

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Compliance Monitoring and Enforcement Program Annual Report

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RELIABILITY | RESILIENCE | SECURITY



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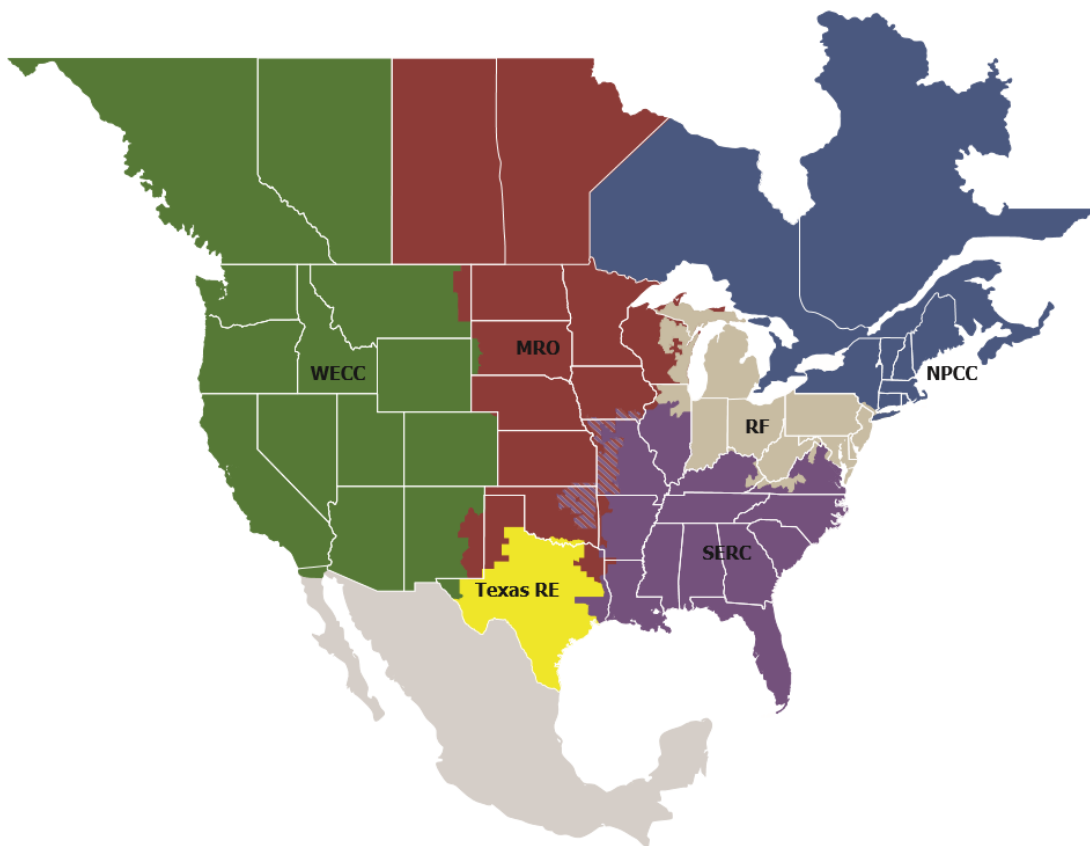
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Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (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.

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

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners and Operators participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	Western Electricity Coordinating Council

Executive Summary

This report highlights key ERO Enterprise¹ Compliance Monitoring and Enforcement Program (CMEP) activities that occurred in 2020, provides information and statistics regarding those activities, and identifies the ERO Enterprise's 2021 CMEP priorities.

In 2020, CMEP activities throughout the ERO Enterprise reflected continuing implementation of a risk-based approach that has enabled the ERO Enterprise to focus resources on risks to the reliability of the BPS, risks specific to registered entities, and risks pertaining to serious noncompliance. In 2020, the ERO Enterprise:

- Worked with the Federal Energy Regulatory Commission (FERC or Commission, Canadian provincial authorities, and industry to maintain the reliability of the bulk power system during the novel coronavirus pandemic through activities such as:
 - Providing guidance to industry regarding regulatory discretion during the pandemic;
 - Posting frequently asked questions regarding the guidance;
 - Temporarily expanding the Self-Logging program to address minimal and moderate risk potential noncompliance related to registered entities' coronavirus response efforts;
 - Moving to off-site compliance monitoring engagements, implementing the use of technology to make those engagements successful, and documenting when on-site follow-up compliance monitoring engagements will be needed once conditions permit in order to resolve any remaining concerns; and
 - Conducting remote visits to evaluate changed conditions related to organization certification;
- Completed the roll-out of the Centralized Organization Registration ERO System (CORES) project;
- Prepared for the release of the Align and Secure Evidence Locker (SEL) tools in 2021;
- Implemented a new process for filing and submittal of CIP noncompliance information to the Commission in which NERC requests that FERC treat the entire filing or submittal as Critical Energy/Electric Infrastructure Information (CEII) and does not publicly post redacted CIP noncompliance information;
- Addressed Commission directives in its order accepting NERC's Five-Year Performance Assessment through proposed revisions to the NERC Rules of Procedure and required compliance filings;
- Monitored RE implementation of Compliance Oversight Plans (COPs) for their registered entities;
- Promoted a focus on internal controls in all CMEP activities, ranging from compliance monitoring to mitigation of noncompliance;
- Placed significant emphasis on outreach to industry on topics ranging from common themes seen in significant Critical Infrastructure Protection violations, new and revised Reliability Standards impacting supply chain risk management and low impact Bulk Electric System (BES) Cyber Systems, and trends and best practices seen in higher risk violations of currently enforceable Reliability Standards such as cyber and physical security, Facility Ratings, and vegetation management;
- Endorsed Implementation Guidance and CMEP Practice Guides in areas addressing inverter-based resources, evaluation of Facility Ratings and System Operating Limits, generation segmentation, communications between control centers, and Real-Time Assessment quality of analysis;

¹ The "ERO Enterprise" refers to the affiliation between NERC and the six 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.

- Collaborated with FERC and jointly published a Supply Chain white paper to help the electric sector identify vendors of components on their networks so that they can take any necessary action to mitigate potential risks to the bulk power system;
- In collaboration with National Institute of Standards and Technology (NIST), assessed and updated the NERC CIP Reliability Standards mapping to the NIST Cybersecurity Framework; and
- Continued to work on aligning programs across the ERO Enterprise to create greater consistency in its approach to CMEP activities.

In 2021, the ERO Enterprise plans to continue its focus on effective program alignment and harmonization in risk-based compliance monitoring and enforcements. Specific priorities for 2021 include evaluating and filling any gaps created by coronavirus-related limitations on compliance monitoring, enforcement, registration, and certification; delivering the Align and SEL tools; continuing to embed internal control activities within the compliance monitoring program; working as an ERO Enterprise with stakeholder feedback to evaluate compliance monitoring and enforcement processes for efficiency; and harmonizing processes where appropriate.

Chapter 1: CMEP Activities

In 2020, the ERO Enterprise continued to work towards aligning CMEP activities across the ERO Enterprise and identifying and addressing risks to the reliability of the BPS. Highlights from the year are discussed in more detail below.

Coordination between FERC, NERC, and Regional Entities on Potential Coronavirus Impacts

On March 18, 2020, FERC and NERC announced steps to ensure that operators of the bulk electric system could focus their resources on keeping people safe and the lights on during the unprecedented public health emergency posed by the COVID-19 pandemic.² The announcement stated that FERC and NERC were using regulatory discretion to advise all registered entities that they would consider the impact of the coronavirus outbreak in complying with certain Reliability Standards, that REs would postpone on-site audits, certifications, and other on-site activities until at least July 31, 2020, and that FERC and NERC would continue to evaluate the situation. On April 24, 2020, the ERO Enterprise extended its postponement of on-site audits and other on-site activities through September 7, 2020.³

On April 2, 2020, NERC began posting frequently asked questions that NERC and the REs have received from industry regarding the joint NERC-FERC guidance for COVID-19.⁴ On April 17, 2020, the Commission approved NERC's April 6, 2020 motion to defer the implementation of several Commission-approved Reliability Standards that have effective dates or phased-in implementation dates in the second half of 2020 to help ensure grid reliability amid the impacts posed by the COVID-19 pandemic.⁵ On April 24, 2020, NERC informed applicable governmental authorities in Canada of its motion to FERC and FERC's approval of the motion. NERC has offered its assistance to the applicable Canadian governmental authorities in the event they would like to consider a similar or other appropriate delay in the implementation of Reliability Standards scheduled to become effective in each province in whole or in part in the second half of 2020.⁶

On May 28, 2020, the ERO Enterprise released new guidance temporarily expanding the Self-Logging Program to allow all registered entities to self-log instances of potential noncompliance with minimal or moderate risk related to their coronavirus response. While registered entities remain responsible for maintaining compliance with NERC Reliability Standards, this expansion allows them to focus their immediate efforts and resources on maintaining the safety of their workforce and communities to ensure the reliability of the bulk power system during this public health emergency. Under this temporary expansion of the Self-Logging Program, potential noncompliance related to coronavirus impacts logged consistently with this guidance is expected to be resolved without further action.⁷ On August 13, 2020, the ERO Enterprise extended the expiration date of the temporary expansion of the Self-Logging Program to December 31, 2020, and on January 6, 2021, the ERO Enterprise further extended the expiration date to June 30, 2021.⁸

² Joint FERC and NERC Press Release, *FERC, NERC Provide Industry Guidance to Ensure Grid Reliability Amid Potential Coronavirus Impacts*, available at <https://www.nerc.com/news/Headlines%20DL/FERC%20NERC%20031820%20final.pdf>.

³ NERC Press Release, *ERO Enterprise Opts to Extend On-Site Activity Deferral*, available at <https://www.nerc.com/news/Pages/ERO-Enterprise-Opts-to-Extend-On-Site-Activity-Deferral.aspx>.

⁴ *COVID-19 ORC and CMEP Frequently Asked Questions*, available at https://www.nerc.com/pa/comp/CAOneStopShop/COVID19_ORC_CMEP%20FAQs_Posted.xlsx.

⁵ *Order Granting Deferred Implementation of Certain NERC Reliability Standards*, 171 FERC ¶ 61,052 (2020), available at <https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/order%20granting%20motion%20to%20defer%20the%20implementation%20date.pdf>.

⁶ NERC Canadian Filings, available at <https://www.nerc.com/FilingsOrders/ca/Pages/default.aspx>.

⁷ *ERO Enterprise Guidance: Potential Noncompliance Related to Coronavirus Impacts*, available at <https://www.nerc.com/pa/comp/CAOneStopShop/ERO%20Enterprise%20Guidance%20Potential%20Noncompliance%20Related%20to%20Coronavirus%20Impacts.pdf>.

⁸ *Id.*

NERC and the REs continue to monitor the COVID-19 pandemic and will work with registered entities, the Commission, applicable governmental authorities in Canada, and other partners to ensure the reliability and security of the grid.

Compliance Monitoring During Pandemic Conditions

As a result of the COVID-19 pandemic, the ERO Enterprise shifted to perform compliance monitoring engagements off-site using video and audio conference technologies. The ERO Enterprise continued to scope compliance monitoring engagements using the risk-based framework and conducted subject matter expert (SME) interviews via web conferences and/or telephone communications. For cases where the ERO Enterprise typically conducts walk-through assessments, compliance monitoring staff are determining whether further analysis is required when the pandemic conditions no longer exist or if the registered entity provided sufficient evidence during the off-site review for reasonable assurance of compliance. For instances where the ERO Enterprise identified higher-risk areas for which reasonable assurance of compliance could not be obtained off-site, the ERO Enterprise will schedule additional compliance monitoring engagements for the registered entity in 2021 or 2022, as conditions permit.

Certification Engagements During Pandemic Conditions

As a result of the COVID-19 pandemic, the ERO Enterprise shifted to perform certification engagements (certifications and certification reviews) off-site, or “virtually on-site,” using video and audio conference technologies. The ERO Enterprise scoped the certification engagements to evaluate an entity’s Reliability Coordinator, Balancing Authority, and Transmission Operator capabilities using a risk-based approach. Engagements include tours (walk-through assessments) of control center facilities, Energy Management System (EMS) functionality demonstrations, and interviews with key entity O&P and CIP personnel. The ERO Enterprise has employed secure web-based applications and ‘live’ camera feeds, as appropriate; to establish a ‘virtual’ environment to accomplish what normally would have required a physical presence at the entity’s facilities. The successful use of the available technology has prompted consideration for continued use of this approach, when pandemic conditions no longer exist, for engagements with entities that pose a lower risk or are located in remote areas where travel constraints may be an issue.

Joint Staff White Paper on Notices of Penalty Pertaining to CIP Violations

On September 23, 2020, FERC and NERC released a Second Joint Staff White Paper on Notices of Penalty Pertaining to Violations of Critical Infrastructure Protection Reliability Standards (Second Joint Staff White Paper) regarding the disclosure of information related to violations of the CIP Reliability Standards.⁹ In the Second Joint Staff White Paper, FERC and NERC determined that their initial proposal in the August 27, 2019 First Joint Staff White Paper was insufficient to protect the security of the BPS. NERC and the Regional Entities share FERC’s and industry’s goal of protecting the security of the BPS. Since the release of the Second Joint Staff White Paper, NERC has and will continue to file or submit CIP noncompliance information with a request that the entire filing or submittal be treated as CEII and Commission staff will maintain the confidentiality of such filings of submittals by designating them as CEII in their entirety. In addition, NERC has and will continue to no longer publicly post redacted versions of CIP noncompliance filings and submittals because of the risk associated with the disclosure of CIP noncompliance information. NERC will continue to report CIP noncompliance statistics to the public in its quarterly and annual CMEP reports, which are available on NERC’s website. In order to help assure the effective and efficient reduction of risks to the reliability and security of the BPS, NERC will also provide lessons learned to registered entities via a secure website.

⁹ *Second Joint Staff White Paper on Notices of Penalty Pertaining to Violations of Critical Infrastructure Protection Reliability Standards*, Docket No. AD19-18-000 (September 23, 2020), available at https://www.ferc.gov/sites/default/files/2020-09/Second%20Joint%20White%20Paper_CIP%20NOP%20Confidentiality_09.23.2020_AD19_18_000_0.pdf.

FERC Order on Five-Year Performance Assessment

On July 22, 2019, NERC filed its Five-Year Electric Reliability Organization Performance Assessment (Performance Assessment). On January 23, 2020, the Commission issued an order accepting the NERC Performance Assessment, finding that NERC and the REs continue to satisfy their applicable statutory and regulatory criteria.¹⁰ In its order, the Commission directed NERC to submit two compliance filings to provide additional information and address specific matters discussed in the order, including several areas of improvement related to the CMEP. Specifically, the Commission sought clarification or improvements in the areas of: 1) periodic audits of REs' compliance with the CMEP; 2) NERC's reliability and security guidance document process; 3) the NERC Sanction Guidelines used to develop penalties for noncompliance with the Reliability Standards; and 4) the NERC certification process.

On April 2, 2020, the Commission issued a notice stating that, due to the emergency conditions related to COVID-19, NERC would be granted an extension to comply with the Commission's directives in the January 23 Order, extending the deadline for the first compliance filing to June 1, 2020 and the second compliance filing to September 28, 2020.¹¹ On June 1, 2020, NERC submitted its first compliance filing in response to the Commission order, addressing NERC oversight of Regional Entities and the NERC guidance development process, among other topics, and provided an update regarding revisions to the NERC Rules of Procedure.¹² On September 28, 2020, NERC submitted its second compliance filing with the Commission, addressing proposed revisions to the registration and certification processes and Sanction Guidelines, among other topics.¹³

Align Project and ERO Secure Evidence Locker

In Q4 2020, the Align project team conducted extensive outreach to keep industry apprised of the status of the Align project. This outreach included updates in the NERC News¹⁴ and Align newsletters.¹⁵ The Align project team also continued its scheduled activities, including data validation testing, data integration and reporting efforts, developing training materials, and initial training of NERC and Regional Entity staff on Release 1. This work will continue throughout 2021. The Align project team conducted outreach with NERC and Regional Entities to discuss the rollout strategy, training, and readiness for Release 1 and prepare for business process changes that NERC and the REs will need to implement in advance of Release 1 going live. The Align project team finalized the materials for use in training in Q4 2020 with NERC and Regional Entity staff. NERC set up a training site for Align and other tools that provide training for NERC, Regional Entity, and registered entity staffs on a variety of topics related to the use of Align.¹⁶

¹⁰ *Order on Five-Year Performance Assessment*, 170 FERC ¶ 61,029 (2020), available at <https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20on%20Five-Year%20Performance%20Assessment.pdf>.

¹¹ *Notice of Extension of Time*, Docket No. RR19-7-000 (April 2, 2020), available at https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/20200402_Notify%20of%20Extension%20of%20Time_RR19-7-000.pdf.

¹² *Compliance Filing of the North American Electric Reliability Corporation in Response to the Order on the Five-Year Performance Assessment*, Docket No. RR19-7-001, available at https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Performance%20Assessment%20Compliance%20Filing_PUBLIC.pdf.

¹³ *Second Compliance Filing of the North American Electric Reliability Corporation in Response to the Order on the Five-Year Performance Assessment*, Docket No. RR19-7-001, available at <https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Second%20Compliance%20Filing%20on%20Five-Year%20Order.pdf>.

¹⁴ October 2020 NERC News (posted November 3, 2020) at pp. 1, 2, 5, available at <https://www.nerc.com/news/newsletters/Newsletters/NERCNews-2020-10.pdf>; November 2020 NERC News (posted December 3, 2020) at 7, 9, 10, available at <https://www.nerc.com/news/newsletters/Newsletters/NERCNews-2020-11.pdf>; December 2020 NERC News (posted December 29, 2020) at 6, available at <https://www.nerc.com/news/newsletters/Newsletters/NERCNews-2020-12.pdf>.

¹⁵ Align: Registered Entity Newsletter (November 2020), available at https://www.nerc.com/ResourceCenter/Align%20Documents/Align%20Registered%20Entity%20Newsletter_November2020.pdf; Regional Entity Newsletter (November 2020), available at https://www.nerc.com/ResourceCenter/Align%20Documents/Align%20Regional%20Entity%20Newsletter_August%202020.pdf.

