed throughout the year.

Table 2 summarizes the overall IRA and ICE activities related to both the annual 2015 audit schedule and overall IRA and ICE activities.

Risk-based Compliance Activities	Count
IRA	
IRAs Conducted for Registered Entities on 2015 Audit Schedule	194
IRAs Completed for Registered Entities not on 2015 Audit Schedule	61
Total IRAs Completed YTD within the ERO Enterprise	**255**
IRAs Remain to be Completed for all Registered Entities within the ERO Enterprise	1,187
ICE	
ICEs Conducted for Registered Entities on 2015 Audit Schedule	26
ICEs Completed for Registered Entities not on 2015 Audit Schedule	18
Total ICEs Completed YTD within the ERO Enterprise	**44**

Table 2: Summary of Overall Risk-Based Compliance Monitoring Activities

Coordinated Oversight of Multi-Region Registered Entities (MRREs)

In 2014, the ERO Enterprise developed a comprehensive coordinated oversight program. The program is designed to streamline risk assessment, compliance monitoring, and enforcement for the registered entities that use, own, or operate assets in areas covering more than one Regional Entity's territory.

Under the program, Regional Entities coordinate their oversight responsibilities over multi-region registered entities (MRREs) by designating one or more Lead Regional Entities (LREs) to each MRRE or a group of MRREs. The LRE is selected based on reliability considerations and the registered entity's operational characteristics. The selected LRE works collaboratively with the remaining Regional Entities, known as Affected Regional Entities (AREs), and informs NERC of activities as appropriate.

The program has undergone several stages of gradual implementation and is now in its full implementation phase. In Q3 2015, the participation level increased to 152 registered entities, over twofold from Q2. Figure 20 represents the distribution of 152 MRREs by Regional Entity, and Figure 21 represents the distribution of MRREs by registered function. The registered entities that opted to join the program are registered for various reliability functions in multiple regions.

The ERO Enterprise has selected the LREs for each participating MRRE group, and the LREs and AREs have already signed memorandums of understanding outlining their respective responsibilities. At this time, the ERO Enterprise is engaging in outreach activities to make the details of the program available to all registered entities.[12]
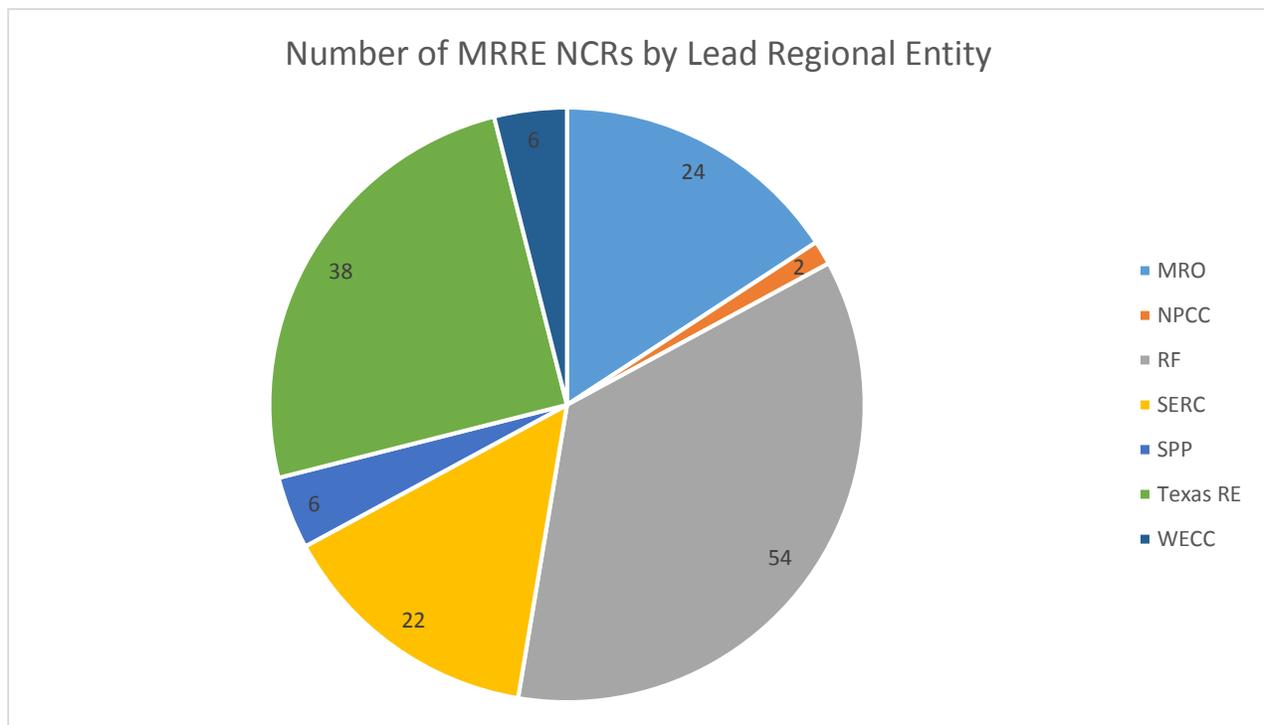

