NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Reliability Standards Development Plan

2025-2027

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**RELIABILITY | RESILIENCE | SECURITY**




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# Introduction

Pursuant to Section 310 of the NERC Rules of Procedure, NERC is required to develop and provide to applicable governmental authorities an annual Reliability Standards Development Plan (RSDP) for Reliability Standards development.[1] Each annual RSDP must include a progress report comparing results achieved to the prior year's RSDP. NERC is required to consider the comments and priorities of the applicable governmental authorities in developing and updating the annual RSDP. NERC also provides the RSDP to the NERC Standards Committee (SC) for review and posts the RSDP for industry comment.

As described herein, this RSDP for 2025-2027 builds upon the goals of the previous RSDPs.

[1] NERC Rules of Procedure, Section 310, effective August 25, 2022, https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx

# Background and Purpose

The 2025-2027 RSDP provides insight into Standards Development activities anticipated at the time of publication so that stakeholders may adjust resources, as needed, to ensure the completion of Standards Development objectives. Other Standards Development processes such as Developing an Interpretation and Developing a Variance may be impactful to the RSDP and are included herein.[2] In order to help industry effectively allocate resources, the RSDP includes approximated time frames and anticipated resource expectations for each project under development.

This RSDP contemplates that the work of the Reliability and Security Technical Committee (RSTC) and working groups thereunder may result in new Standard Authorization Requests (SARs) and subsequent standards projects.[3] It is also important to note that projects may be generated through the use of the Electric Reliability Organization risk framework as well as the SARs generated from any stakeholder.

Periodic Reviews and initiatives also enable NERC to identify requirements that do not sufficiently improve reliability and should, therefore, be retired. Periodic Reviews will be initiated as needed and to ensure minimum requirements and expectations for periodic reviews are met.

While most of the work in the next three years will focus on new SARs and multiple projects to address inverter – based resources, there may be new or emerging risks identified that could generate new Standards Development projects. NERC will continue to seek input and recommendations from the Reliability Issues Steering Committee (RISC) with regard to emerging or potential risks to Bulk Power System (BPS) reliability that may require revisions to existing standards or new Standards Development.[4]

To help determine the impact of potential risk to BPS reliability, NERC will use a variety of feedback mechanisms, including but not limited to, the ERO Enterprise Compliance Monitoring and Enforcement Program (CMEP), RISC reports, Events Analysis (EA), as well as any published EA Lessons Learned. The Regional Entities also have feedback mechanisms in place to solicit comments from industry. All feedback help is leveraged to inform approaches to address industry concerns as well as specific NERC Reliability Standards. Input into Standards Development will also continue to be coordinated with the North American Energy Standards Board as appropriate. In assessing feedback with standards as well as the Standards Development process, NERC focuses on available resiliency, reliability, and security information. Data from the CMEP is leveraged to determine whether a standard revision is needed to effectively address an identified risk.

[2] A full list of standard development processes are detailed in the Standards Processes Manual, NERC Rules of Procedure – Appendix 3A, https://www.nerc.com/AboutNERC/RulesOfProcedure/Appendix_3A_SPM_Clean_Mar2019.pdf

[3] Reliability and Security Technical Committee, https://www.nerc.com/comm/RSTC/Pages/default.aspx

[4] Reliability Issues Steering Committee, https://www.nerc.com/comm/RISC/Pages/default.aspx

# Progress Report

Pursuant to Section 310 of the NERC Rules of Procedure, NERC offers the following progress report on Reliability Standards Development.

## Prior Projects Anticipated to be Completed in 2023/2024

NERC Standards Development continues to move forward technically diverse drafts for both new and modified Reliability Standards. All of the five projects listed within the previous RSDP were anticipated to be completed in late 2023 or in 2024, have been completed by August 2024. Projects completed in 2024 are listed under Completed Projects later in this report but also include Project 2020-04 Modifications to CIP-012 which was board adopted in December 2023.

## Implementation of Prioritization

Since the prior RSDP, Standards Development has fully implemented the new prioritization process (see later chapter). This process was identified in prior progress reports and industry feedback as an essential tool to balance the number of active projects, projects with firm deadlines to complete, residual risk for slowing some projects down, and availability of resources (both NERC staff and industry). This effort has been consistently implemented, since designed, and Staff will continue to promote this tool as one means of managing a high quantity of active projects. Currently, more than 50% of active projects are designated as high priority. This is primarily due to the number of active projects associated with FERC Order directives or are part of NERC's work plan priorities for 2024.

## Active Project Ballot Fail Rate Indicator

Standards Development has been tracking ballot pass/fail results as an indicator for general project progress. Data reviewed shows that previously completed projects took, on average, two ballots to pass. Current projects that are in active development are demonstrating a trending upwards to a minimum of three ballots to pass. The figure below shows the fail rate trend for 2024 thus far.