¹⁶ NERC Systems Training, available at <https://training.nerc.net/>.

Finally, on November 30, 2020, the Align project team hosted a public one-hour stakeholder webinar to answer questions regarding registered entity self-built SELs.¹⁷

The Align project team also completed the quality assurance testing for Release 2, which will focus on Periodic Data Submittals, Self-Certifications, and Technical Feasibility Exceptions and conducted a demo of the functionality of the Self-Certification design. User acceptance testing for Release 2 will take place in February.

The project team is also starting design work on Release 3, which will comprise the audit function. Design work will complete in Q2, and development and testing will complete in Q3.

In addition, the project team continued with design work for the ERO Secure Evidence Locker (SEL), which is designed to facilitate the secure submission, review, and retention of evidence generated in connection with CMEP activities. The ERO Enterprise SEL will be hosted on NERC infrastructure. The project team continues to work on the ERO Enterprise CMEP policy for the audit process and has identified initial use cases for the ERO SEL. In Q4 2020, ERO Enterprise CMEP staff began the initial testing of the SEL environment and the Align project team is developing the training materials for the SEL.

In addition, the project team completed the final business process harmonization effort for compliance planning processes (e.g., Inherent Risk Assessments and Compliance Oversight Plans). No enterprise-wide tool supports this business process today. This functionality will be part of Release 3 in Q4 2021, which will encompass the entire audit function in Align.

CMEP Implementation Plan

In 2020, NERC posted the *2021 ERO Enterprise CMEP Implementation Plan*.¹⁸ The CMEP Implementation Plan (CMEP IP) is enhanced and easier to use due to focusing on risk elements. NERC identified the risk elements listed below using the risk element development process.¹⁹ The development process considered data, reports, and publications that identified reliability risks that translate into priorities for compliance monitoring. Risks considered came from the Reliability Issues Steering Committee's (RISC) report,²⁰ the State of Reliability Report,²¹ the Long-Term Reliability Assessment,²² other publications from the RISC, special assessments, and ERO Event Analysis insights.

The following are the risk elements in 2021:

- Remote connectivity and supply chain,
- Poor quality models impacting planning and operations,
- Loss of major transmission equipment with extended lead times,
- Inadequate real-time analysis during tool and data outages,
- Determination and prevention of misoperations, and

¹⁷ Information regarding the October 29, 2020 webinar is available at <https://www.nerc.com/ResourceCenter/Pages/CMEPTechnologyProject.aspx>.

¹⁸ 2021 ERO Enterprise CMEP IP, Version 2.0 (November 2020), available at <https://www.nerc.com/pa/comp/CAOneStopShop/ERO%20CMEP%20Implementation%20Plan%20v2.0%20-%202021.pdf>.

¹⁹ Appendix C, ERO Enterprise Guide for Compliance Monitoring (October 2016), available at <http://www.nerc.com/pa/comp/Reliability%20Assurance%20Initiative/ERO%20Enterprise%20Guide%20for%20Compliance%20Monitoring.pdf>

²⁰ 2019 ERO Reliability Risk Priorities Report (November 2019), available at https://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC%20ERO%20Priorities%20Report_Board_Accpeted_November_5_2019.pdf

²¹ 2019 State of Reliability, available at https://www.nerc.com/pa/RAPA/PA/Performance%20Analysis%20DL/NERC_SOR_2019.pdf.

²² 2019 Long-Term Reliability Assessment, available at https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2019.pdf.

- Gaps in program execution.

The 2021 risk elements reflect a continued maturation of the risk-based approach to compliance monitoring. The risk elements are largely unchanged from 2020 and continue to be more focused on discrete issues that the ERO Enterprise plans to prioritize in the coming year, in part through CMEP activities. Previous risk elements were generally broader, and the ERO Enterprise intends that the 2021 risk elements will provide better guidance to industry and REs through its areas of focus. The updated CMEP IP also includes lists of registered functions and asset types related to the areas of focus and the description of the risk elements. Similar to 2020, the ERO Enterprise developed a consolidated Implementation Plan and has stopped including RE-specific Implementation Plans as appendices to the ERO Enterprise CMEP IP.

The REs evaluate the relevance of the risk elements to the registered entity's facts and circumstances as they plan CMEP activities throughout the year. For a given registered entity, requirements other than those in the CMEP IP may be more relevant to assist mitigating the risk, or the risk may not apply to the entity at all. Focus will be tailored as needed depending on regional distinctions or registered entity differences. In its 2021 oversight activities, NERC will continue to review how REs are tailoring compliance monitoring activities based on the risk elements and Compliance Oversight Plans.

Internal Control Evaluations

Internal controls remain an integral component to shaping oversight that is tailored to an individual registered entity. The importance of internal controls to the successful implementation of risk-based compliance monitoring and enforcement has resulted in the ERO Enterprise placing more emphasis on understanding internal controls during all aspects of the CMEP. As the ERO Enterprise's understanding of an entity's internal controls develops, the entity's CMEP experiences should reflect that understanding, resulting in noticeable differences in monitoring and enforcement activities for entities that have made investments in strong internal controls. Throughout 2020, the ERO Enterprise undertook efforts to harmonize its processes around evaluating and documenting internal controls and expects to complete these efforts in 2021.

Compliance Oversight Plans

The ERO Enterprise uses COPs to convey the compliance monitoring oversight strategy for each registered entity. Each entity's COP tailors compliance monitoring activities based on entity-specific performance factors such as compliance history and events, with an emphasis on understanding an entity's internal controls. The ERO Enterprise uses COPs to provide comparative assessments and thereby shape oversight planning and resource allocation of ERO Enterprise staff.

Throughout 2020, the ERO Enterprise focused on implementation of the enhanced COP process, which includes the following:

- Six oversight strategies that convey the frequency of monitoring activities and type of compliance monitoring tool to be used;
- Thirteen risk categories that convey entity-specific risks intended to provide areas for continuous improvement as well as focus for ERO Enterprise staff in scoping its compliance monitoring activities; and
- A common report template that combines the Inherent Risk Assessment (IRA) and COP summary.

The ERO Enterprise developed and published a webinar and FAQ document highlighting the improvements included in the enhanced COP process in November 2020.²³ The ERO Enterprise will continue implementation of the enhanced COP process and outreach for registered entities.

ERO Enterprise Staff Training and Industry Outreach

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

ERO Enterprise CMEP Staff Training

In accordance with Rules of Procedure (ROP) Sections 402 and 502, and Appendix 4C, NERC staff conducted Audit and Certification Team Lead Training in October 2020. The virtual training consisted of two sessions conducted over one week and was attended by 36 ERO Enterprise CMEP personnel. The Audit and Certification Team Lead Training scheduled for April 2020 was canceled due to the COVID-19 pandemic. Under the ROP requirements for Compliance Audit team leaders and Certification team leaders, RE staff must successfully complete all NERC or NERC-approved Regional Entity auditor training.

NERC conducted the 2020 Annual ERO Enterprise CMEP Staff Workshop in April 2020. The workshop was changed from an in-person event to a virtual event due to the COVID-19 pandemic. The one-day workshop was attended by approximately 286 ERO Enterprise CMEP personnel. The workshop focused on the transformation of the CMEP and included topics on perspective, lessons learned, continued improvement, and tools under development. The ERO Enterprise's compliance monitoring, enforcement, registration, and certification collaboration groups also continued their work throughout 2020 to ensure processes remained in sync.

The 2021 Annual ERO Enterprise CMEP Staff Workshop will be conducted virtually in April 2021. The workshop will continue to focus on the transformation of the CMEP and will include training on CMEP aspirations and concepts, process changes, new tools, documentation enhancement, internal controls, and technical training on Reliability Standards.

Industry Outreach via Webinars and Workshops

In 2020, the ERO Enterprise provided numerous outreach opportunities to industry stakeholders through workshops, monthly newsletters, assist visit programs, webinars, and other events. These outreach events focused on a variety of topics, including – but not limited to – the following:

- Align and the Secure Evidence Locker (SEL);
- Common themes seen in serious risk CIP violations,
- Compliance Oversight Plans,
- The importance of internal controls,
- New or revised Reliability Standards that will be enforceable in the near future, and

²³ Compliance Oversight Plan Process Enhancements webinar, available at <https://vimeo.com/nerclearning/compliance-webinars/video/452622182>
Compliance Oversight Plan Frequently Asked Questions, available at <https://www.nerc.com/pa/comp/CAOneStopShop/COP%20FAQ.pdf>

- Shared trends and best practices involving currently enforceable Reliability Standards that have traditionally posed a higher risk to the reliability and security of the BPS.

Multiple REs provided outreach regarding new or revised CIP Reliability Standards, such as the modified requirements for Low Impact BES Cyber Systems in CIP-003 and the Supply Chain Risk Management Reliability Standards in CIP-013-1, CIP-005-6, and CIP-010-3. Several REs provided outreach regarding new non-CIP Reliability Standards becoming effective in 2020, including PER-006-1 and PRC-027-1.

REs also provided outreach on Reliability Standards that are currently enforceable and pose a higher risk to the reliability and security of the BPS, sharing trends and best practices to mitigate risks around cyber and physical security, Facility Ratings, and vegetation management. Multiple REs also highlighted FERC lessons learned from the FERC-led CIP audits of registered entities.²⁴

These outreach efforts should help more registered entities achieve the reliability and security goals that the Reliability Standards were intended to support and help registered entities demonstrate compliance.

ERO Enterprise Collaboration with Stakeholders on Higher Tier Risks

In 2020, the ERO Enterprise continued collaborating with stakeholders, specifically the North American Transmission Forum (NATF), the Compliance and Certification Committee (CCC), and the Reliability and Security Technical Committee (RSTC) to advance mutual objectives, leverage complementary strengths, and minimize duplication of effort. This coordination focused on identified higher tier risks such as Facility Rating inaccuracies and selected supply chain risks for mitigation by registered entities.

Over the past several years through compliance monitoring and enforcement activities, the ERO Enterprise identified an uptick in moderate and serious risk violations of the NERC Reliability Standard for Facility Ratings (FAC-008), noting a correlation of the violations to accuracy of equipment inventory and change management. The discrepancies identified thus far include some significant and widespread discrepancies across the ERO Enterprise. This information suggests that registered entities with strong controls and change management procedures typically have better data that results in more accurate Facility Ratings than those entities that have not taken meaningful steps to develop strong controls, focus on change management, or validate field conditions with Facility Ratings databases. Those entities are most prone to discrepancies that may result in noncompliance.

The ERO Enterprise has messaged its focus on this risk through the CMEP Implementation Plan, which added a specific risk element, “Gaps in Program Execution,” in the 2019 CMEP IP intended to highlight the nexus of controls and performance in contributing toward change management weaknesses commonly observed as contributing to violations. This Risk Element has remained, appropriately, as part of the 2020 and 2021 CMEP Implementation Plans. In addition, significant Regional Entity outreach continued, along with evolved monitoring practices, in particular to understand extent of condition, best practices, and means of effective monitoring.

In 2020, in conjunction with the NATF, the ERO Enterprise developed a Facility Ratings Problem Statement and presented on Facility Ratings activities to the CCC. The problem statement informs the focus the ERO Enterprise continues to use in coordination with the NATF and stakeholder committees. In support of its role to provide stakeholder feedback related to ERO Enterprise programs, the CCC additionally created a Facility Ratings Task Force (FRTF) to coordinate recommendations to NERC. The ERO Enterprise also published a CMEP Practice Guide on June

²⁴ FERC has issued four lessons learned reports from its CIP Reliability Audits, which are available at <https://cms.ferc.gov/sites/default/files/2020-10/2020%20CIP%20Audits%20Report.pdf> (2020 staff report); <https://www.ferc.gov/legal/staff-reports/2019/2019-report-audits.pdf> (2019 staff report); <https://www.ferc.gov/legal/staff-reports/2019/2018-report-audits.pdf> (2018 staff report); and <https://www.ferc.gov/legal/staff-reports/2017/10-06-17-CIP-audits-report.pdf> (2017 staff report).

17, 2020 for the “Evaluation of Facility Ratings and System Operating Limits.”²⁵ The guide identifies ways ERO Enterprise staff evaluate facility ratings programs, and it highlighted the correlation with program strength and change management to accurate ratings.

This ongoing collaboration between the ERO Enterprise and stakeholders can help entities develop a risk-based approach for evaluating the status of and developing strategies for ongoing management of their Facility Ratings program. This effort can also accelerate efforts to share best practices, including controls to ensure accurate Facility Ratings are established and maintained, and thereby address the risk posed by incorrect Facility Ratings.

Likewise, the ERO Enterprise has identified certain risks to reliability that are associated with supply chain risk management. The NATF is working with its members to develop streamlined, effective, and efficient industry practices that can address supply cyber security risks. In addition, they are examining existing third-party certifications that might provide additional assurance in addressing supply chain risks and assist registered entities in developing an efficient cohesive supply chain cyber security program.

In conjunction with the FRTF, the CCC also created a Supply Chain Task Force (SCTF) to collect and respond to industry concerns around the implementation and expectations concerning the new Supply Chain Standards. The SCTF will provide suggestions on issues for discussion and recommendations to NERC on Supply Chain readiness issues and possible outreach opportunities to address industry concerns.

ERO Enterprise Tools

In 2020, the ERO Enterprise made progress on the implementation of two enterprise-wide tools: CORES and Align.

CORES

In 2020, CORES was released to all registered entities and is now available for all registered entities to perform registration activities and new entities may use CORES to register for a NERC Compliance Registry (NCR) ID. A new feature release is planned for Q1 2021. The release is based upon survey feedback from registered entities and to ensure registered entities are able to update their roles for the Align system. The feature release will allow registered entities to update their contact roles (e.g., Primary Compliance Contact, Alternate Compliance Contact, Primary Compliance Officer, Chief Executive Officer, and Align Submitter).

Align

Throughout 2020, the Align project team has been actively engaged in addressing ERO Enterprise as well as industry concerns around evidence collection, data security, as well as other concerns. In preparation for the launch of the first release in March 2021, the project team continues to conduct user acceptance testing, identifying critical enhancements, plan and complete data integration efforts, develop training materials for both industry, as well as ERO Enterprise staff. In addition, the project team continued to develop the ERO Enterprise SEL as well as develop business functionality requirements for registered entity maintained SELs.

Enforcement Streamlining Project

In 2020, NERC and the REs worked on a Risk Alignment and Streamlining Project to create a more streamlined method for processing noncompliance, particularly minimal risk noncompliance, which represent the majority of noncompliance across the ERO Enterprise. One key aspect of the project was to find ways to reduce the time it takes to make a risk determination and then use existing risk-based processes to process the noncompliance appropriately. The project team worked on documenting consistent criteria and processes for risk assessment and related topics for use across the ERO Enterprise. Ultimately, the ERO Enterprise intends to share many of the lessons learned from this

²⁵ ERO Enterprise CMEP Practice Guide, *Evaluation of Facility Ratings and System Operating Limits*, available at https://www.nerc.com/pa/comp/guidance/CMEPPPracticeGuidesDL/ERO%20Enterprise%20CMEP%20Practice%20Guide_%20Evaluation%20of%20Facility%20Ratings%20and%20System%20Operating%20Limits.pdf.

effort with industry to allow registered entities to provide relevant and useful information to the REs in a timely manner.

Coordinated Oversight Program

The purpose of the Coordinated Oversight Program is to increase efficiency and eliminate unnecessary duplication of compliance monitoring and enforcement activities for Multi-Region Registered Entities (MRREs). A registered entity operating in or owning assets in two or more REs' jurisdictions with one or more NERC Compliance Registry (NCR) identification numbers is a potential candidate for inclusion in the Coordinated Oversight Program; the program is voluntary. In connection with the program, the ERO Enterprise takes into account reliability considerations, such as – but not limited to – a registered entity's registered functions, load and generation capacity, transmission assets, and transmission and generation control centers.

During 2020, the ERO Enterprise granted 25 MRREs entry into the Coordinated Oversight Program. The number of registered entities participating in the Program increased to from 218 in 2019 to 243 in 2020. For 2021, the ERO Enterprise will continue to review feedback from Coordinated Oversight CMEP experiences to support additional streamlining and improvements to the program, through program design, revisions to the guidance documents, or outreach enhancements.

Program Alignment Process

Throughout 2020, the ERO Enterprise continued to align CMEP activities across North America. The ERO Enterprise Program Alignment Process²⁶ (Program Alignment) provides a structure for collecting, reviewing, resolving, and communicating differences in practices across the ERO Enterprise. Alignment issues come to the ERO Enterprise from a variety of sources, including industry submittals, NERC oversight, and regional feedback. Examples of issues considered in 2020 included clarification on disposition of noncompliance described in FERC/NERC industry guidance to ensure grid reliability amid potential coronavirus impacts; and potentially inconsistent assessment criteria for TOP-001-3 and EOP-005-3 applied by a regional entity.

The Issues and Recommendations tracking spreadsheet provides transparency on these issues and their associated recommendations or resolutions. NERC continued to use the Issues and Recommendations tracking spreadsheet to track not only entity submissions but also ERO Enterprise alignment efforts, such as CMEP Practice Guides under development. Currently, two issues submitted by the industry in 2020 are under review and scheduled to be resolved in 2021.

NERC 2020 CMEP Filings and Postings

In 2020, NERC and the REs addressed a variety of issues and questions through technical filings and analysis of information from across the North American BPS.

Proposed Standards Efficiency Review Retirements

In June 2019, NERC filed a petition seeking FERC approval of the retirement of ten currently effective Reliability Standards in their entirety without replacement and four proposed revised Reliability Standards in which requirements from the currently effective versions of the Reliability Standards are retired.²⁷ The proposed retirements originated from the first phase of work under NERC's Standards Efficiency Review, which began in 2017

²⁶ Information about the ERO Enterprise Program Alignment Process is available at <http://www.nerc.com/pa/comp/Pages/EROEnterProAlign.aspx>

²⁷ *Petition of the North American Electric Reliability Corporation for Approval of Revised and Retired Reliability Standards Under the NERC Standards Efficiency Review* (June 7, 2019), available at [https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Final%20Petition%20for%20Approval%20of%20SER%20Retirements%20\(INT,%20FAC,%20PRC,%20and%20MOD\).pdf](https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Final%20Petition%20for%20Approval%20of%20SER%20Retirements%20(INT,%20FAC,%20PRC,%20and%20MOD).pdf)

as a review of the body of NERC Reliability Standards to identify those Reliability Standards and requirements that were administrative in nature, duplicative to other standards, or provided no benefit to reliability.