Figure 20: Number of MRRE NCRs in Each Lead Regional Entity

---

[12] See Coordinated Oversight of Multi-Region Registered Entities Program Development and Implementation
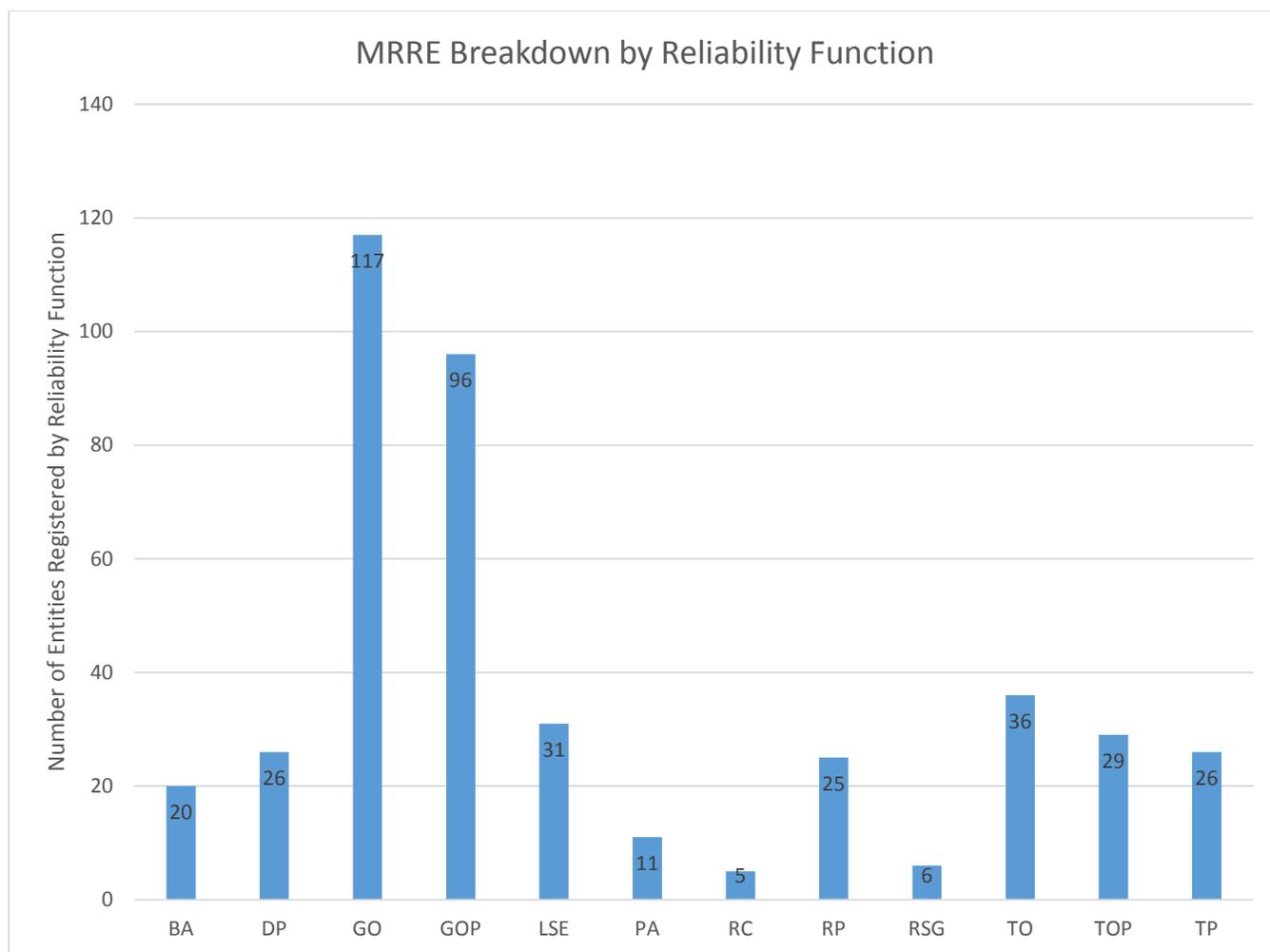
MRRE Breakdown by Reliability Function

Figure 21: Registered Entities from All Reliability Functions Join Coordinated Oversight[13]

---

[13] Each line represents the number of instances of reliability functions across the ERO Enterprise for registered entities in the MRRE program.

Noncompliance Processing Metrics

Processing Metrics and Trends for Q3 2015

The ERO Enterprise continues to monitor several measures that relate to efficiency in processing noncompliance. Currently, the efficiency-related metrics reflect the state of the Regional Entities' inventories and indicate that the ERO Enterprise has reached a steady processing state. The caseload index indicates that instances of noncompliance continue to be processed in a timely manner and even more efficiently compared to Q1 2015. For Q3 2015, the NERC-only caseload index slightly increased to 0.5 from the previous quarter's 0.2. In Q3 2015, the ERO Enterprise caseload index initially dropped below the threshold of 8 but between August and September of 2015, increased to slightly above the threshold with 8.3. The increase in the overall caseload index is largely due to several Full NOPs scheduled for filing at the end of October 2015.
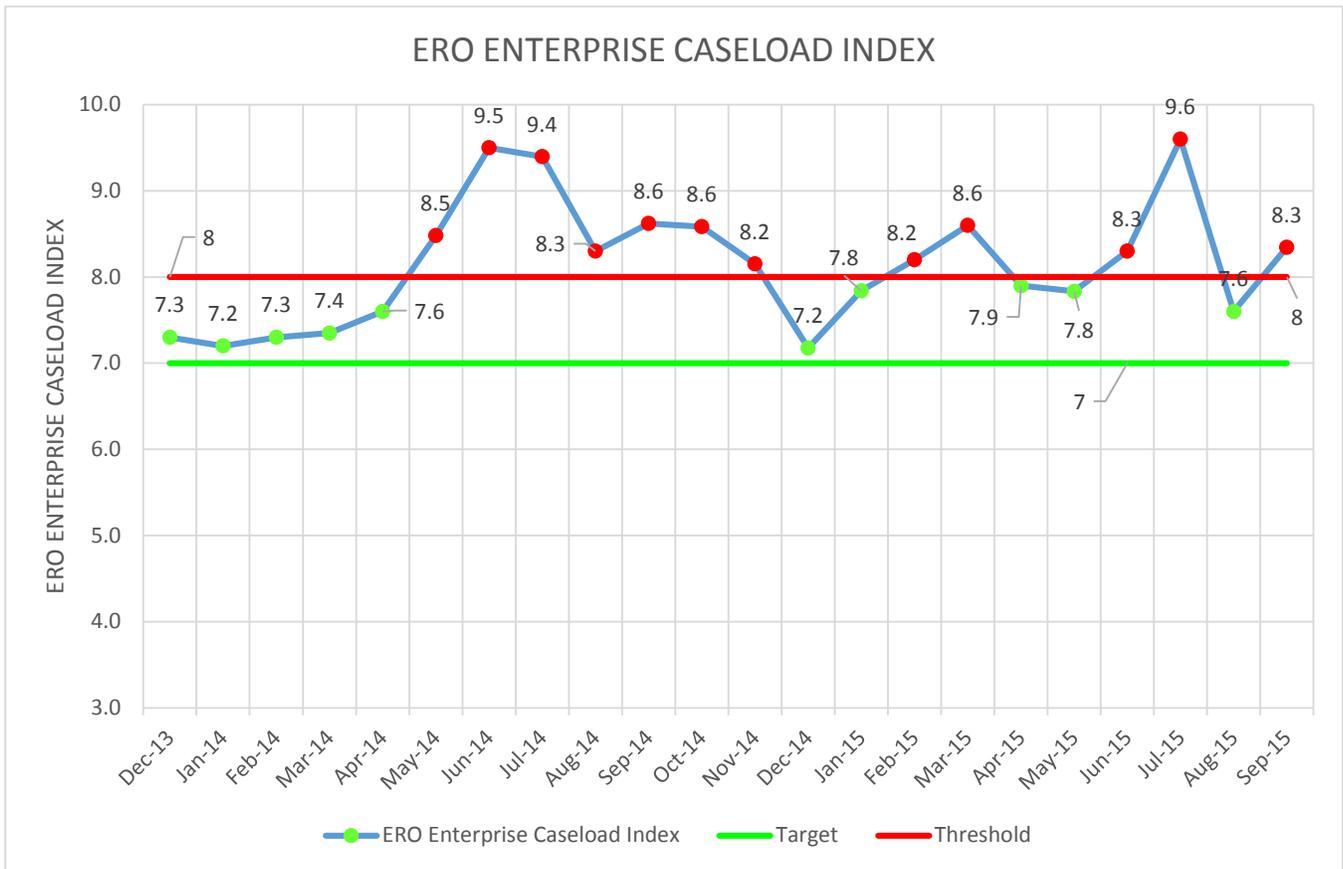