In total, NERC proposed retiring 73 requirements and 1 requirement part, including the retirement of 10 Reliability Standards in their entirety. NERC noted that none of the proposed retirements would have an adverse impact on reliability and would, to the contrary, benefit reliability by allowing entities to focus their resources on those Reliability Standard requirements that promote the reliable operation and planning of the BPS.

On September 17, 2020, the Commission approved (1) the retirement of 18 Reliability Standard requirements and the modification of five Reliability Standards,²⁸ (2) remanded proposed FAC-008-4 because of concerns about retiring FAC-008-3 Requirement R8,²⁹ and (3) decided to determine the appropriate action regarding the proposed retirement of the MOD A Reliability Standards, which would result in the retirement of 56 MOD A Reliability Standard requirements, at a later time.³⁰

²⁸ *Electric Reliability Organization Proposal to Retire Requirements in Reliability Standards Under the NERC Standards Efficiency Review*, 172 FERC ¶ 61,225 at P 1 (2020) (“Order No. 783”), available at <https://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20on%20SER%20Retirements.pdf>.

²⁹ *Id.* at P 5.

³⁰ *Id.* at P 4.

Chapter 2: RE Oversight

NERC considers criteria developed by the CCC to measure the effectiveness and adherence of the REs to the CMEP, as detailed in CCC procedure document CCCPP10-6.³¹ NERC's oversight activities indicate that the REs are implementing risk-based compliance monitoring according to the program guidelines, and efforts have been successful to improve alignment on various components of risk-based compliance monitoring. Additionally, compliance monitoring oversight activities included identifying ERO Enterprise-wide improvement to inform future training and oversight priorities while monitoring RE program effectiveness.

NERC continued to focus enforcement oversight activities on the most serious risks to the BPS. The Full NOPs filed in 2020 informed risk focus areas for ERO Enterprise resources towards serious risk violations in 2021. REs continued to use Spreadsheet NOP (SNOP) disposition to address minimal and moderate risk noncompliance. Overall, the ERO Enterprise has maintained use of streamlined disposition for minimal risk issues. The number of registered entities using the Self-Logging Program increased from 88 in 2019 to 91 in 2020. Additionally, the ERO Enterprise continued to process a large percentage of noncompliance posing a minimal risk to the BPS as CEs. In 2020, approximately 95 percent of all instances of minimal risk noncompliance were resolved as CEs, slightly higher than the approximately 90 percent of minimal risk noncompliance resolved as CEs in 2019.

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

The certification program focused on amending NERC's Rules of Procedure to further process improvements realized and lessons learned over the last several years. NERC provided feedback to REs for certification engagements and continued to provide training for RE certification staff, including the development of a competency guide to be used in tracking the technical training and experience of team members related to the function being certified or re-certified. NERC also provided opportunities for registered entities to provide feedback on certification reviews, which indicated that ERO Enterprise certification staff conducted certification activities in a professional, effective, and efficient manner.

Enforcement Oversight

The following enforcement metrics updates are current as of December 31, 2020.³²

Focus on Serious Risk Noncompliance

NERC filed eight Full NOPs that included 17 violations of the operations and planning (non-CIP) Reliability Standards and carried a total combined penalty of over \$2.5 million. These Full NOPs included 10 serious and seven moderate risk violations. The Full NOPs filed in 2020 addressed a range of serious risk issues, including:

- A lack of effective processes;
- A failure to include certain components in its maintenance and testing program; and
- Ineffective vegetation management program design.

³¹Criteria for Annual Regional Entity Program Evaluation (September 2019), available at <https://www.nerc.com/comm/CCC/Related%20Files%202013/CCCPP-010-6%20Criteria%20for%20Annual%20Regional%20Entity%20Program%20Evaluation.pdf>.

³² Appendix A includes the NERC enforcement metrics-related graphs and charts.

NERC filed four Full NOPs that included 40 violations of the Critical Infrastructure Protection Reliability Standards.

Vegetation Management and FAC-003 R2 Violations

NERC filed three Full NOPs resolving a violation of FAC-003 R2 in 2020. The ERO Enterprise continues to focus on vegetation contacts and encroachments into the Minimum Vegetation Clearance Distance (MVCD) based on more vegetation encroachments on BES transmission facilities in recent years. The ERO Enterprise considers both vegetation encroachments into the MVCD and actual vegetation contacts as significant risks to the reliability of the BPS and will use all appropriate compliance monitoring, enforcement, and mitigation tools to address such risks.

Spreadsheet NOPs

NERC filed 16 SNOPs that included 30 violations of the operations and planning (non-CIP) Reliability Standards and carried a total combined penalty of slightly more than \$950,000.

NERC filed 11 SNOPs that included 44 violations of the Critical Infrastructure Protection Reliability Standards.

NERC's oversight of SNOPs in 2020 confirmed that the REs continue to use this disposition method appropriately. REs used the SNOP disposition to resolve minimal and moderate risk noncompliance that did not pose an elevated risk to the BPS but were not otherwise appropriate for FFT or CE treatment. Violations involving repetitive conduct, excessive durations, or a lack of commitment to compliance may not be appropriate for CE or FFT treatment despite posing minimal or moderate risks to reliability or security. Resolving such violations with settlement agreements or Notices of Confirmed Violation sends a clear message to the registered entity that its conduct and compliance culture need improvement.

Streamlined Disposition Methods

By the end of 2020, the ERO Enterprise added three registered entities into the Self-Logging Program. There are now 91 registered entities self-logging, compared to 88 registered entities that were self-logging in 2019, 78 in 2018, and 67 in 2017. In addition, the ERO Enterprise processed 195 self-logged noncompliance as CEs in 2020, close to the number of self-logged noncompliance processed as CEs in 2019, which was the highest number of self-logged CEs since implementation of the Self-Logging Program.

Out of 1,128 instances of noncompliance posing a minimal risk to the reliability of the BPS processed during 2020, the ERO Enterprise processed 1,070 (94.9 percent) as CEs. The ERO Enterprise processed the remaining instances of noncompliance posing a minimal risk as FFTs, SNOPs, or Full NOPs, due to linkages to other noncompliance in FFTs, SNOPs, or Full NOPs, or because of aggravating compliance history.

Annual Joint FFT and CE Review

In August 2020, NERC issued a final notice of completion for the 2019 annual review of the FFT and CE programs. NERC and FERC staff reviewed a sample of 27 out of 47 FFT instances of noncompliance and a sample of 37 out of 898 CE instances of noncompliance posted by NERC between October 2018 and September 2019. Sampling for the 2019 program year indicated that the REs appropriately processed all sampled possible violations as FFTs or CEs and that all of the possible violations have been adequately remediated, with the exception of remaining issues with ongoing mitigation that was not yet completed when publicly posted.

NERC noted the continued improvement in the quality of dispositions that were posted with a decreasing number of documentation concerns. Specifically, the identification of root cause and risk statements in FFTs and CEs has improved significantly over the past several years. NERC also noted ongoing improvement in the clear identification of factors affecting the risk before mitigation, as well as the lack of actual harm, which was identified in all samples. In addition, the FFTs and CEs sampled did not contain any material misrepresentations by the registered entities. Based on these findings, NERC Enforcement staff concluded that the REs properly execute FFTs and CEs.

NERC and FERC staff started the 2020 Annual FFT and CE Programs review in Q4 2020. The data requests for the fiscal year 2020 review were sent to REs on October 12, 2020, and the REs provided evidence documents by November 20, 2020.

Compliance Monitoring Oversight

NERC Oversight Priorities

In 2020, NERC executed its RE compliance monitoring oversight plan to assess the implementation of risk-based compliance monitoring activities. Risk-based compliance monitoring aims to identify, prioritize, and assure effective and efficient mitigation of risks to the reliability and security of the BPS. To support this mission and the ERO Enterprise's goal to have an objective and risk-based compliance monitoring program, NERC prioritized and conducted compliance monitoring oversight activities throughout the year. In response to the COVID-19 pandemic, NERC prioritized oversight related to the transition of all compliance monitoring activities to off-site engagements.

NERC focused 2020 activities on the following oversight priorities:

- Compliance monitoring response to COVID-19 and transition of off-site activities,
- RE-specific follow-up related to prior oversight recommendations,
- Planned audit observation activities, and
- Recurring oversight coordination specific to ERO Enterprise efforts around COP enhancement and alignment during 2020.
- Development of risk and monitoring conclusions, including:
 - Application of professional judgment and technical justifications to risk and monitoring activities;
 - Documenting conclusions to sufficiently capture the nature and extent of work performed; and
 - Consideration and documentation of internal controls throughout all compliance monitoring activities.
- Consistency and Program Alignment of RE compliance monitoring implementation.

Supporting Activities

In 2020, NERC performed a variety of activities designed to support the identified priorities, including review and update of the ERO Enterprise CMEP IP, oversight of RE compliance monitoring activities, audit observations of registered entities, and continuous monitoring of processes and information submitted to NERC. These oversight activities assess the effectiveness of program implementation and inform ongoing ERO Enterprise staff training, industry outreach and education, and other opportunities for program improvements.

Targeted Monitoring

The targeted oversight activities review specific components of the RE CMEP, which NERC uses to evaluate the oversight priorities. NERC established monthly oversight conference calls with each RE to focus on development of harmonized COP approaches, as well as to discuss recent NERC oversight engagements. NERC performed 18 audit observation engagements covering 28 registered entities conducted across all six REs. NERC also initiated a review of CMEP work papers for consistency and how relevant information is transferred to other CMEP groups. NERC oversight activities identified progress in planning and executing risk-based compliance monitoring, as well as opportunities for continued program enhancements and ERO Enterprise guidance and training.

Results

Enterprise-wide Progress

NERC identified ERO Enterprise-wide progress in planning and executing risk-based compliance monitoring as a result of the oversight activities. The REs consistently met NERC's oversight objectives, including substantial progress towards addressing the opportunities previously identified.

During compliance monitoring oversight engagements and monthly oversight calls, NERC determined that the REs were consistently using the enhanced COP process and common template to develop and provide COPs to registered entities. NERC also determined the REs used the understanding of a registered entity's inherent risk and performance risk in determining which compliance monitoring tool(s) to apply, the scope of compliance monitoring engagements, and Reliability Standards selection.

Additionally, in addressing previously identified opportunities, NERC determined that overall the REs demonstrated improvement in the quality of documentation across the IRA, COP, and compliance monitoring activities. The continued enhancement and implementation of the CIP Evidence Request Tool (ERT) assists the ERO Enterprise in ensuring consistency in the collection of initial CIP evidence. The ERO Enterprise continues to review and improve the ERT with industry input. The ERT has been valuable in assisting RE auditors in the initial collection of CIP evidence and has set evidentiary expectations with registered entities.

NERC determined that in response to COVID-19 the REs successfully transitioned to all off-site engagements, working collaboratively with registered entities to utilize technology solutions to maintain effectiveness of engagements. The ERO Enterprise continues to evaluate the level of reasonable assurance able to be obtained off-site for select Reliability Standards (e.g. where walk-through assessments are typically conducted, observation of system operator actions, etc.) and whether further analysis is required when the pandemic conditions no longer exist.

Enterprise-wide Opportunities

While conducting oversight activities, NERC identified several ERO enterprise-wide opportunities for improvement. NERC uses these opportunities for improvement in future training and oversight priorities.

NERC determined there is a continued opportunity to understand how registered entities have mitigated reliability and security risks while achieving compliance with Reliability Standards. For example, there are opportunities to better integrate the evaluation and documentation of an entity's effectiveness in addressing or mitigating known risks, including demonstrating compliance and sharing best practices with industry. While progress was made concerning some Reliability Standards (e.g., FAC-008-3 and CIP-005-5), the opportunity remains, especially around more complex standards (e.g., TPL-001-4 and CIP-013-1), as well as for areas of focus identified in the 2021 CMEP IP risk elements. This includes enhancing RE proficiency in understanding and evaluating internal controls related to these standards.

Based on the opportunities identified above, NERC and REs will coordinate to assess guidance and training needs for 2021.

Continuous Monitoring

Continuous monitoring consists of NERC staff's ongoing review of processes and information to evaluate RE program effectiveness. Throughout 2020, NERC collected and reviewed post-audit and spot check feedback surveys, COPs and Compliance Audit reports.

Registered Entity Post-Audit/Spot Check Feedback Surveys

In 2020, NERC received 45 surveys from registered entities within five REs for recent compliance monitoring activities. Overall, NERC concluded that registered entities agreed that RE audit staff conducted Compliance Audits in a professional, efficient, and effective manner. Survey responses also indicated opportunities to communicate better

ERO Enterprise expectations around internal controls and their relation to compliance monitoring activities. NERC will continue to monitor this type of registered entity feedback and will work with the REs to help ensure registered entities understand how risk and internal controls inform monitoring activities.

Compliance Audit and Spot Check Reports

In 2020, NERC focused its review of Compliance Audit and Spot Check reports to ensure all compliance monitoring activities were performed and results properly reported. Throughout 2020, NERC reviewed all the 2019 Q3 and Q4 Compliance Audit and Spot Check reports and the 2020 Q1 and Q2 Compliance Audit and Spot Check reports and validated that the compliance monitoring activities were completed. This completed the review of 2019 Compliance Audit and Spot Check reports and confirms that all scheduled 2019 compliance monitoring activities were completed and the results were properly reported. NERC expects that the 2020 Q3 and Q4 Compliance Audit and Spot Check reports will be reviewed and reported on in 2021.

Technical Feasibility Exceptions

In September 2020, NERC filed its *2020 Annual Report on Wide-Area Analysis of Technical Feasibility Exceptions*³³ with FERC. The report noted that the number of registered entities engaging in the Technical Feasibility Exception (TFE) program has stabilized, decreasing from 123 registered entities in 2019 to 116 registered entities in 2020. TFE activity, such as requests for new TFEs, modifications of existing TFEs, and terminations of TFEs, declined in half the REs, remained stable in one RE, and saw a modest increase in the two remaining RE since the last report. Most of the program activity includes adjustments in registered entities' counts of TFEs during asset life cycles. As a result, the REs have been able to evaluate better the risk and impact of TFEs and gain a better understanding of the benefit of the TFE process compared to the administrative burden it places on registered entities and REs. The number of registered entities that are engaging in the TFE program continues to decline, as does the total number of TFEs. To that end, NERC and the REs continue to consider alternatives to the current TFE program to alleviate the administrative burden on registered entities and the ERO Enterprise. As the current Standards Drafting teams consider modifications to the CIP Standards, NERC will continue to ask them to modify or replace TFE language in the Reliability Standards.

Certification Oversight

2020 Certification Completions

During 2020, NERC certified, upon recommendation from the RE, one new Balancing Authority (BA) and Transmission Operator (TOP) and concurred with the recommendation from the RE to transfer operational control of one TOP Area to another already certified and operational TOP. NERC performed onsite reviews of 11 already certified and operational entities, including one footprint change, five control room relocations, and seven Energy Management Systems (EMS) upgrades.

2020 Accomplishments

NERC continued to provide certification program oversight through direct participation in all certification engagements as required by NERC's ROP and participation on biweekly ORCG calls. In 2020, certification program oversight was supplemented by tracking fundamental program measures in the areas of utilization, fairness of administration, and consistency and comparability of executed process parameters. NERC oversight in 2020 also included evaluating ERO-wide program performance against "shall" statements in the NERC Rules of Procedure selected by the Compliance and Certification Committee and self-certifying conformance over the previous year.

The shift in program workload associated with review of changes at already certified and operational entities continued in 2020 with additional pressure to certify new registered entities prompted by industry changes.

³³ *Annual Report of the North American Electric Reliability Corporation on Wide-Area Analysis of Technical Feasibility Exceptions*, Docket Nos. RR10-1 and RR13-3 (Sept. 28, 2020), available at <https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/TFE%20Annual%20Report%202020.pdf>.

Changes in entity footprints have had the net effect of reducing the number of registered BAs and TOPs over time. No new entity certifications were in-process at the end of 2020; however, four certification reviews were in-process – two Control Room relocations and two EMS upgrades – with several others in preliminary stages of notification that have not yet been initiated.

No certification appeals were in process in 2020, and no new appeals were received.

NERC continued providing program-level feedback to REs for certification engagements including response for continued program performance in light of travel restrictions due to COVID-19. ROP amendments were filed with FERC in 2020 in collaboration with the REs that clarify program expectations and improve consistency and comparability of delegated activities.

NERC continued to make Fundamentals of Auditing and Gathering Quality Evidence modules available to ERO Enterprise personnel and Industry subject matter experts through NERC’s learning management system and on-demand computer-based training modules. Additionally, 48 ERO Enterprise CMEP staff completed Certification Team Lead classroom training in 2020 (delivered distance-learning style due to COVID-19). The Certification Team training is expected to be revised in 2021 to support implementation of the ROP amendments and other program enhancements.

Registered Entity Post-certification Feedback Surveys

In 2020, NERC received survey responses from registered entities engaged in certification activities. Overall, NERC concluded that registered entities agreed that ERO certification staff conducted certification activities in a professional, efficient, and effective manner. Registered entities commented on the value of the dialogue with team members during the onsite visit as well as flexibility in response to onsite schedule changes to accommodate project uncertainties.

Registration Oversight

NERC is ultimately responsible for determining which BPS users, owners, and operators are subject to approved Reliability Standards and for maintaining the corresponding NCR of organizations. In carrying out these responsibilities, NERC relies on the REs to apply and implement registration criteria as part of the Organization Registration Program. NERC conducts annual official oversight engagements of each RE as well as monthly touchpoints to discuss ongoing activities.