Figure 22: ERO Enterprise Caseload Index

Average Regional Entity Caseload Index	NERC Caseload Index	ERO Enterprise Caseload Index
7.8	0.5	8.3

Table 3: ERO Enterprise Caseload Index Q3 2015

ERO Enterprise's Pre-2014 Caseload

Violation Processing On Target to Reach Threshold in 2015

The ERO Enterprise monitors several measures that relate to the processing of open violations from prior years. In Q3 2015, the non-federal entity pre-2014 noncompliance inventory continued to decline, dropping to less than one-third of the starting number from January 2015.
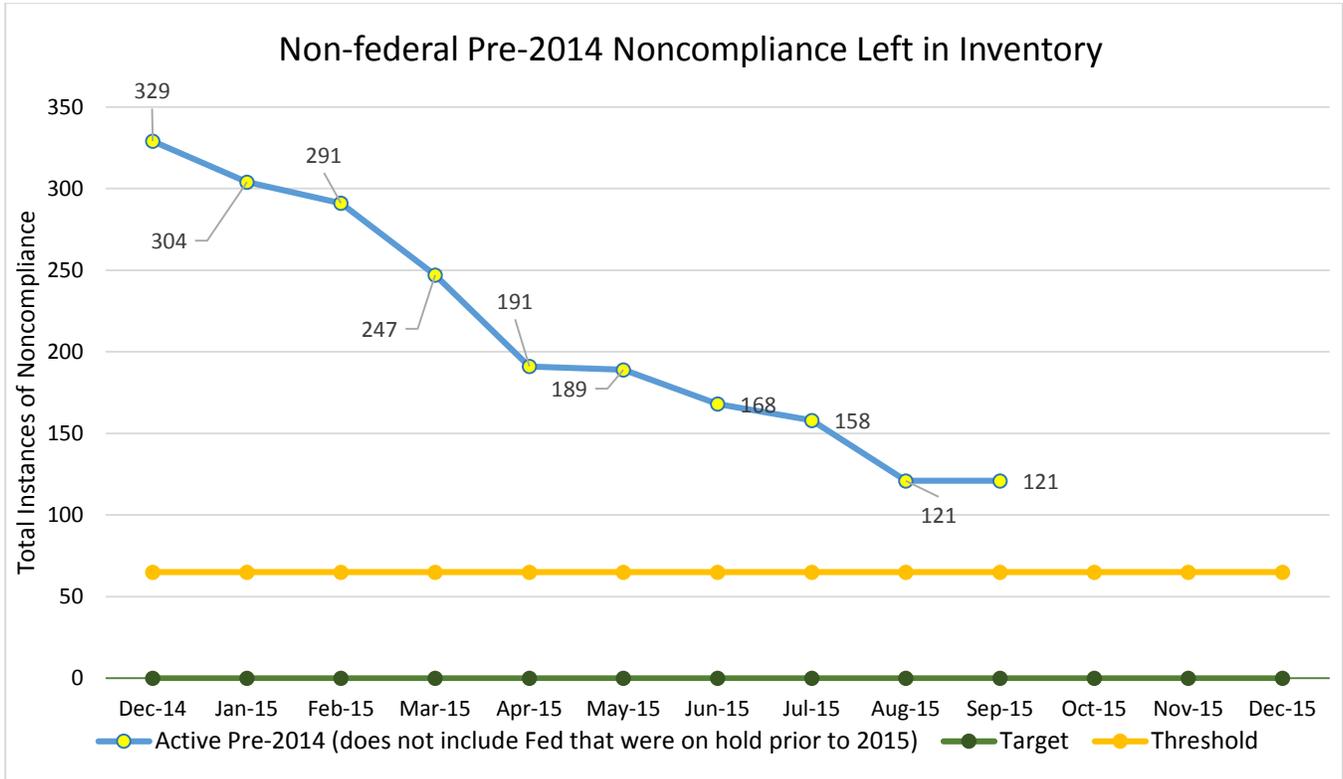

Figure 23: Non-federal Pre-2014 Noncompliance in Inventory Continues to Decline

The inventory for instances of noncompliance related to federal entities is also declining mainly because Regional Entities are currently processing these cases, which were on hold for several years. In Q3, the federal entity noncompliance inventory dropped to 254 primarily through the use of Compliance Exceptions and FFTs.
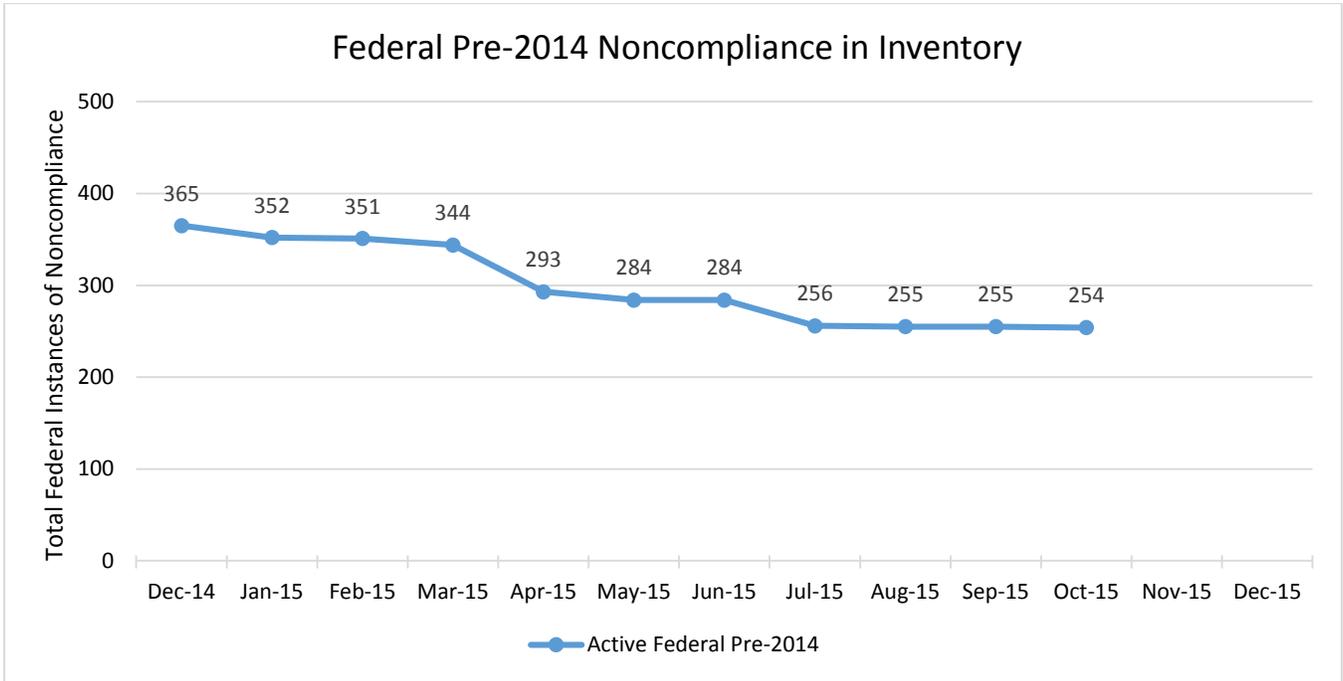
Federal Pre-2014 Noncompliance in Inventory