2020 Registration Changes

NERC verifies registration change activity before approval and reviews documentation relating to change requests to the registry. In 2020, NERC processed 286 functional registration changes, including 178 function activations and 108 function deactivations. Of the 108 function deactivations:

- 41 were due to compliance responsibilities assumed by another registered entity,
- 24 were determined to not meet registration criteria,
- 18 were sold to another registered entity,
- 12 were physically shutdown,
- 11 were consolidated into a mutually owned entity registration,
- One was determined to be registered as a DP-UFLS only entity, and
- One was due to a BES Exception.

Registration Change Activity

NERC has visibility into all proposed registration changes submitted by the REs. NERC's oversight in this critical activity is focused on the RE's adherence to the ROP registration criteria. Each RE provides detailed information based on the function, change request, and other information asked for by NERC. Oversight of each facet of the registration change activity process is crucial to ensure consistent approaches are being implemented by each of the REs..

Registration Alignment

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

CORES Tool

In 2019 and 2020, the ERO Enterprise worked to improve and standardize the registration process within a new registration system. Extending the functionality delivered with the Coordinated Functional Registration tool, the new CORES Tool will also use the ERO Portal and Enterprise xRM platform to provide entity information to the CMEP system for use in compliance monitoring and enforcement. The members of the ORCG, ORCS, and the AWG – along with a small focus group of registered entities – worked throughout 2019 with NERC staff to ensure registered entities experience a smooth transition when the new system was brought online in 2019. The system was released to registered entities beginning in 2019 and completed in 2020.

BES Registration Exceptions

In 2012, FERC issued Order No. 773 approving revisions to the definition of the BES and related changes to the ROP. These changes included the addition of Appendix 5C of the ROP containing the Procedure for Requesting and Receiving an Exception from the Application of the NERC Definition of BES. In 2014, FERC accepted NERC's compliance filing with further revisions to the BES definition. FERC highlighted that new elements included in the revised definition of the BES would become subject to relevant Reliability Standards two years after the effective date of the revised definition. The revised BES definition and Appendix 5C of the ROP became effective on July 1, 2014.³⁴

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

In 2020, NERC reviewed, the following Exception Requests:

- Recertified one Exclusion Exception Request from MRO,
- Recertified one Exclusion Exception Request from RF
- Approved one Exclusion Exception Request from MRO,
- Approved one Exclusion Exception Request from WECC
- Approved one Exclusion Exception Request from SERC

In 2021, NERC will continue to administer its BES process and oversight work as required by Appendix 5C of the ROP.

³⁴ *Revisions to Electric Reliability Organization Definition of BES and Rules of Procedure*, Order No. 773, 141 FERC ¶ 61,236 (2012); order on reh'g, Order No. 773-A, 143 FERC ¶ 61,053 (2013); order denying reh'g, 144 FERC ¶ 61,174 (2013). See also, North American Elec. Reliability Corp., 146 FERC ¶ 61,199 (2014).

Improvements in RE Oversight

In 2020, NERC took steps to clarify the audit and oversight responsibilities of its Internal Audit group and its Regulatory Programs group (Compliance Assurance, Enforcement, and Registration and Certification) as they relate to evaluating the work of the REs by proposing enhancements to the process for RE audits completed by NERC's Internal Audit group in its first compliance filing in response to the Commission's order on the Five-Year Performance Assessment.³⁵ In particular, NERC's efforts will focus on avoiding duplicative efforts between the audit engagements conducted by Internal Audit and the oversight engagements conducted by Regulatory Programs; and using risk-based approaches for the work done by both Internal Audit and Regulatory Programs when evaluating the performance of the REs.

Oversight of Canadian CMEP Efforts

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

³⁵ *Compliance Filing of the North American Electric Reliability Corporation in Response to the Order on the Five-Year Performance Assessment*, p. 6-9, available at https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Performance%20Assessment%20Compliance%20Filing_PUBLIC.pdf.

Chapter 3: 2020 Metrics Highlights

In 2020, the ERO Enterprise observed an increase in the average age of open noncompliance, rising from 13.3 months at the end of 2019 to 14.6 months by the end of 2020. The average age of noncompliance has risen steadily for approximately two years, driven by increasing volume of noncompliance reported to the ERO Enterprise and significant compliance failures that required more time to process. Several of the larger compliance failures were completed in 2019, resulting in an increased number of serious and moderate risk violations processed during the year, including those with prior relevant compliance history that could be considered aggravating when assessing a penalty. Taking the time to address fully these significant risks to the reliability to the BPS was an appropriate use of ERO Enterprise resources.

Despite these challenges, the ERO Enterprise increased the number of registered entities approved for the Self-Logging program and saw a significant increase in the number of self-logged CEs in 2020. In addition, the number of CEs processed in 2020 reached new heights, and the total number of noncompliance processed in 2020 was significantly higher than in the past few years, showing the benefit of streamlined disposition methods.

Mitigation Completion Status

For all REs, 100 percent of mitigation for noncompliance discovered in 2014 or before has been reported as complete. Registered entities have made significant progress in mitigating older noncompliance from 2015-2018, with nearly 90 percent or more of noncompliance discovered in those years having been mitigated.

Self-Logging Program Participation

In 2020, the ERO Enterprise continued to push for more registered entities to apply to join the Self-Logging Program, and saw the addition of three registered entities, bringing the total up to 91 registered entities and the number of self-logged CEs remained near the highest levels since implementation of the Self-Logging Program.

Serious Risk Issues

NERC filed Full NOPs in 2020 that, in total, contained 17 serious risk violations. Seven of the serious risk violations involved CIP Standards, while the ten serious risk O&P violations involved Emergency Preparedness and Operations, Transmission Vegetation Management, Facility Ratings, Operator Personnel Credentials and Training, and Protection System Maintenance and Testing. The penalties assessed for these Full NOPs with serious risk violations ranged up to \$1 million, reflecting the gravity of the violations and signaling to registered entities the importance of avoiding the conduct and underlying root causes that led to those violations.

Streamlined Disposition

Approximately 91 percent of all noncompliance processed in 2020 was processed via the CE and FFT disposition methods, which require no settlement agreement and have no penalties associated with them. This was an increase from 2019, which saw approximately 81 percent of all noncompliance processed via the CE and FFT disposition methods. This increase is likely due to a decrease in the number of Full NOP violations processed in 2020 compared to 2019 and a generally flat level of CE and FFT processing.

Caseload

The average age of noncompliance has risen to 14.6 months, exceeding the desired target level of 12.0 months. Since the spring of 2017, when the average age of noncompliance was at 7.0 months, it has steadily risen. The rise in average age is likely a ripple effect of a large set of Reliability Standards that went into effect in July 2016, including the CIP Version 5 Standards, which were the source of approximately two-thirds of the reported noncompliance in 2020. The increase in average age of noncompliance began just a few months beyond the one-year mark of several standards going into effect in July 2016 and a corresponding rise in discovered noncompliance. The average age of noncompliance is likely to remain at higher levels until the number of reported noncompliance falls, enforcement

streamlining efforts gain further traction, and the REs resolve their oldest, most complex violations. The increase in the average age of noncompliance highlights the importance of further streamlining the work involved in processing minimal risk noncompliance to ensure that the ERO Enterprise and registered entities are able to identify and mitigate higher risk noncompliance more efficiently.

Repeat Moderate and Severe Risk Violations

As a response to the 2014 FERC Five-Year Order,³⁶ NERC has been measuring the number of repeat noncompliance posing a moderate or serious risk.³⁷ In its Five-Year Order, FERC identified repeat noncompliance as a key indicator of the effectiveness of the CMEP in recognizing, mitigating, and preventing violations.

To measure the effectiveness of the risk-based CMEP on reducing noncompliance, NERC reviews moderate and serious risk violations and includes them in one of three categories:

- Noncompliance with no prior compliance history,
- Noncompliance with prior compliance history that does not involve similar conduct, and
- Noncompliance with compliance history that includes similar conduct.

The number of moderate and serious risk noncompliance with similar prior conduct dropped in 2020 after a significant spike in 2019. This decrease was due to fewer large Full NOP settlements being processed in 2020 compared to 2019, and resulted in a drop in the number of moderate and serious risk noncompliance with similar prior conduct.

In 2020, NERC filed 16 violations with moderate or serious determinations that had prior noncompliance with similar conduct, compared to 102 such violations in 2019 and 23 such violations in 2018. The ERO Enterprise will continue to monitor the level of moderate or serious risk violations with similar conduct and engage in outreach with registered entities to ensure they are adequately addressing root causes of noncompliance and implementing effective internal controls to reduce the risk of noncompliance that does occur.

Self-Assessment and Self-Identification of Noncompliance

Registered entities typically self-identify approximately 80 percent of new noncompliance. In prior years, NERC tracked self-identification of noncompliance by including Self-Reports (and self-logs), self-certifications, and periodic data submittals. In 2018, NERC began to track Self-Reports (and logs) separately, as indicators of a registered entity's rate of self-assessment and found that 76.2 percent of the noncompliance was self-reported or logged. In 2020, approximately 82 percent of the noncompliance was self-reported or logged.

Compliance Guidance

In late 2015, the NERC Board of Trustees approved the Compliance Guidance policy, which includes Implementation Guidance and CMEP Practice Guides. Pre-Qualified Organizations or Standards Drafting Teams develop Implementation Guidance, which provides industry-vetted and ERO Enterprise-endorsed examples and approaches to illustrate how registered entities could comply with a Reliability Standard. The ERO Enterprise develops the CMEP

³⁶ “[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).

³⁷ This metric focuses on the noncompliance posing the most significant risks to the BPS. A number of repeat noncompliance stems from high frequency conduct. These typically pose a minimal risk to reliability, particularly if identified promptly. Regardless of the level of risk, it is important to identify and mitigate the underlying cause of noncompliance adequately to prevent repeat conduct that could pose a greater risk.

Practices Guides to address how ERO Enterprise CMEP staff execute compliance monitoring and enforcement activities rather than how to implement the Reliability Standard.

During 2020, the ERO Enterprise received eleven new proposed Implementation Guidance documents from Pre-Qualified Organizations and Standards Drafting Teams. The ERO Enterprise reviewed and endorsed three Implementation Guidance documents and declined to endorse eight Implementation Guidance documents. Additionally, the ERO Enterprise carried over four proposed Implementation Guidance documents from 2019 that were still under review at the beginning of 2020; one was ultimately endorsed and three were not endorsed. The ERO Enterprise also developed and posted five CMEP Practice Guides in 2020.

During 2020 NERC conducted an industry webinar to highlight the enhancements to the Compliance Guidance program, which were made based on the results of the industry wide 2019 Compliance Guidance effectiveness survey. The webinar discussed the Compliance Guidance program, the revised Implementation development, review, and endorsement processes and all associated tools.

Reliability Standard Audit Worksheets

During 2020, NERC issued announcements for nine Reliability Standard Audit Worksheets (RSAWs) available on the NERC public website.³⁸ NERC also provided draft RSAWs for draft Standards, which are typically found on the project pages under Reliability Standards under Development.

³⁸ Reliability Standard Audit Worksheets (RSAWs), available at [https://www.nerc.com/pa/comp/Pages/Reliability-Standard-Audit-Worksheets-\(RSAWs\).aspx](https://www.nerc.com/pa/comp/Pages/Reliability-Standard-Audit-Worksheets-(RSAWs).aspx).

Chapter 4: Looking Ahead to 2021

Priorities for 2021

To guide enforcement and compliance monitoring activities in 2021, NERC has identified the following priorities:

- Complete and deliver the Align tool;
- Provide training and education to RE CMEP staff to enhance the ERO Enterprise work products (e.g., working papers);
- Evaluate post-COVID-19 monitoring activities;
- Continue to focus on program alignment, including consistency efforts on non-monetary penalties, mitigation, coordinated oversight for MRREs, training exercises, technical training, documentation, and risk assessments;
- Monitor the progress of the ERO Enterprise's enforcement streamlining efforts by examining the balancing of efficient resolution of minimal risk noncompliance with timely, comprehensive resolutions of higher risk violations;
- Continue rollout of enhanced Compliance Oversight Plans for engagements in 2021;
- Continue to focus on how registered entities have mitigated reliability and security risks while achieving compliance with the Reliability Standards, including intentional focus on internal controls; and
- File proposed revisions to the NERC ROP, specifically around the CMEP, with FERC for approval.

2021 Metrics

In 2021, the ERO will continue to monitor and report on key CMEP and ORCP activities.

Appendix A: Enforcement

Information regarding the ERO Enterprise’s Enforcement activities and metrics is provided below, focusing on noncompliance inventory; identification, mitigation, disposition, and risk of noncompliance; and vegetation management.

Noncompliance Inventory

Open Noncompliance in the ERO Enterprise Inventory

The ERO Enterprise’s open noncompliance inventory consists of noncompliance reported which has not yet been processed by filing with FERC (Full NOPs and SNOPs), public posting on the NERC website (FFTs and CEs), or being dismissed. As of the end of 2020, Figure A.1 shows that the open noncompliance inventory is primarily comprised of noncompliance reported from 2018-2020, with less than five percent of the currently open noncompliance reported before that period. The ERO Enterprise strives to process noncompliance in a timely manner such that its open noncompliance older than two years old is kept to a minimum.

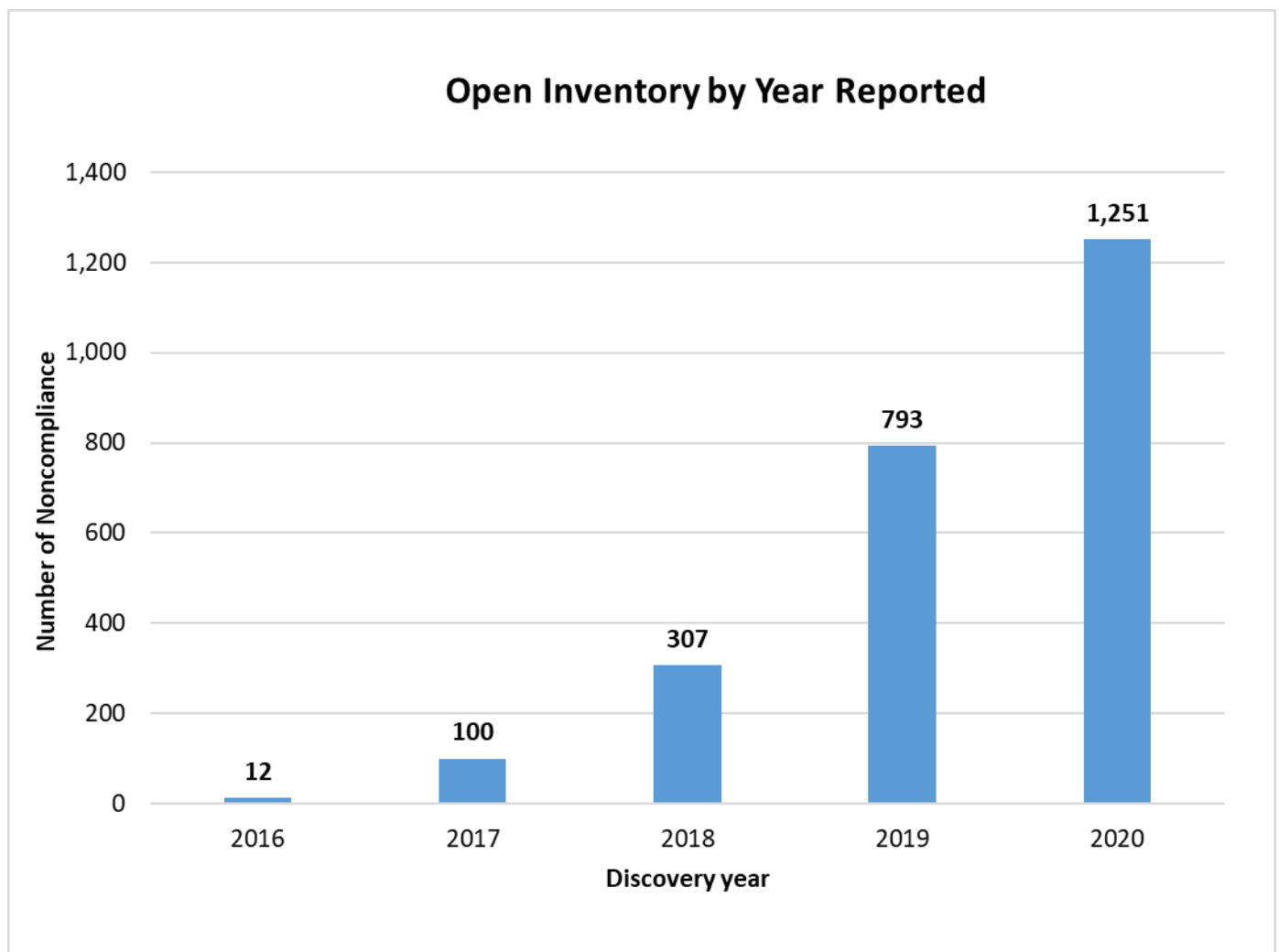


Figure A.1 ERO Enterprise’s Inventory by Year Reported

Reported Age of Noncompliance in ERO Enterprise Inventory

Figure A.2 shows the age of all open noncompliance in the ERO Enterprise inventory. At the end of 2020, the percentage of inventory that was between one and two years old was 32 percent, and the percentage of inventory that was over two years old was 17 percent. The ERO Enterprise strives to process noncompliance in a timely manner such that its open noncompliance older than two years old is kept to a minimum. Information about mitigation of the oldest noncompliance in inventory can be found in the “Mitigation of Noncompliance” discussion below.

The aging ERO inventory is a result of the large number of discovered noncompliance based on Reliability Standards that went into effect in 2016 and increasingly complicated technical reviews required to process violations of some of the newer Reliability Standards. The rate of discovery of noncompliance appears to be trending lower over the last few years. If this trend continues, it should help with processing and reduce the average age of noncompliance in 2021; however, a number of new and revised Standards went into effect in 2020 or will go into effect in 2021, which may cause another increase in reported noncompliance.