Total Federal Instances of Noncompliance

Dec-14: 365
Jan-15: 352
Feb-15: 351
Mar-15: 344
Apr-15: 293
May-15: 284
Jun-15: 284
Jul-15: 256
Aug-15: 255
Sep-15: 255
Oct-15: 254

● Active Federal Pre-2014

Figure 24: Federal Pre-2014 Noncompliance in Inventory Steadily Declining

Average Age of Noncompliance in the ERO Enterprise by Month

The average age of noncompliance continues to fluctuate but remains well below the threshold.
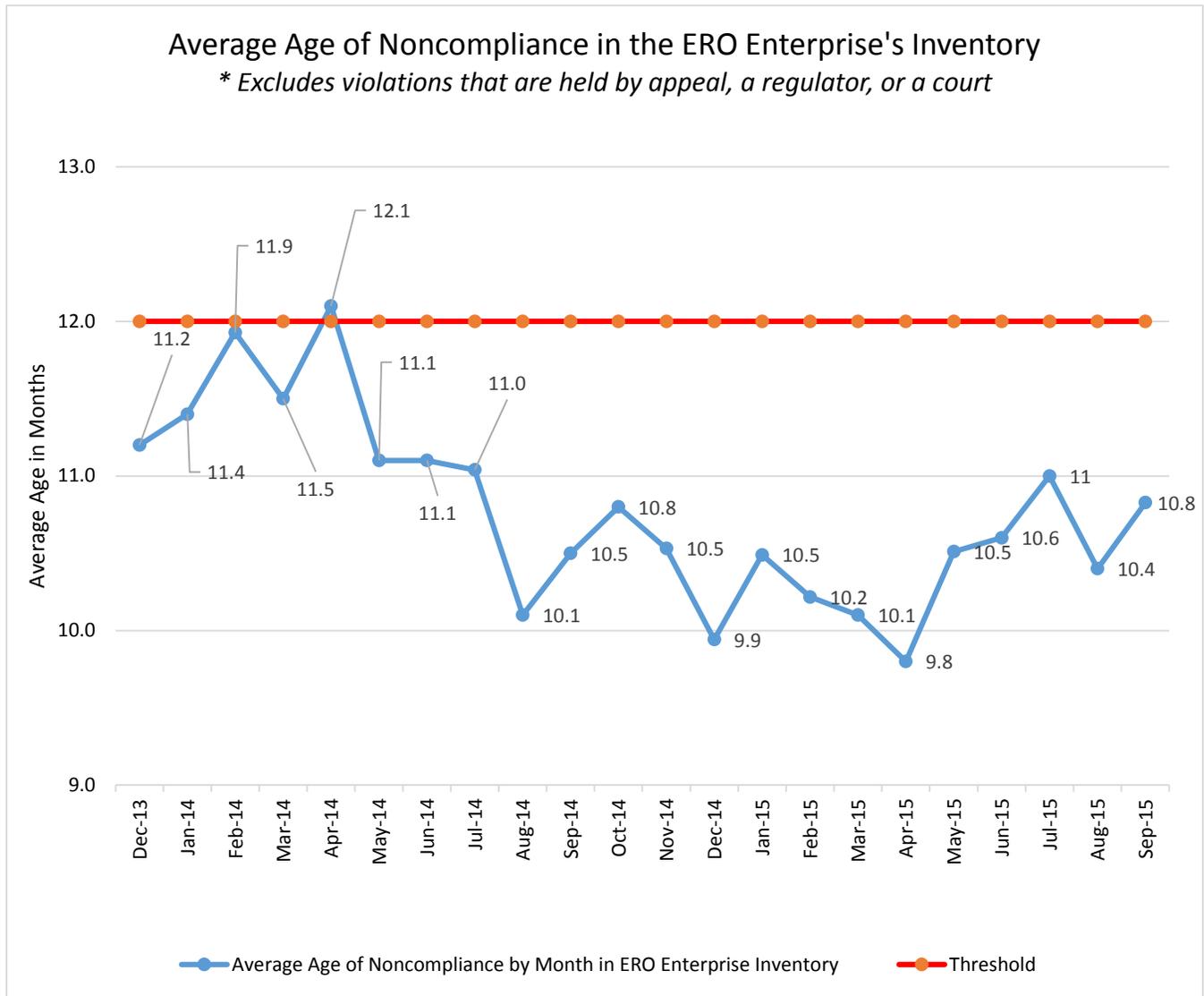