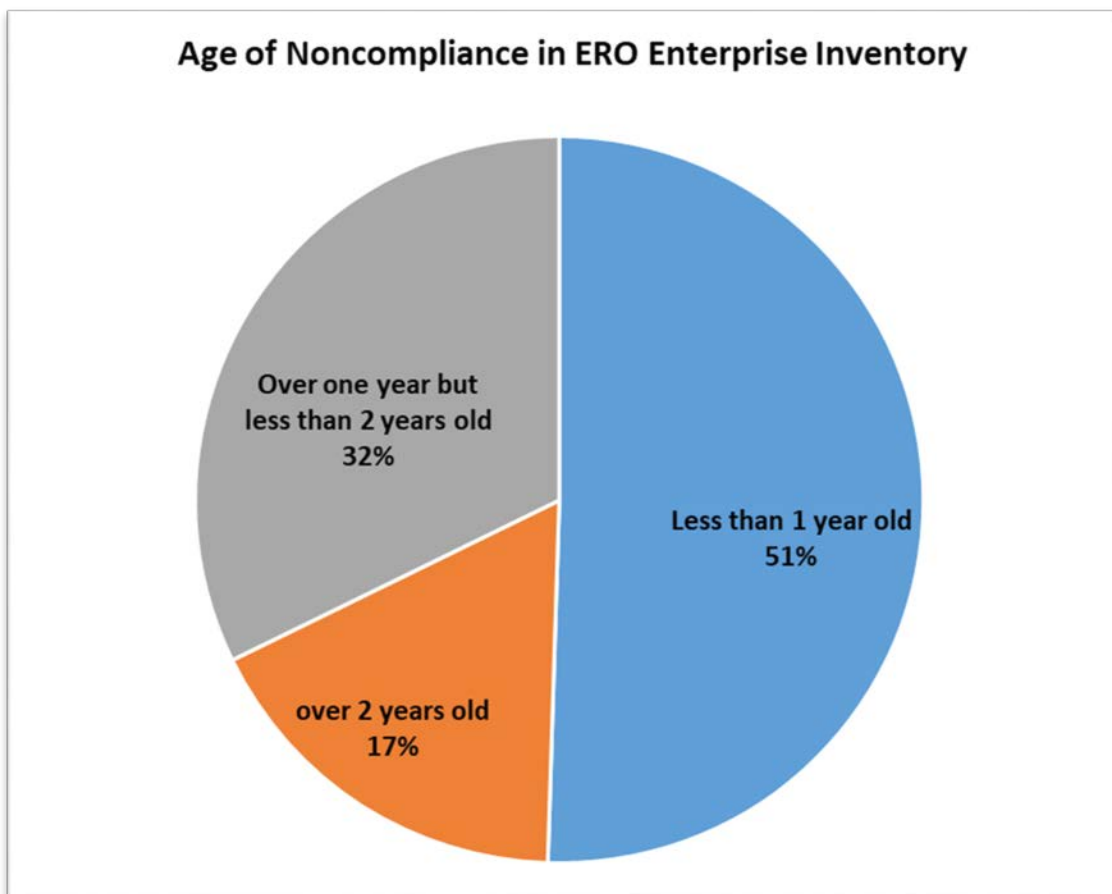


Figure A.2: Age of Noncompliance in ERO Enterprise’s Inventory

Average Age of Noncompliance in the ERO Enterprise Inventory

Figure A.3 shows that the average age of noncompliance in the ERO Enterprise's inventory at the end of 2020 was 14.6 months.³⁹ The average age of noncompliance increased from 13.3 months at the end of 2019. The average age of noncompliance in the ERO Enterprise inventory has been steadily increasing since September 2017 when it was at 7.0 months. The ERO Enterprise strives to keep the average age of open noncompliance in its inventory to 12 months or less.

The oldest open inventory is largely comprised of CIP noncompliance, with smaller numbers of noncompliance involving Facility Ratings and Protection System maintenance and testing. Noncompliance with the currently effective CIP Standards represents approximately two-thirds of all open noncompliance in the inventory.

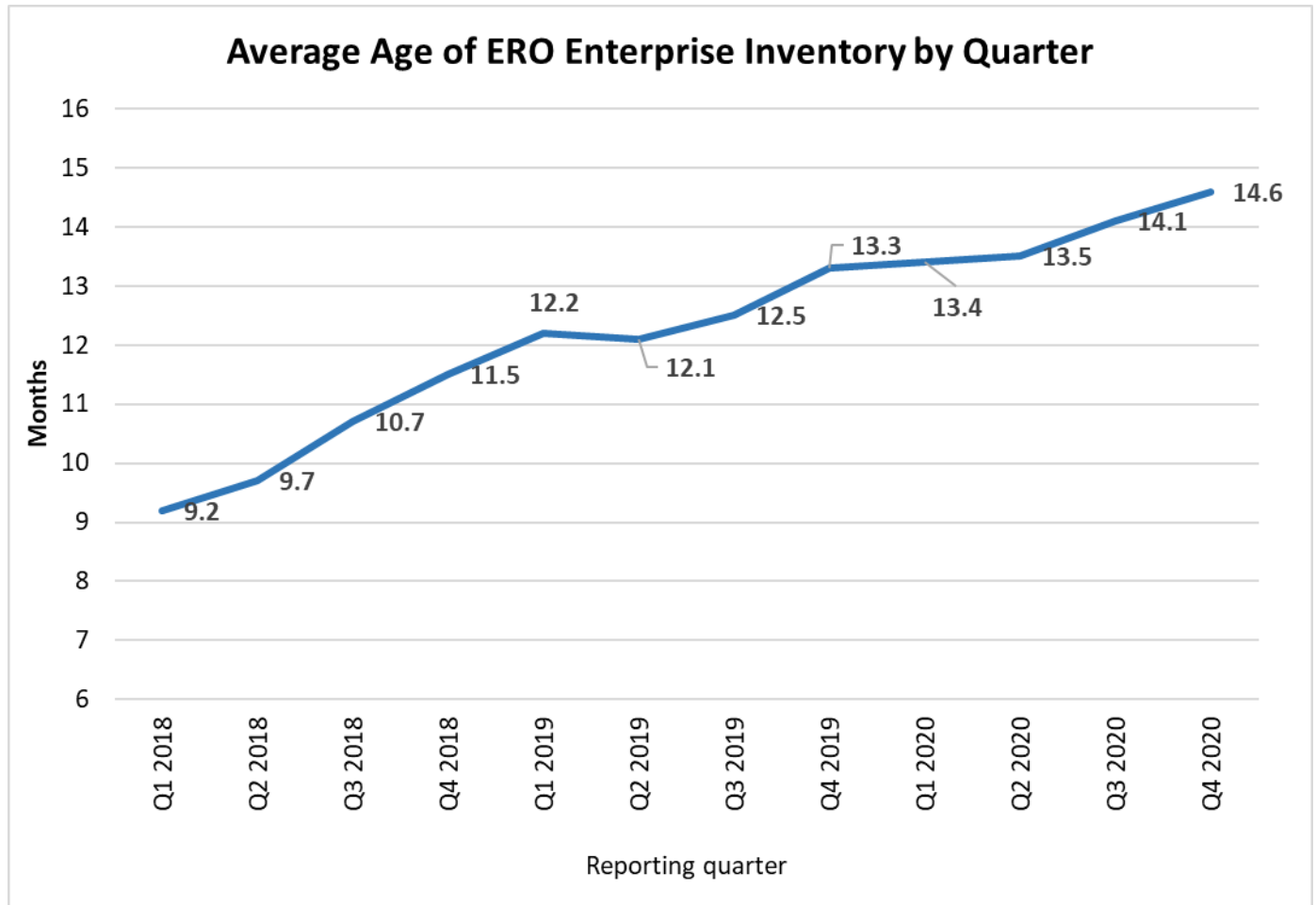


Figure A.3: Average Age of Noncompliance in the ERO Enterprise Inventory

³⁹ The age of noncompliance runs from the time the noncompliance is identified to the time it is resolved (e.g., through CE, FFT, SNOP, or Full NOP processing).

Identification of Noncompliance

Number of New Noncompliance Discovered in 2020

Figure A.4 shows the rate of new noncompliance discovered in 2020 decreased from prior years, with 1,484 noncompliance discovered, compared to more than 1,800 in both 2018 and 2019. It is unclear what caused this drop in discovered noncompliance and the ERO Enterprise will monitor the situation in 2021 to determine if this is the start of a trend or an anomaly.

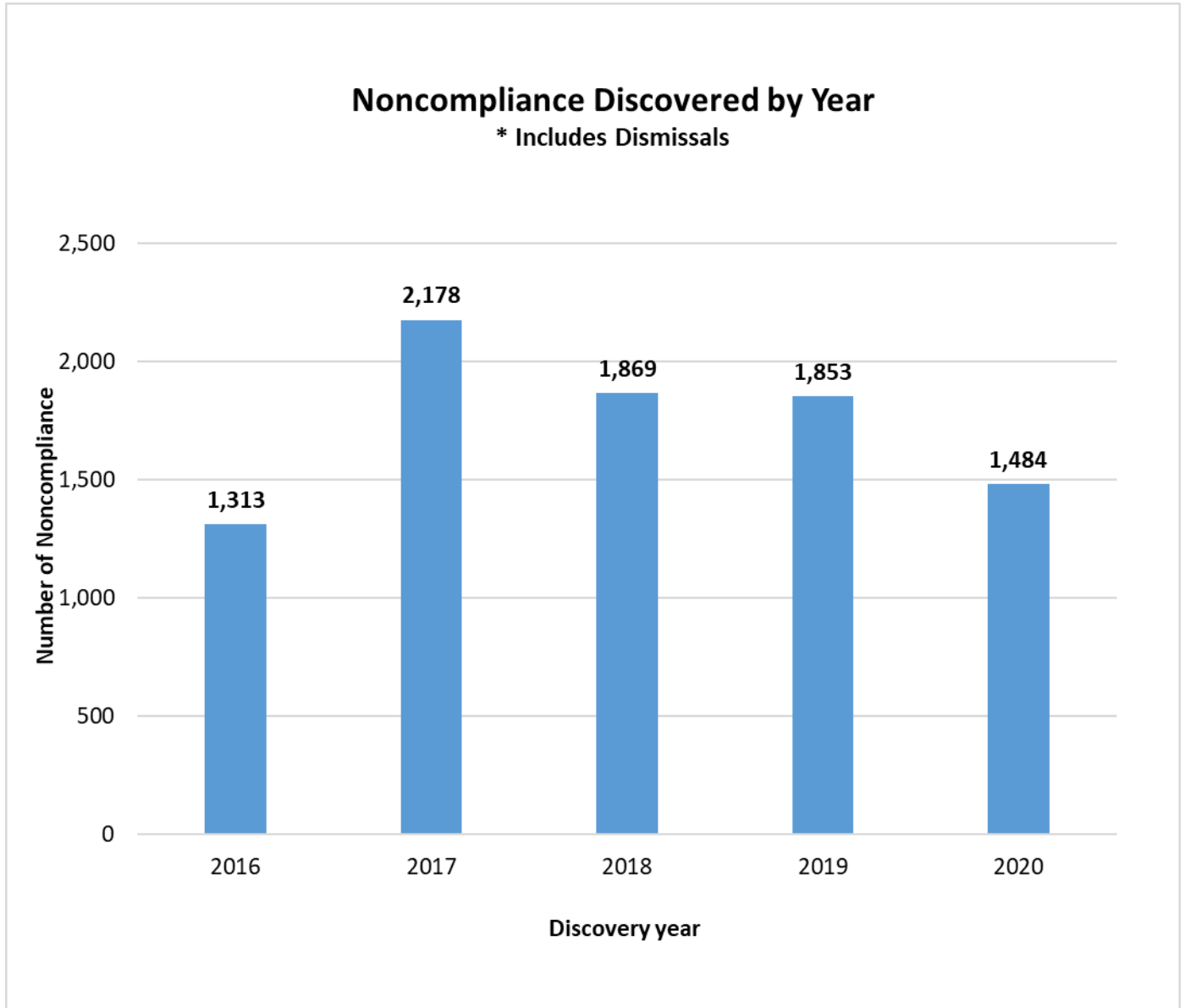


Figure A.4: Noncompliance Discovered by Year

Self-Assessment and Self-Identification of Noncompliance

The ERO Enterprise looks for high levels of self-reported noncompliance as indicators that registered entities have good detective controls and strong cultures of compliance.

Figure A.5 illustrates registered entities' internal and external identification of noncompliance by year. The percentage of internally discovered noncompliance increased in 2020 to 84 percent of all reported noncompliance, slightly higher than the levels seen in the past two years. The level of externally discovered noncompliance decreased to 16 percent of all reported noncompliances, near the level seen in 2016-2018. While the ERO Enterprise will continue to monitor this trend, it does not appear to be a cause for concern at this time.

Figure A.6 shows the percentage of noncompliance by discovery method in 2020. The percentage of self-reported noncompliance varied quarterly, but stayed within a range of 80 to 85 percent. Over all of 2020, registered entities self-reported approximately 82 percent of noncompliance. The percentage of audit-identified noncompliance and self-certified noncompliance varied more quarter to quarter, ranging between approximately 13 and 19 percent for audits, and 0.3 and 3 percent for self-certifications.

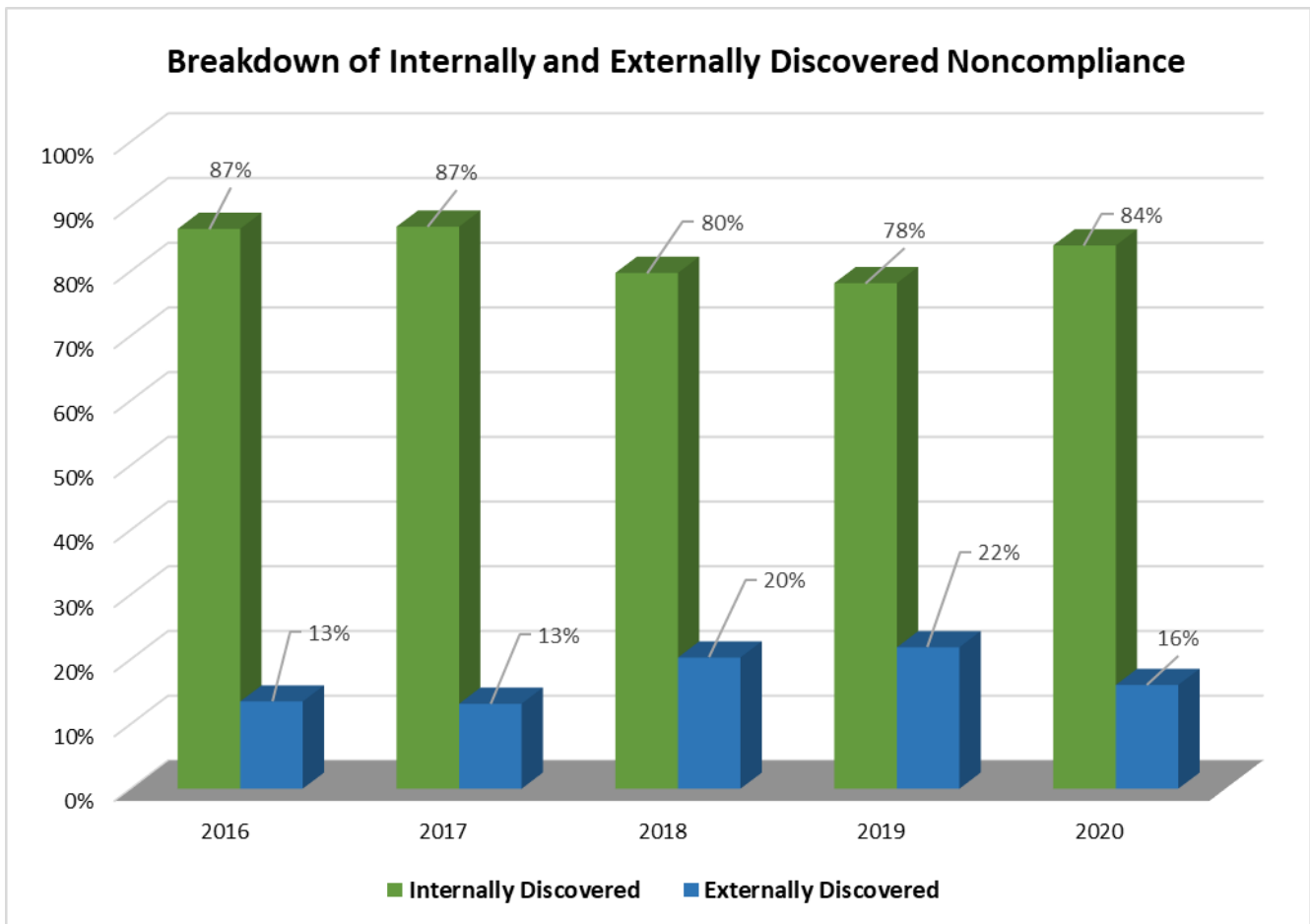


Figure A.5: Breakdown of Internally and Externally Discovered Noncompliance by Year