Figure 25: Average Age of Noncompliance in ERO Enterprise's Inventory

Since all Regional Entities began applying the Compliance Exception and FFT disposition tracks to qualifying minimal and moderate risk violations, the average processing time has declined. As shown in Figure 26 below, 61% of the inventory of noncompliance for the ERO Enterprise is less than one year old, and only 9% is over two years old.
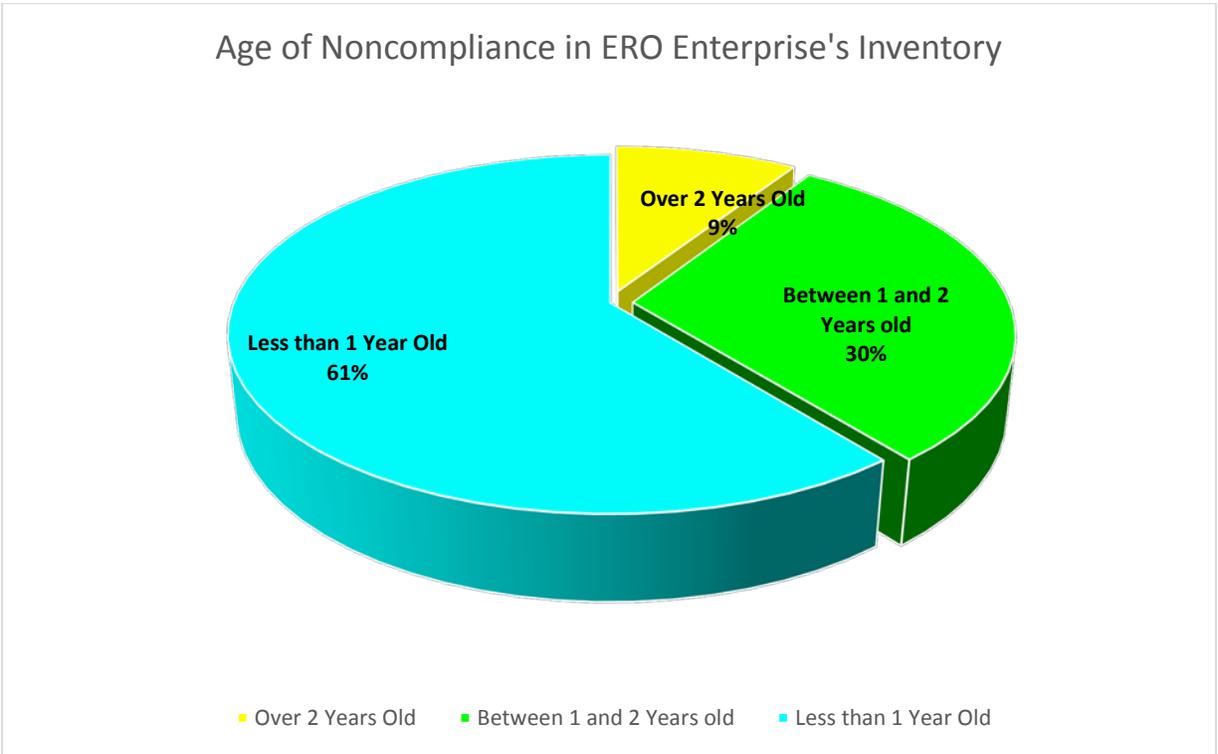
Age of Noncompliance in ERO Enterprise's Inventory

Over 2 Years Old
9%

Between 1 and 2
Years old
30%

Less than 1 Year Old
61%

■ Over 2 Years Old   ■ Between 1 and 2 Years old   ■ Less than 1 Year Old

Figure 26: Age of Noncompliance in ERO Enterprise's Inventory

Third Quarter Noncompliance Processing Trends

The trends associated with serious or substantial, moderate, and minimal risk noncompliance resolved in Q3 2015, as shown in charts below, are consistent with prior reporting periods.
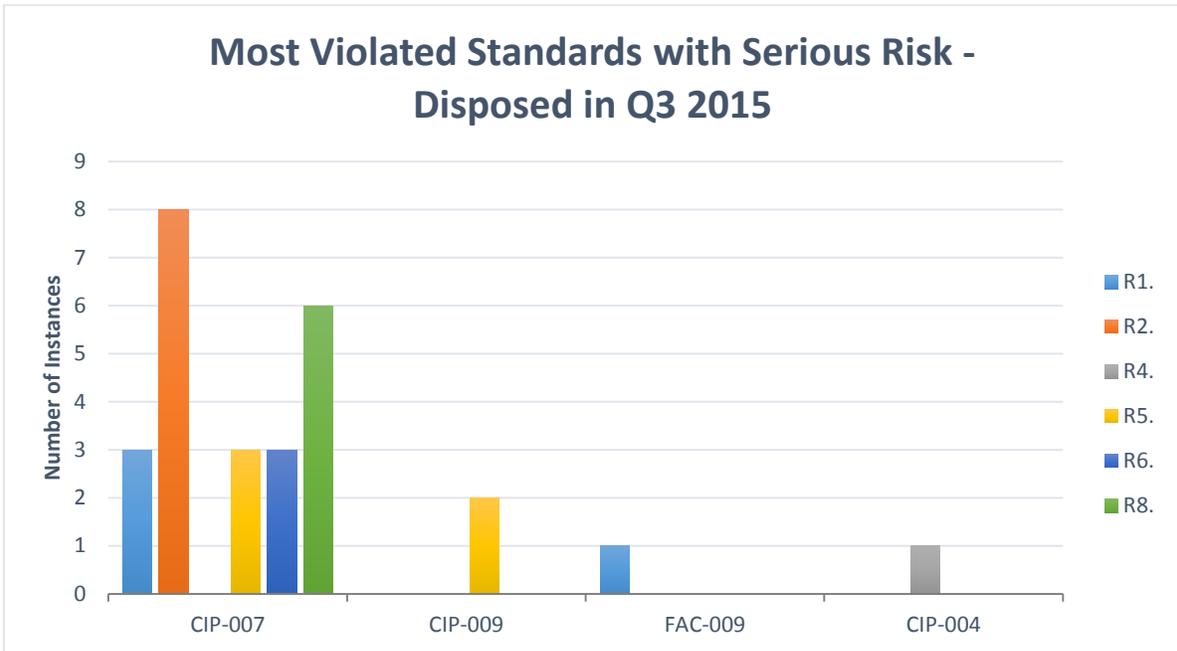

Most Violated Standards with Serious Risk - Disposed in Q3 2015

Number of Instances

■ R1.
■ R2.
■ R4.
■ R5.
■ R6.
■ R8.

CIP-007   CIP-009   FAC-009   CIP-004

Figure 27: Top Serious or Substantial Risk Noncompliance Disposed of in Q3 2015

The serious or substantial risk violations disposed in Q3 2015 were included in two Full Notices of Penalty filed with FERC. The largest Settlement Agreement covering 102 violations of CIP Reliability Standards was filed in August 2015. These violations primarily began before 2012 and the Regional Entity determined that, when aggregated, the violations posed a serious or substantial risk to the BPS. The second Settlement Agreement was filed in July 2015 that included one serious or substantial risk non-CIP violation.
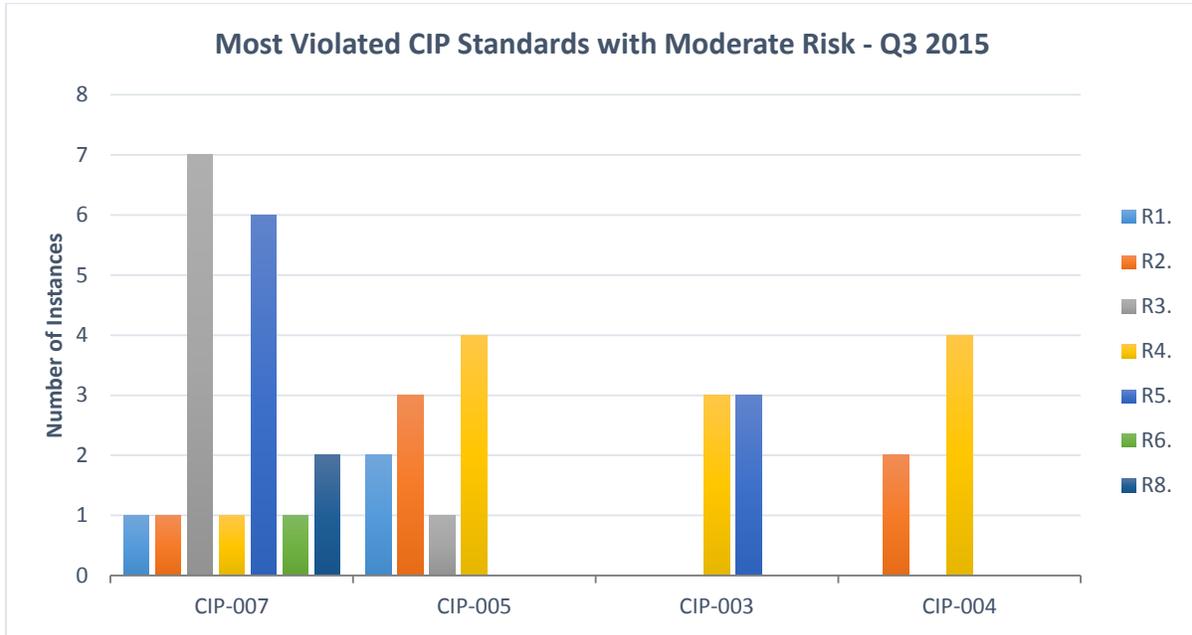

Figure 28: Top Moderate Risk CIP Noncompliance Disposed of in Q3 2015

The most violated moderate risk CIP Reliability Standards disposed in Q3 2015 remain similar to those from the previous quarter.
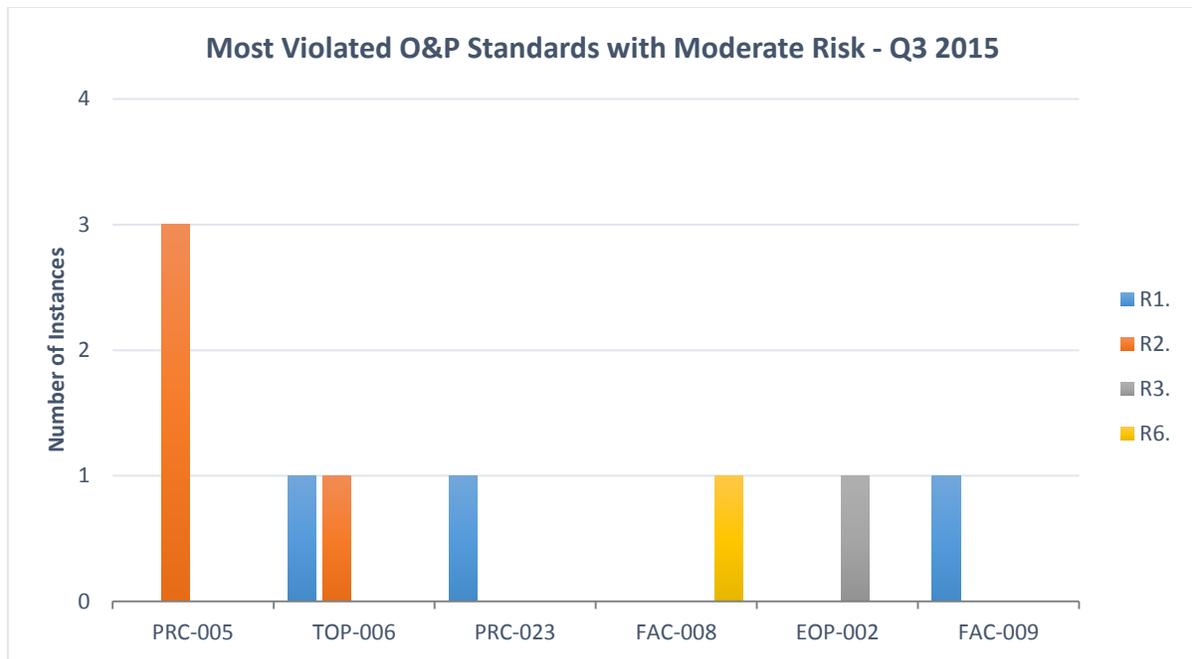

Figure 29: Top Moderate Risk O&P Noncompliance Disposed of in Q3 2015

Figures 29 and 30 show that PRC-005 is one of the most commonly violated standards involving moderate risk, in addition to being one of the most frequently violated for minimal risk violations.
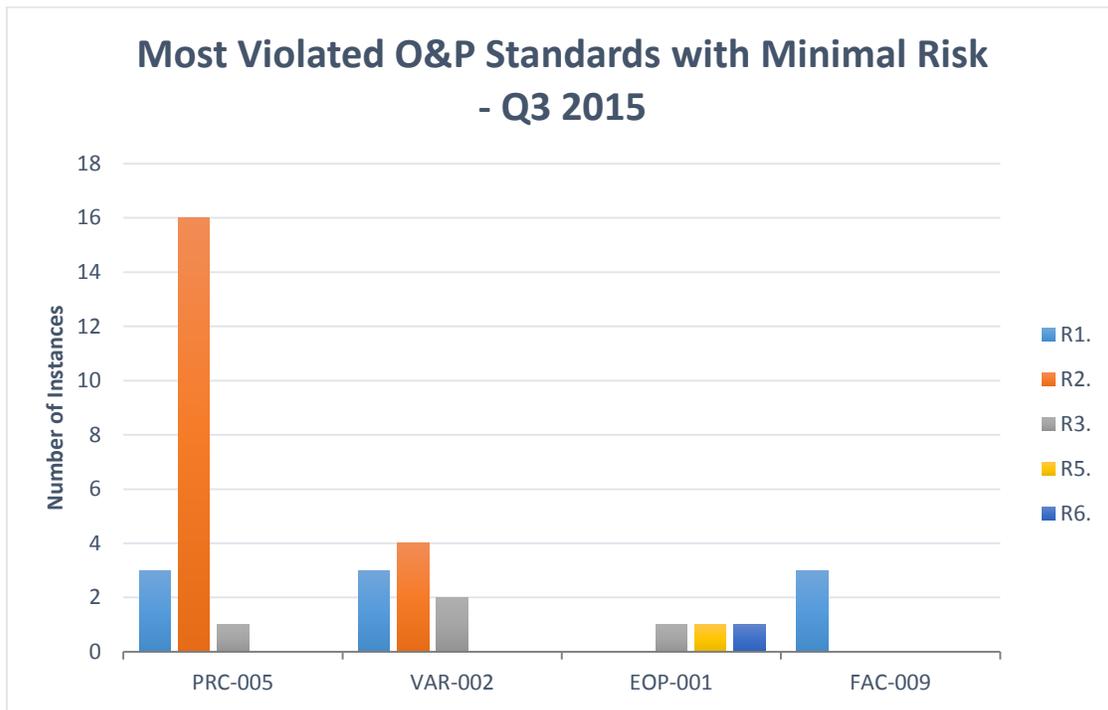