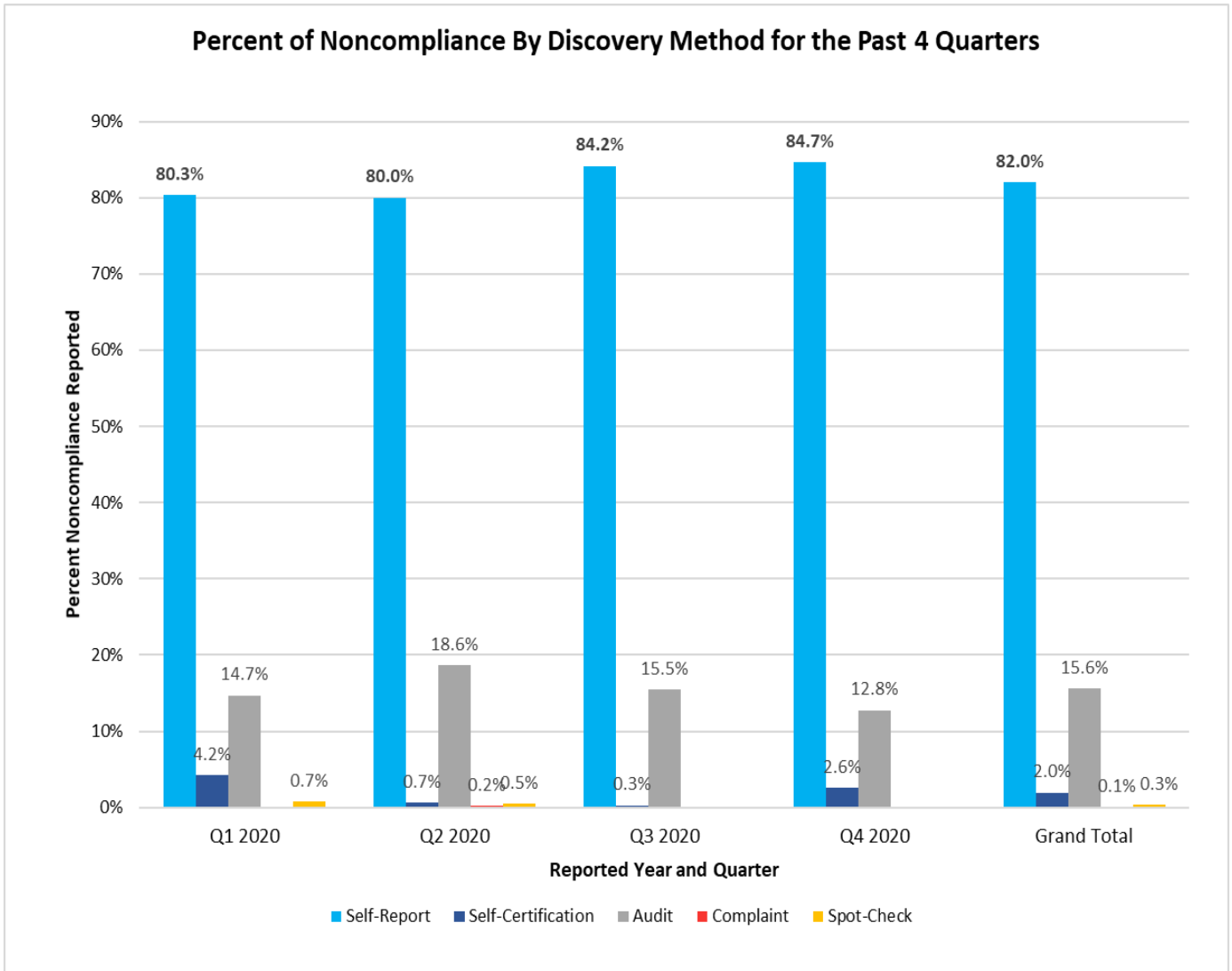


Figure A.6: Breakdown of Noncompliance by Discovery Method

Mitigation of Noncompliance

Mitigation Completion Status

Registered entities continue to make progress in mitigating the older noncompliance they have reported as shown in Table A.7. Mitigation of the oldest noncompliance, dating from 2016 and earlier, is largely complete. There were verified mitigation completion dates for 97.2 percent of noncompliance reported in 2016, 99.2 percent of noncompliance reported in 2015, and 100 percent of noncompliance reported in 2014 or earlier. Approximately 90 percent of the pre-2018 noncompliance without verified mitigation completion dates involves noncompliance that has been certified as complete by the registered entity but have not yet been verified complete by the RE, has mitigation activities that have passed the expected completion date (and presumably have been completed), or has a future completion date, ensuring risk to the BPS is being addressed. The remainder of the pre-2018 noncompliance without verified mitigation completion dates are part of ongoing discussions between REs and registered entities regarding appropriate mitigation activities. NERC continues to monitor these noncompliance as priorities for mitigation completion. The ERO Enterprise strives to ensure that mitigation is completed and, where appropriate, validated as complete by the RE, within a few years of being reported unless circumstances warrant granting the registered entity a longer period to complete all mitigation activities.

Table A.7: Mitigation Completion Status of Noncompliance by Year Reported

Time Frame	Required Mitigation	Noncompliance Without Verified Mitigation Completion Date	Percentage of Noncompliance with Verified Mitigation Completion Date
2014 and older	9,494	0	100%
2015	718	6	99.2%
2016	1,135	32	97.2%
2017	1,853	123	93.4%
2018	1,616	208	87.1%
2019	1,668	588	64.7%
2020	1,433	1,010	29.5%

Disposition of Noncompliance

Number and Percentage of Self-Logged CEs

Since the implementation of the self-logging program in June 2014, the number of self-logged CEs has increased significantly, with most of the increase coming in the last three years. Table A.8 shows that the number of self-logged CEs continues to remain high, with nearly 200 self-logged CEs posted in 2020, and the percentage of self-logged CEs as a percentage of all CEs remains near 18 percent.

Table A.8: Number and Percentage of Self-Logged CEs

Filing Year	Self-Logged CEs	Total CEs	Percentage of Self-Logged CEs
2014	14	116	12.1%
2015	83	514	16.1%
2016	42	479	8.8%
2017	86	940	9.1%
2018	159	770	20.6%
2019	220	1,157	19.0%
2020	195	1,070	18.2%

Disposition of Noncompliance

Figure A.9 shows the percentage of all noncompliance processed by disposition type in 2020. The ERO Enterprise processed a majority of instances of noncompliance in 2020 as CEs, with less than 10 percent of noncompliance processed by the SNOP or Full NOP disposition methods, both of which can involve a monetary penalty or sanction. Figure A.10 shows the number of noncompliance processed by disposition type over the last five years. Figure A.11 shows the number of noncompliance processed by assessed risk level over the last five years.

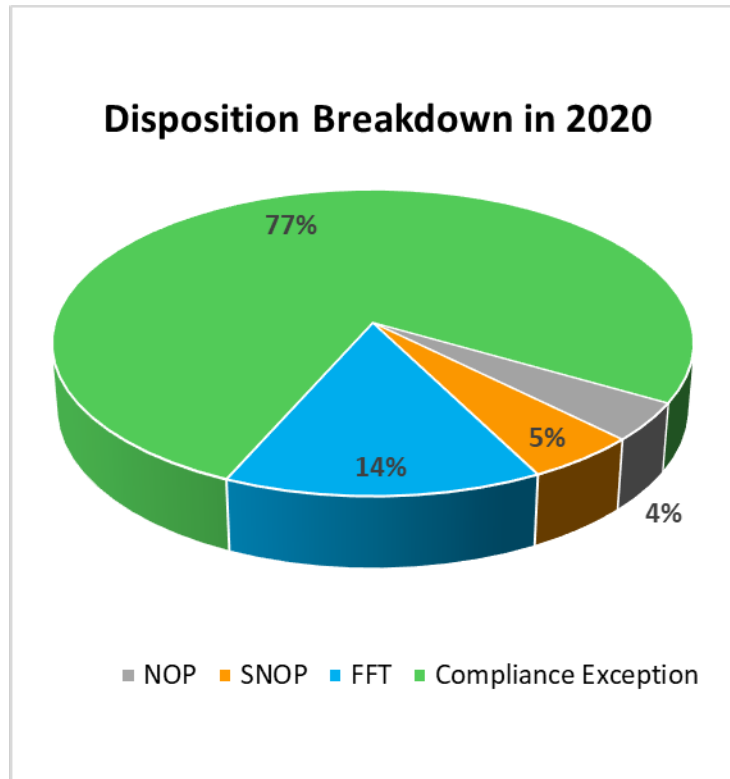


Figure A.9: Disposition Type of Noncompliance Processed in 2020

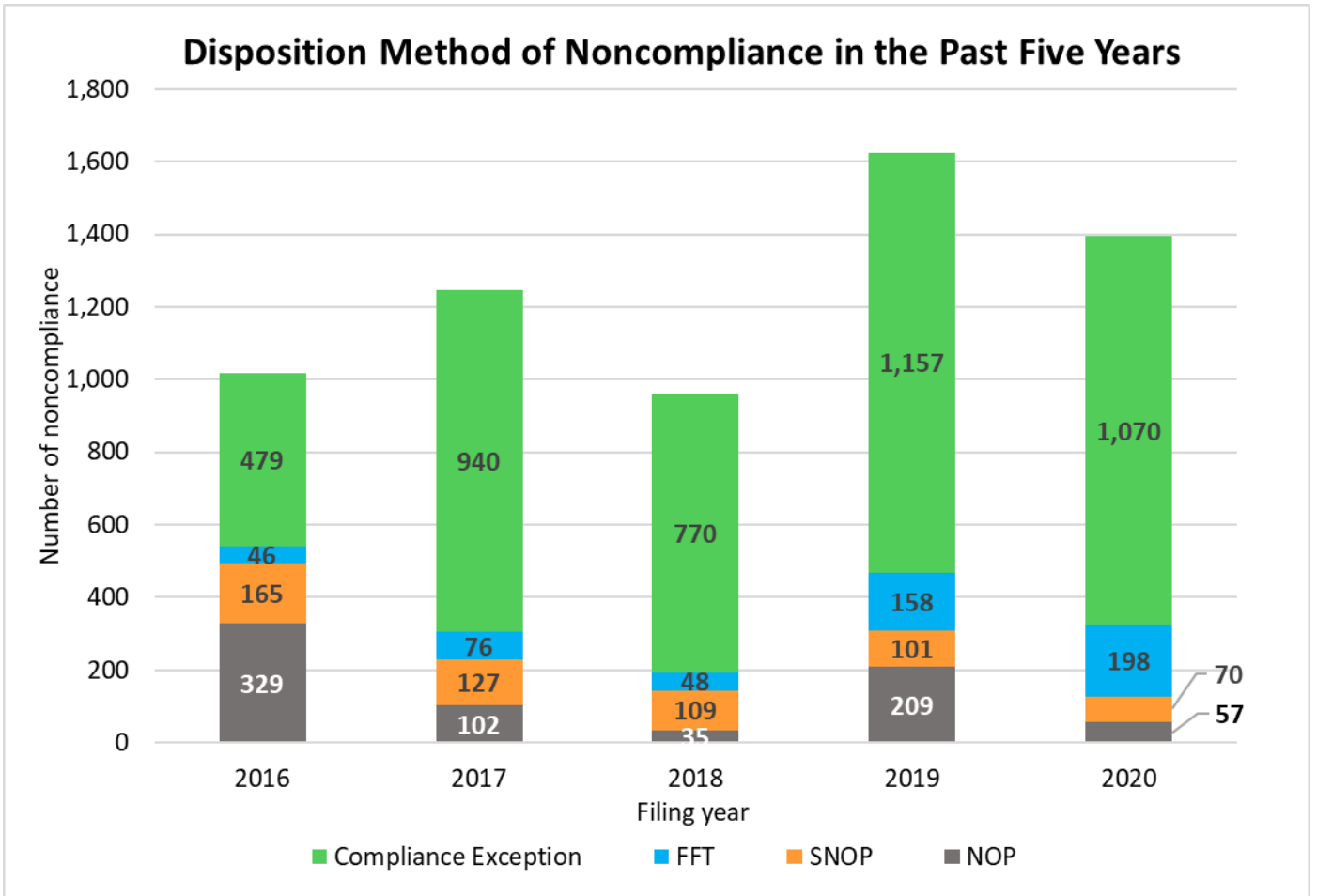


Figure A.10: Disposition Method of Noncompliance by Filing Year

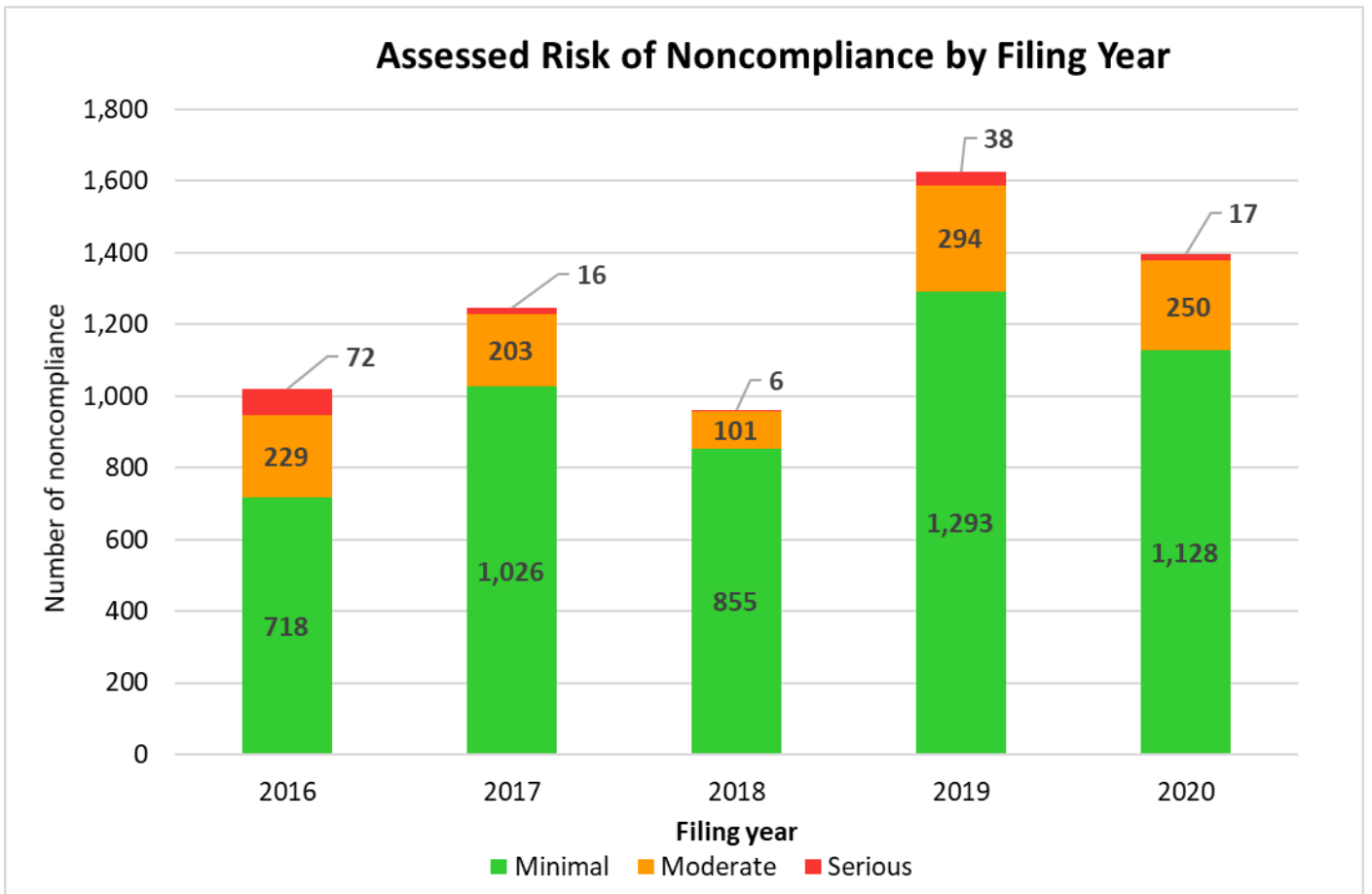


Figure A.11: Assessed Risk of Filed Noncompliance by Filing Year

Risk of Noncompliance

Most Violated Standards by Risk in 2019–2020

CIP-007 was the most frequently violated Reliability Standard in 2019 and 2020, followed by CIP-004 and CIP-010. The vast majority of these noncompliances were disposed of as CEs. CIP-007 was the most frequently violated Reliability Standard for minimal, moderate, and serious risk violations. There were 25 serious risk CIP-007 violations filed in 2019 and 2020 as shown in Figure A.12.

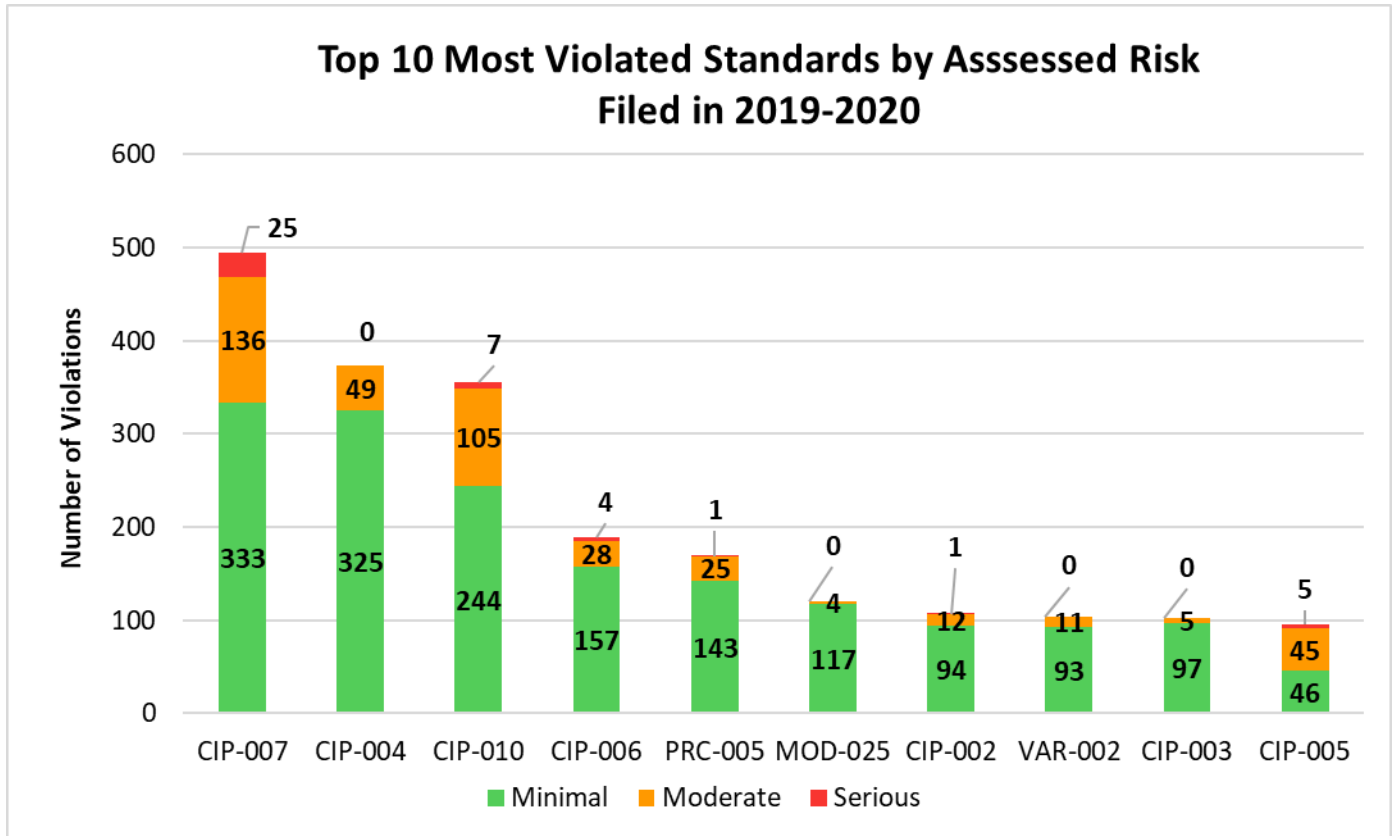


Figure A.12: Most Violated Reliability Standards by Risk Level in 2019–2020

Violations Posing a Serious Risk

NERC has gathered data and regularly monitored violations posing serious risk to the reliability of the BPS. In 2020, the ERO Enterprise saw an decrease in the number of serious risk violations that were filed with FERC, and these 17 serious risk violations represented approximately 1.2 percent of all filed noncompliance. Unlike in prior years, the majority of these serious risk violations were in O&P Standards, including those regarding Emergency Preparedness and Operations, Transmission Vegetation Management, Facility Ratings, Operator Personnel Credentials and Training, and Protection System Maintenance and Testing.