Figure 30: Top O&P Minimal Risk Noncompliance Disposed of in Q3 2015

PRC-005 R2 continues to be the most violated O&P Reliability Standard for minimal risk violations. While PRC-005 is one of the top ten most violated Reliability Standards filed since 2012,[14] PRC-005-2(i), which became effective on May 29, 2015, provides additional information on how to establish a technical basis for initial and continued use of a performance-based, protection-system, maintenance program. The new version of the Standard should help to reduce the frequency of noncompliance.

---

[14] PRC-005 instances of noncompliance were determined to pose a minimal risk in about 81% of the cases processed since 2012.
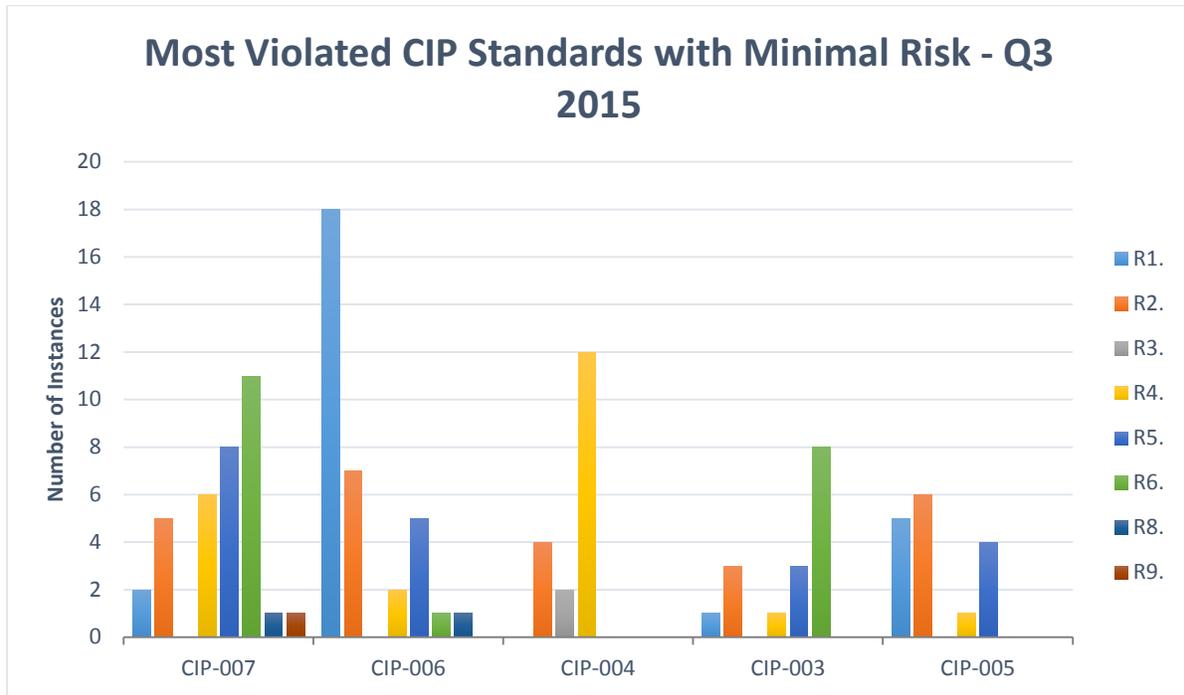
Figure 31: Top CIP Minimal Risk Noncompliance Disposed of in Q3 2015

Additional information regarding all noncompliance disposed of by the ERO Enterprise is found on the NERC website. That includes searchable lists of all NOPs, SNOPs, and FFTs, as well as a searchable list of Compliance Exceptions.

Update on 2015 Enforcement Oversight Activities and Results

Find, Fix, Track, and Report Process Review

On September 18, 2015, NERC Enforcement filed its annual report on the FFT Program.[15] During the first quarter of 2015, NERC and FERC jointly performed the annual sampling and process review of the Regional Entities' FFT programs. The purpose of the review was to gather information on the implementation and effectiveness of the FFT program across all eight Regional Entities.

NERC and FERC's 2015 review involved a coordinated sample of 100 processed FFTs for the period of October 2013 through September 2014. NERC's and FERC's review of the record included evaluation of the methods used by the Regional Entities to process Possible Violations as FFTs. NERC and FERC reviewed Regional Entity internal documents, including enforcement process diagrams, procedure manuals, step-by-step internal processes, checklists, and FFT Notice Letters.

Of the 100 FFTs reviewed, NERC and FERC did not identify any noncompliance that was inappropriate for FFT treatment. The results of the review indicate that the program remains successful and continues to be properly implemented.

Upcoming Reviews

NERC is conducting reviews on dismissals and the triage process. A combined review of Compliance Exceptions and FFTs will begin, in coordination with FERC, in Q4 of 2015. Review of the self-logging program will be conducted in 2016 to encompass activities performed under the current version of the process document.[16]

---

[15] Annual Report on the FFT Program, Docket No. RC11-6-004, available at:
http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/FinalFiled_Annual_FFTReport_20150918.pdf
[16] Available at http://www.nerc.com/pa/comp/Reliability%20Assurance%20Initiative/ERO%20Enterprise%20Self-Logging%20Program.pdf.