Serious Risk Averages

Figure A.13 shows 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. In prior years, NERC Enforcement has had a target of keeping the percentage of serious risk violations for each period below five percent. Figure A.13 shows all serious risk violations, both CIP and non-CIP, and indicates that the percentage of serious risk violations remained well below the five percent ceiling in the 2018-2020 period.

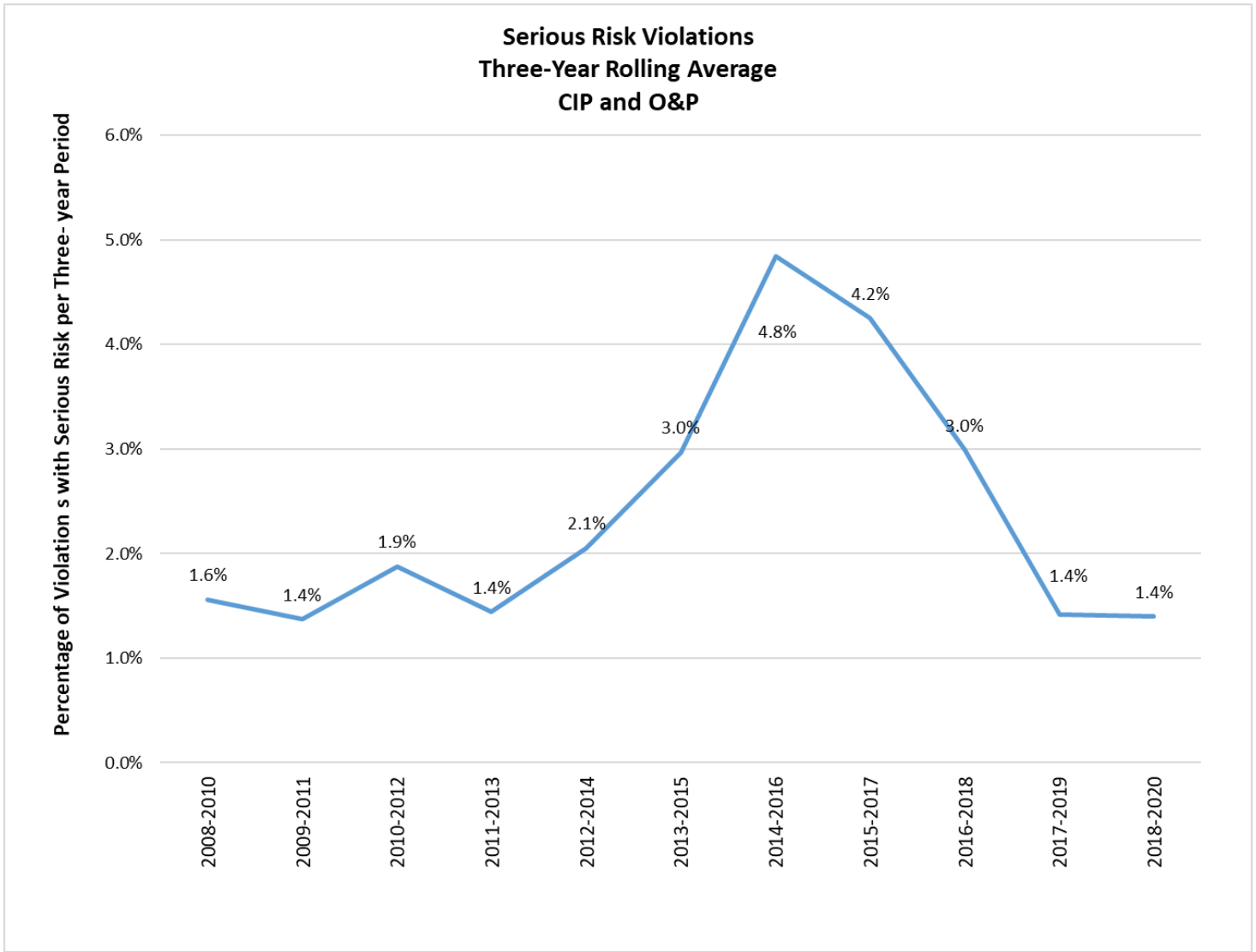


Figure A.13: Serious Risk Violations (CIP and O&P)

Increased Repeat Moderate and Serious Risk Violations

The ERO Enterprise monitors compliance history (defined as a prior violation of the same Reliability Standard and requirement) and repeat noncompliance with similar conduct (defined as a prior violation that stemmed from similar 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 compares 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, in which the entity’s current noncompliance looks to involve similar conduct or a similar cause to prior violations of the same or similar Standard and Requirement. Such situations could result in aggravation of the disposition method or aggravation of a penalty for the current noncompliance. The total moderate and serious noncompliance, shown by the gray line, includes both “new” noncompliance and repeat noncompliance.

The total number of moderate and serious risk violations with similar prior conduct dropped in 2020, which was expected given the large number of issues with similar prior conduct in 2019. Several of the Full NOPs filed in 2019 involved violations with similar prior conduct, which resulted in larger penalty amounts.

NERC expects some level of noncompliance with similar underlying conduct to persist and will continue to monitor this metric in 2021 as a way to measure the effectiveness of mitigation. Figure A.15 shows the same information as in Figure A.14, but averaged over a three-year period. This figure shows that, even with the spike in 2019 moderate and serious risk violations filed, the general trend over the last few years has been toward fewer moderate and serious risk violations with aggravating compliance history, even with flat or slightly increasing levels of moderate and serious risk violations and such violations with relevant compliance history.

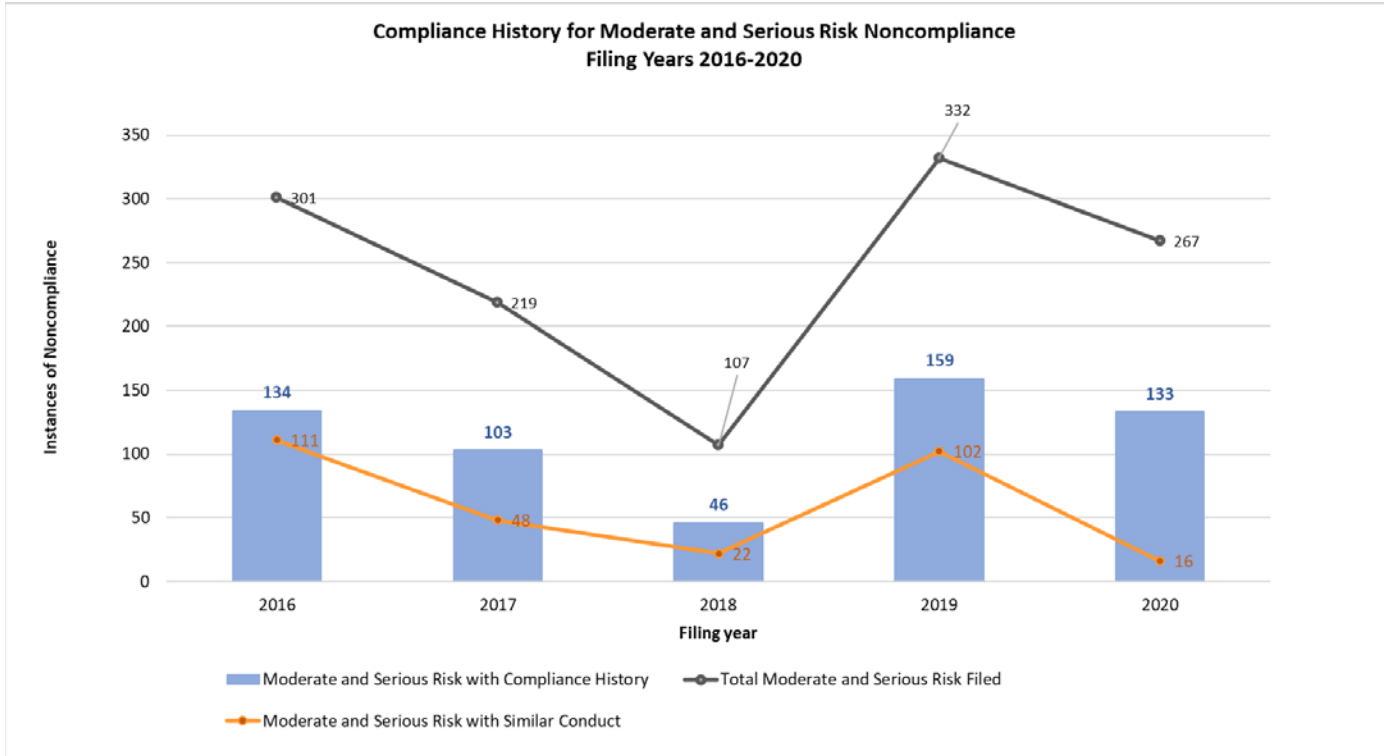


Figure A.14: Compliance History and Similar Conduct for Moderate and Serious Risk Violations

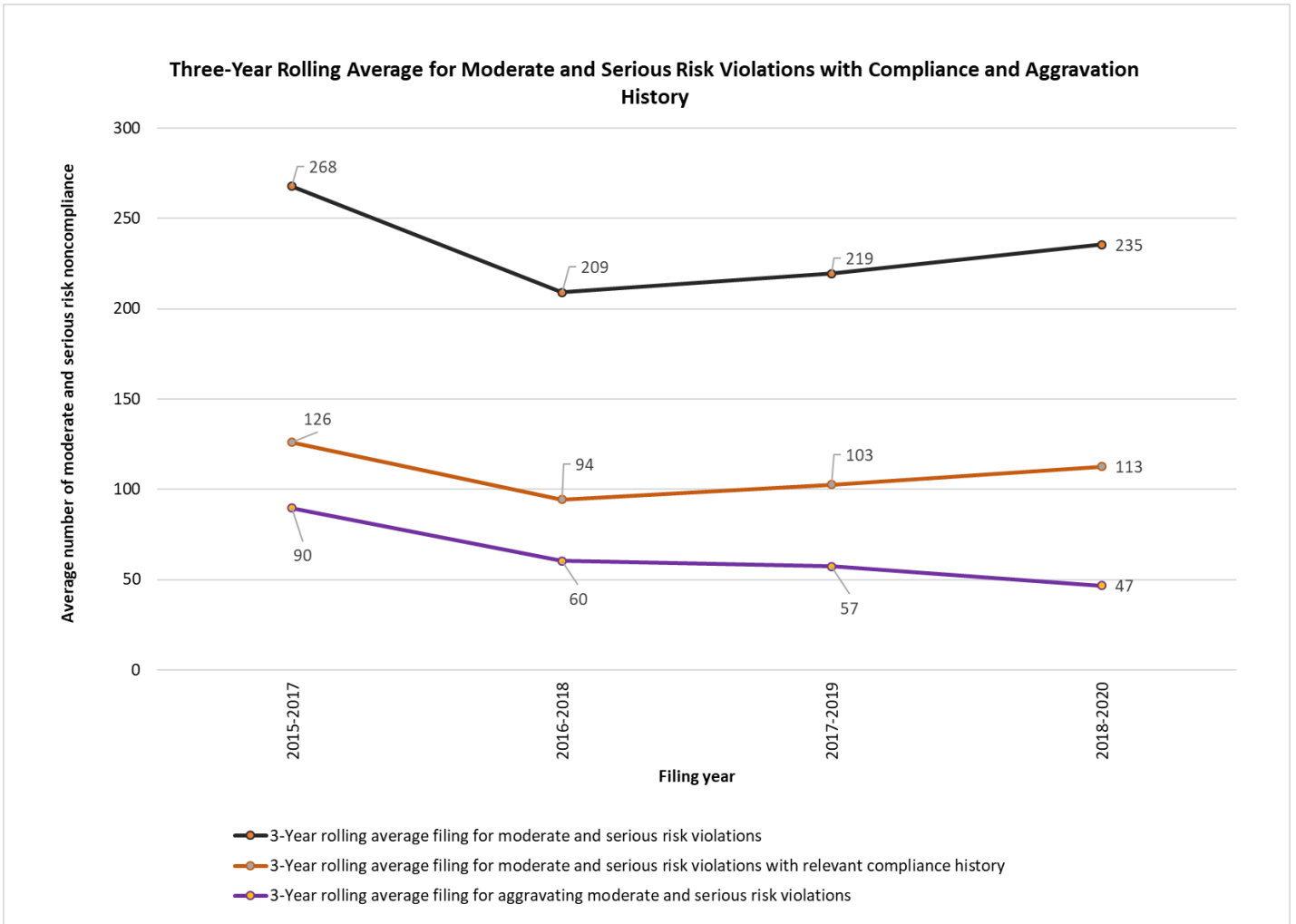


Figure A.15: Compliance History and Similar Conduct for Moderate and Serious Risk Violations (3-year Rolling Average)

Vegetation Management

NERC regularly reports on two items related to vegetation management. First, NERC tracks all sustained outages caused by vegetation contacts submitted to REs on a quarterly basis. Those are displayed in Figure A.16 below. Second, NERC tracks transmission outages resulting from possible violations of FAC-003. These are usually submitted to REs through Self-Reports. Not all sustained outages caused by vegetation contacts are possible violations of FAC-003; however, some outages may fall into both tracking items. Historically, vegetation-related issues that were both FAC-003 violations and resulted in sustained outages have been Category 1B outages, which occur when vegetation grows into transmission lines from within the right-of-way, resulting in a sustained outage.

The majority of vegetation-related sustained outages result from vegetation falling into transmission lines from outside the right-of-way (Category 3 outages). Fall-ins are shown in Figure A.16 below. There were four Category 3 outages in Q1 2020, ten in Q2 2020, and 11 in Q3 2020.⁴⁰ There were no Category 1B outages reported in Q1-Q3 2020. Registered entities reported these outages through Periodic Data Submittals on a quarterly basis. Due to the timing of these reports, the number of vegetation-related sustained outages reported so far in 2020 does not reflect Q4 2020 submissions.

NERC filed three Full NOPs resolving a violation of FAC-003 R2 in 2020.⁴¹ These violations had been reported in 2017 and 2018. The ERO Enterprise is currently reviewing four possible violations of FAC-003 involving encroachments into the MCVD.

⁴⁰Vegetation-related outage information is consolidated on a delayed quarterly basis. Information related to Q4 2020 will be available in Q1 2021.

⁴¹ See NP21-4-000 (Nov. 30, 2020), available at https://www.nerc.com/pa/comp/CE/Enforcement%20Actions%20DL/Public_FinalFiled_NOP_NOC-2685.pdf; NP20-16-000 (May 28, 2020), available at https://www.nerc.com/pa/comp/CE/Enforcement%20Actions%20DL/Public_FinalFiled_NOP_NOC-2668.pdf; and NP20-13-000 (Mar. 31, 2020), available at https://www.nerc.com/pa/comp/CE/Enforcement%20Actions%20DL/Public_FinalFiled_NOP_NOC-2666.pdf.

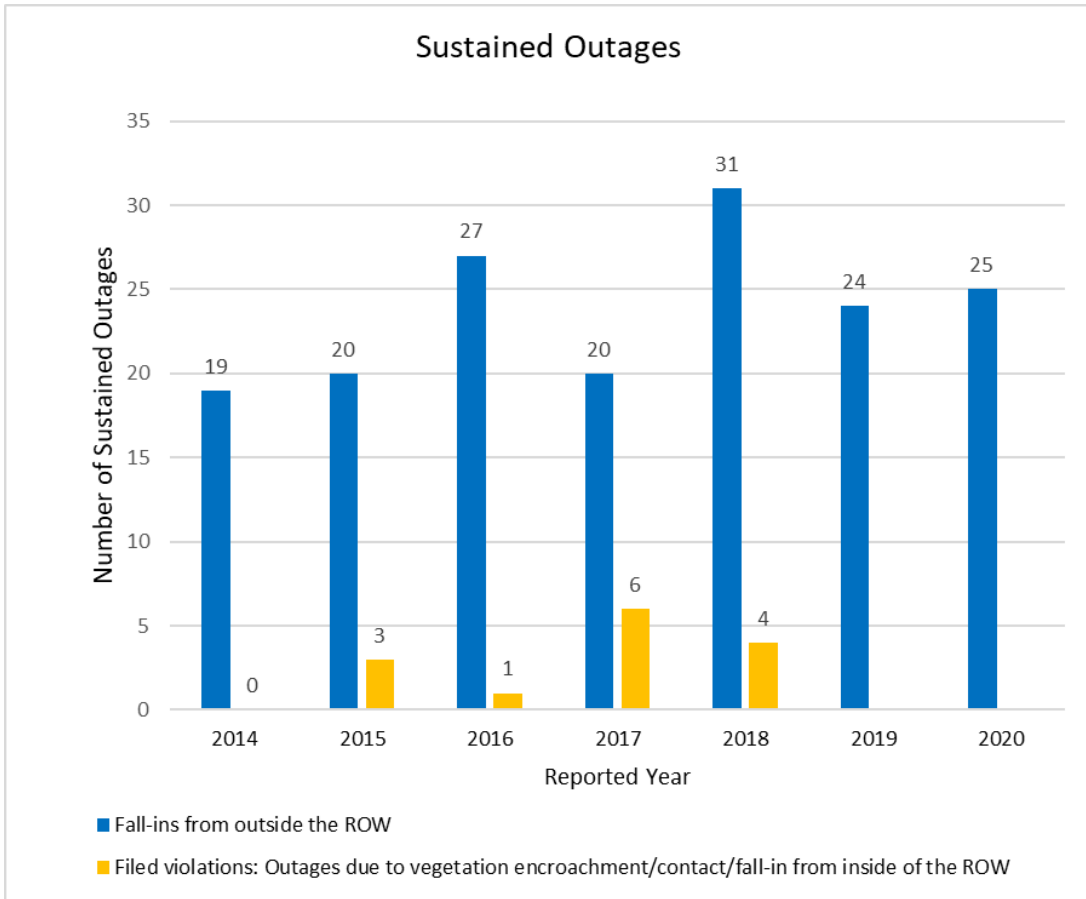


Figure A.16: Vegetation-Related Outages by Category

Appendix B: Compliance Assurance

Coordinated Oversight Program for MRREs

Figure B.1 represents the distribution of the 55 MRRE groups (comprising 243 separate registered entities) by Lead RE, and Figure B.2 represents the distribution of MRREs by registered function. The registered entities that opted to join the program include various reliability functions in multiple REs.

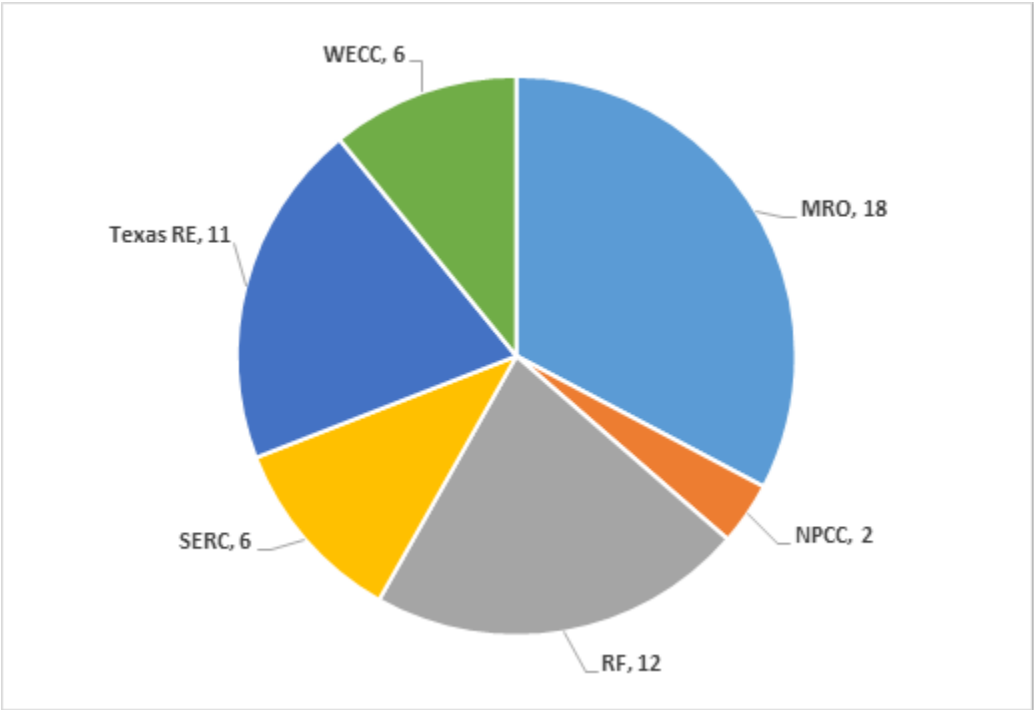


Figure B.1: Distribution of MRREs under Coordinated Oversight by Lead RE

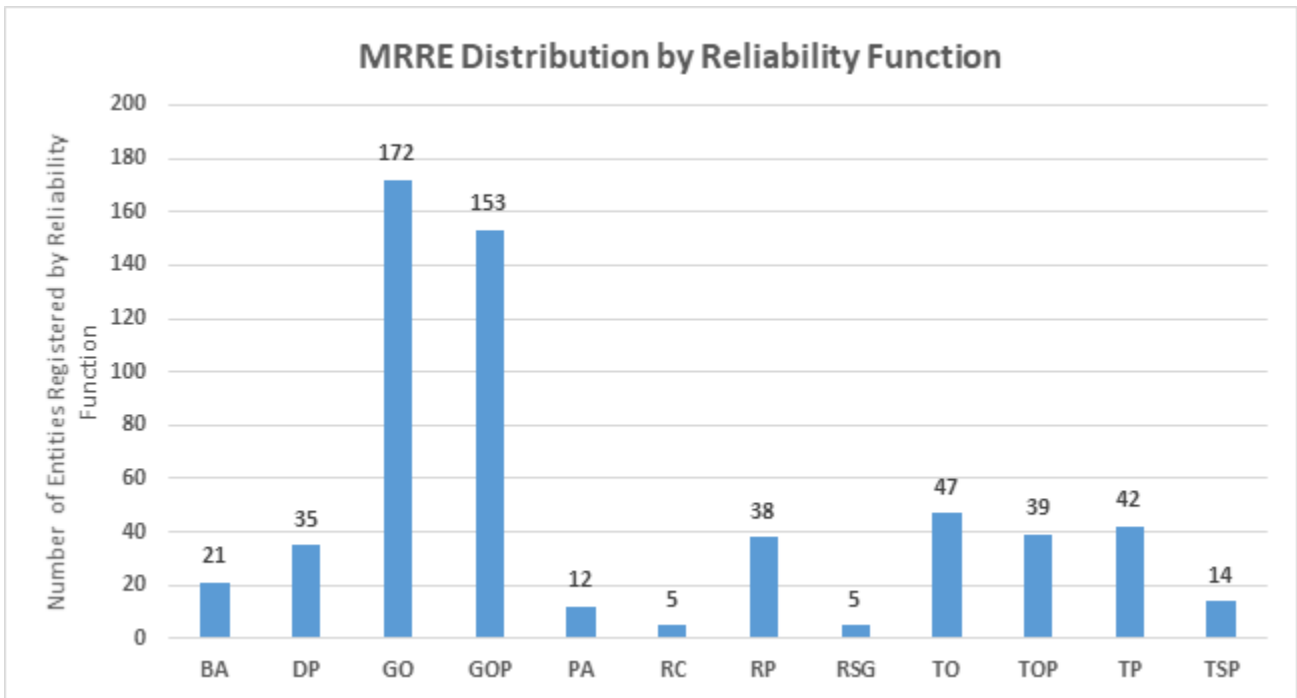


Figure B.2: Coordinated Oversight Distribution by Registered Function⁴²

⁴² Each bar represents the number of registered entities by function in the Coordinated Oversight Program for MRREs.

Appendix C: Registration

Registration Change Activity by Function

Figure C.1 and Table C.1 depict 2020 registration change activity by RE. Figure C.2 and Table C.2 depict 2020 registration change activity by function.

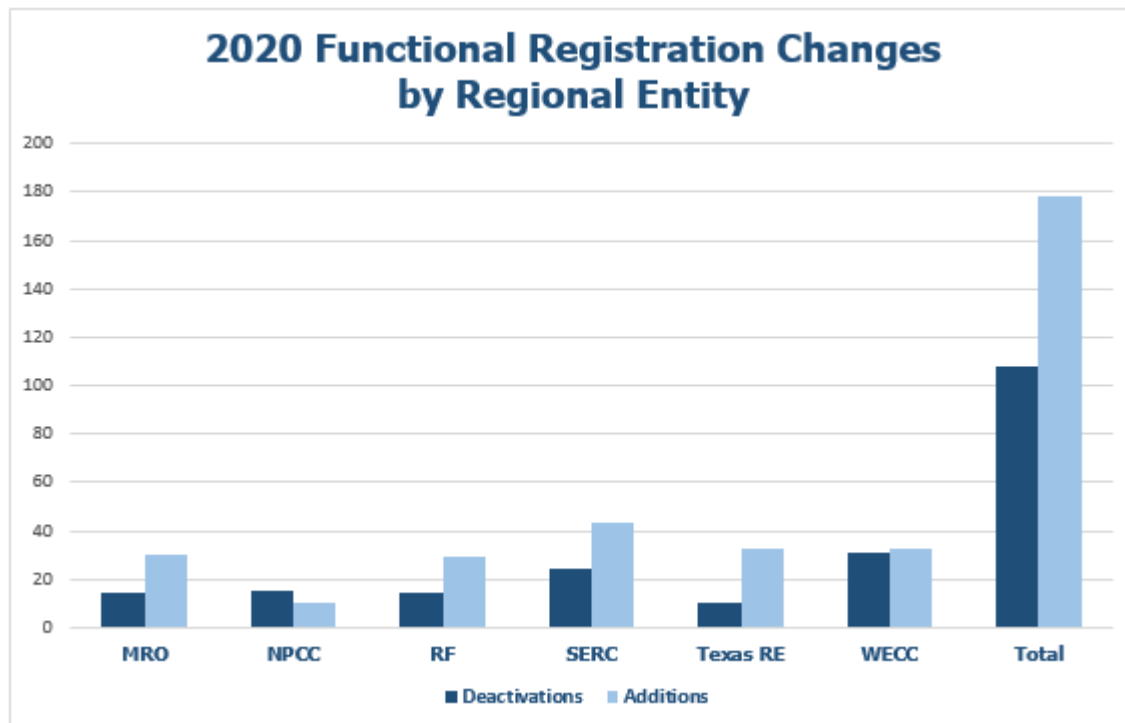


Figure C.1: Functional Registration Change Activity by RE and Total 2020 Changes

Table C.1: Functional Registration Change Activity by RE and Total 2020 Changes							
	MRO	NPCC	RF	SERC	Texas RE	WECC	TOTAL
Deactivations	14	15	14	24	10	31	108
Additions	30	10	29	43	33	33	178

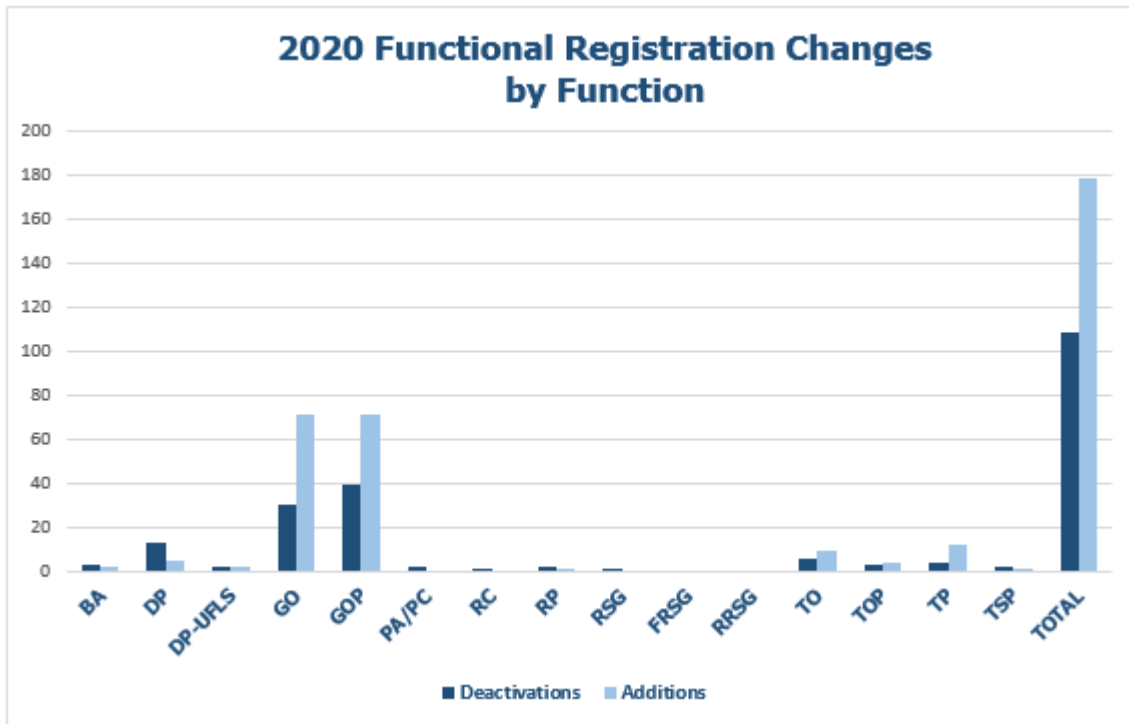


Figure C.2: 2020 Registration Change Activity by Function

Table C.2: 2020 Registration Change Activity by Function														
	BA	DP	DP-UFLS	GO	GOP	PA/PC	RC	RP	RSG	TO	TOP	TP	TSP	TOTAL
Deactivations	3	13	2	30	39	2	1	2	1	6	3	4	2	108
Additions	2	5	2	71	71	0	0	1	0	9	4	12	1	178

Table C.3 shows the basis for 2020 registration deactivations. NERC seeks justification from each RE when approving functional registration deactivation.

Table C.3: 2020 Registration Change Basis	
Compliance responsibility assumed by another Registered Entity	41
Determined to not meet registration criteria	24
Sold to another Registered Entity	18
Facility Shutdown	12
Consolidated to another mutually-owned Registered Entity	11
Determined to meet criteria as DP-UFLS Only and registered as such	1
BES Exception	1

Appendix D: Certification and BES

ERO Enterprise Organization Certification Utilization

Certification activities are responsive to the number of new entities requiring certification and the types of changes implemented to already-certified and operational entities. Program utilization metrics help to plan resource needs, including staff, travel, and training.

Figure D.1 identifies the number of new entity certifications completed by each RE during 2020 and the number of new entity certifications where an onsite visit has been performed but the certification activity has not yet been concluded (in process). Figure D.2 identifies the number of reviews of changes to already-certified and operational entities completed by each RE during 2020 and the number of certification reviews in process at the end of 2020.



Figure D.1: 2020 New Entity Certifications by RE

Table D.1: 2020 Organization Certification		
Function	Completed	In Process
Reliability Coordinator	0	0
Transmission Operator	1	0
Balancing Authority	1	0

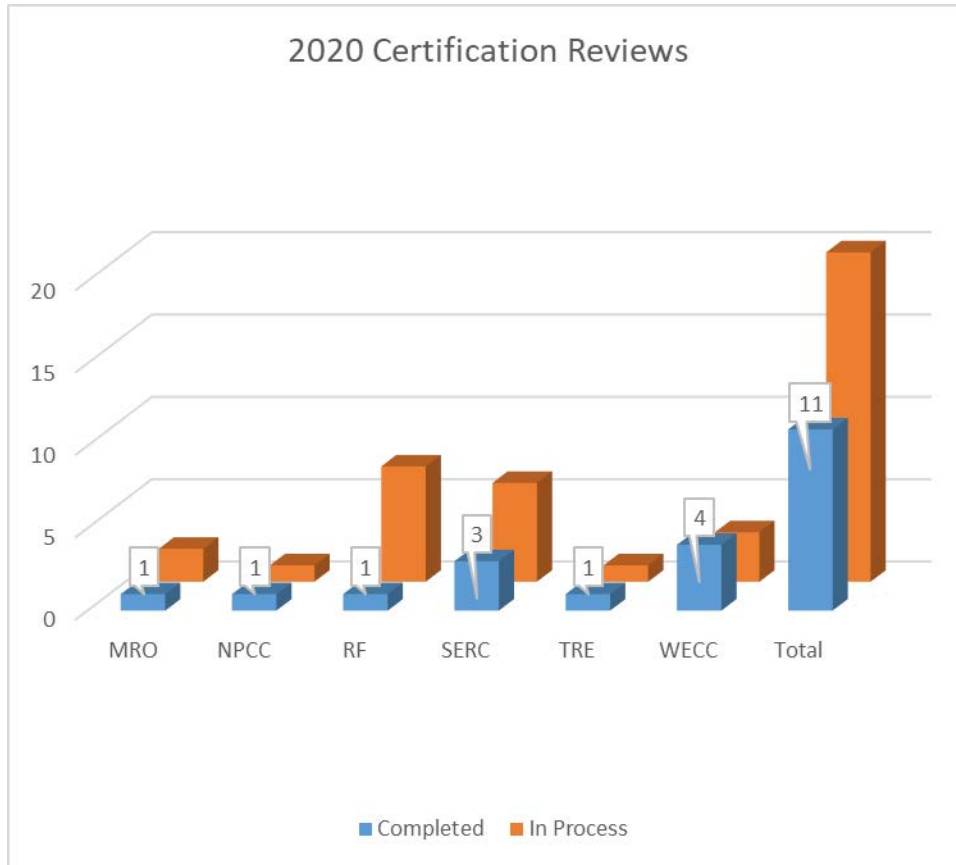


Figure D.2: 2020 Certification Review Activity by RE

Table D.2: 2020 Certification Reviews*		
Change Basis	Completed	In Process
Changes to a Registered Entity’s Footprint	1	2
Relocation of the Control Center	4	4
Changes to Supervisory Control and Data Acquisition (SCADA)/Energy Management System (EMS) System	6	17

*Some entities have multiple triggering events that are evaluated in a single review