- Progress
  - Risk-based design informs all compliance monitoring and enforcement of ERO Enterprise
  - Transition away from scheduled based compliance monitoring to risk-based compliance monitoring
- Highlights
  - Completion of IRAs for all audits on the 2015 audit schedule
  - Tailored audit scopes and other compliance monitoring for registered entities based on risk
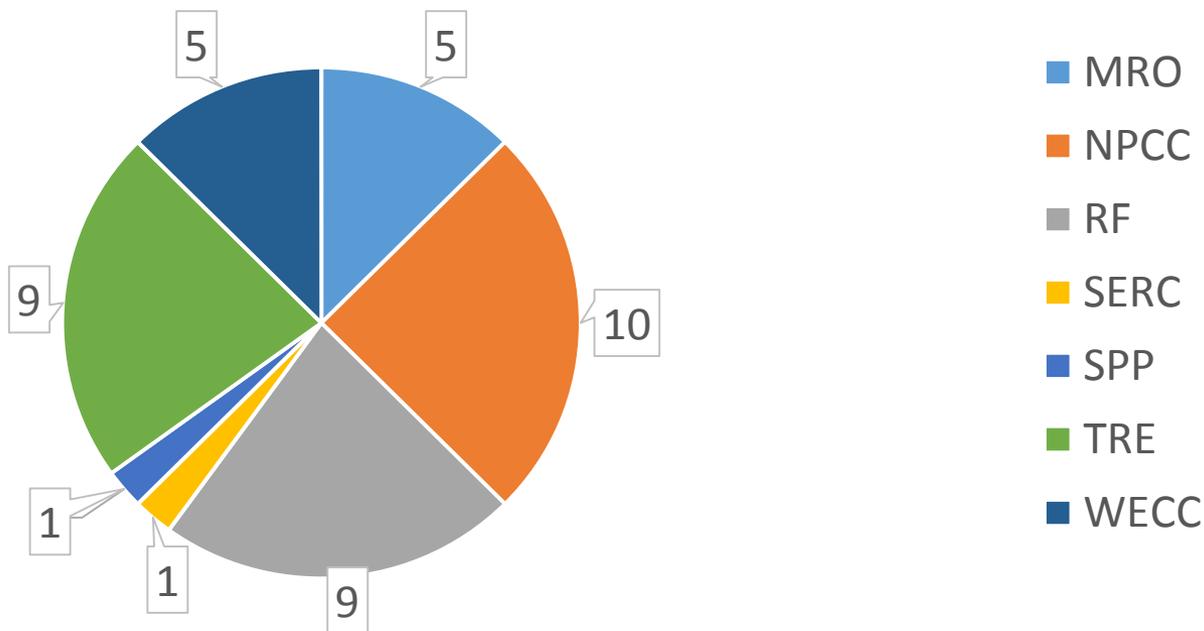
- # Highlights (continued)
  - ■ Compliance exceptions account for over 64% of all minimal risk noncompliance dispositions.

Minimal Risk Noncompliance Processed in Q3 2015

Legend:
- Compliance Exception
- FFT
- NOP
- SNOP

RELIABILITY | ACCOUNTABILITY
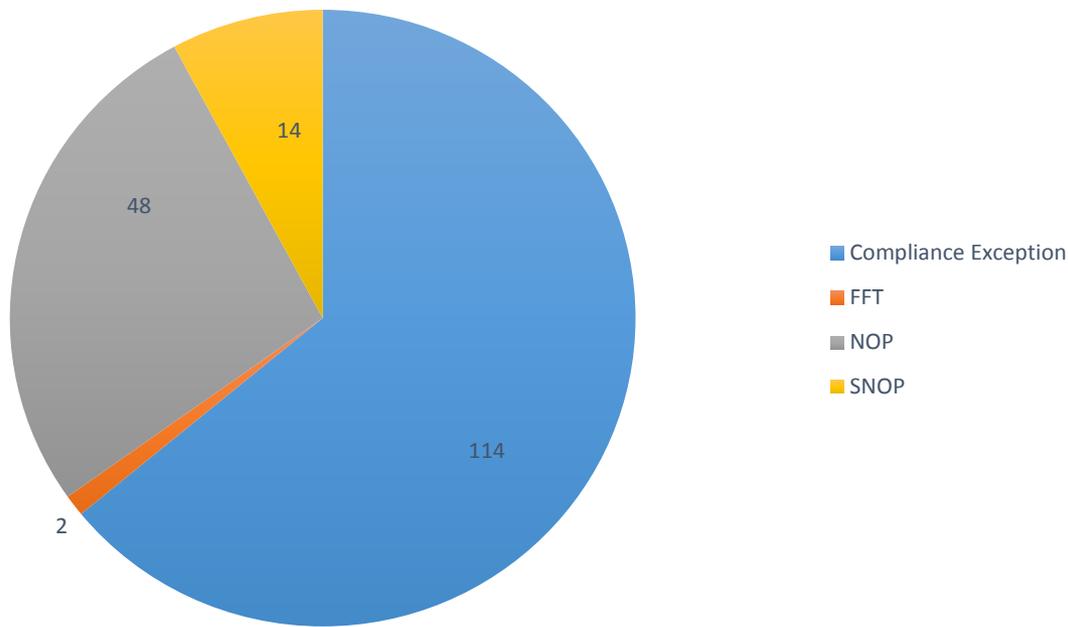
- Highlights (continued)
  - The self-logging program covers 40 registered entities and all reliability functions.

- Supporting shift to risk-based compliance monitoring

Collaboration and Sharing Best Practices

Lessons Learned from Application

Training and Professional Development

- Refined training program for ERO Enterprise staff
  - Identified risk-based tasks and responsibilities
  - Assessed current competencies and skillsets
- Continued development and tailoring of training and education based on role to help strengthen competencies and capabilities
  - Shape training on role specific needs
  - Determine appropriate delivery methods for training

- Refinement of risk elements to better prioritize risks
  - Continued review and incorporation of emerging risks for focus

- Collaboration through NERC and Regional Entity working groups
  - Emphasized importance of sharing best practices to achieve successful implementation

- Sharing of best practices for assessing entity risks
  - Identified opportunities for consistency and commons approaches

- Develop schedule for conducting IRA activities of all registered entities

- Build upon lessons learned during 2015 implementation

- Continue NERC and Regional Entities coordination on:
  - Evaluating ERO Enterprise IRA and ICE business rules
  - Promoting consistency in ERO Enterprise IRA and ICE tools and processes
  - Improving training on IRA and ICE performance for ERO Enterprise staff

- Continue emphasis on stakeholder understanding and perceptions

- Coordinated review of compliance exceptions and FFTs with FERC

- Review of self-logging process

- Annual CMEP Report reviewing implementation year

RELIABILITY | ACCOUNTABILITY

Questions and Answers

RELIABILITY | ACCOUNTABILITY