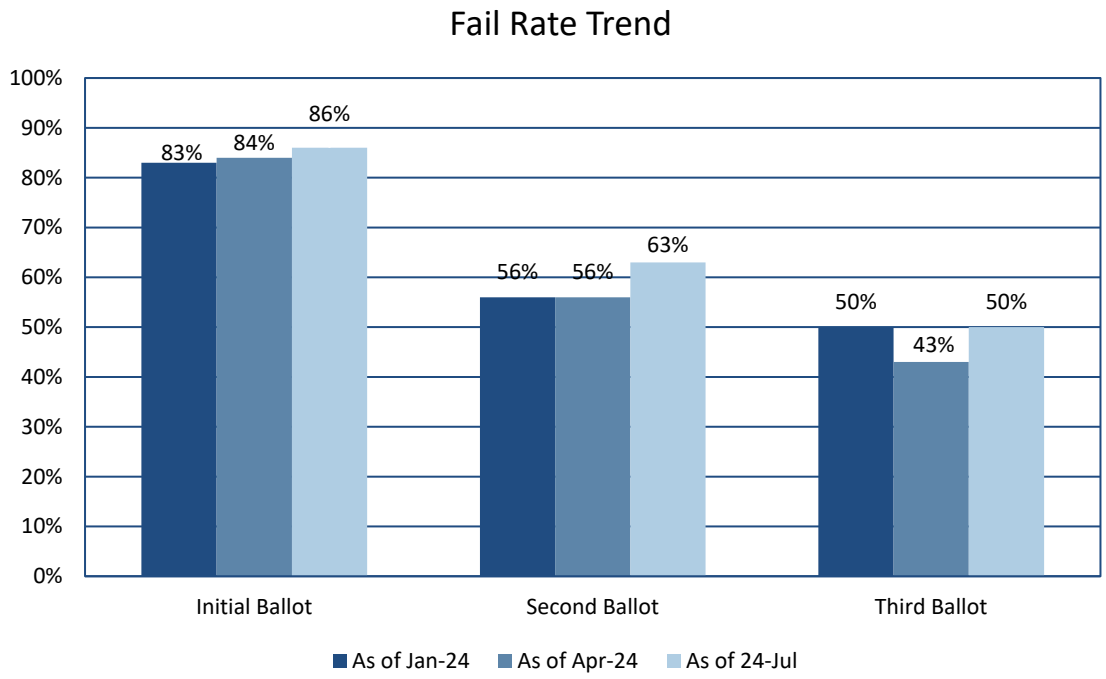


**Figure 1: 2024 Active Project Ballot Fail Rate Trend**

Standards staff believes this increasing trend is due to a variety of factors; such as the increased volume of high priority projects that each contribute to in an increase in the number of ballots being posted for industry vote and formal comment periods. From January to April 2024, ballots were put out to industry and from April to July 2024, 11 ballots were posted. Industry continues to provide valuable feedback regarding communication from NERC staff as well as signaling ongoing resource constraints within industry. Staff is focused on addressing this trend. Over the next year, Staff will continue to identify opportunities to slow down medium priority and low priority projects, provide a consistent 3-month outlook of anticipated project postings, and greatly increase targeted outreach before the initial ballot and between additional ballots. There are other influencing factors, beyond the roles and responsibilities of drafting teams, that may continue to impact drafts failing to pass ballot. As such, Staff will simultaneously pursue implementing additional ways to collect and focus feedback on certain aspects of the development process or communication on projects overall. This qualitative data will be leveraged when comparing the Active Project Ballot Fail Rate Trend in future RSDPs.

# FERC Directives

As of July 31, 2024, there are 99 outstanding Federal Energy Regulatory Commission (FERC) directives being resolved through the Standards Development process. Status of Standards Development progress in addressing FERC directives is reported quarterly to the NERC Board of Trustees (Board). The following projects are modifying Reliability Standards to address directives from FERC Orders:

## FERC Order 901 – Milestone 2

- Project 2020-02 Modifications to PRC-024 (Generator Ride-through) (12 directives)[5];
- Project 2021-04 Modifications to PRC-002-2 (4 directives)[6];
- Project 2023-02 Analysis and Mitigation of BES Inverter-Based Performance Issues (1 directive)[7];

## FERC Order 901 – Milestone 3

- Project 2020-06 Verifications of Models and Data for Generators (14 directives)[8];
- Project 2022-02 Uniform Modeling Framework for IBR (24 directives)[9];
- Project 2021-01 Modifications to MOD-025 and PRC-019 (3 directives)[10];

## FERC Order 901 – Milestone 4

- *Pending Operational Studies SAR* (Anticipated Q1 2025) (4 directives)[11]; and
- *Pending Transmission Studies SAR* (Anticipated Q1 2025) (7 directives)[12].

[5] FERC October 26, 2023 Order No. 901 – Final Rule Reliability Standards to Address Inverter-Based Resources; Docket No. RM22-12-000
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Ibid.
[11] Ibid.
[12] Ibid.

### FERC Order – Others

- Project 2023-07 Modifications to TPL-001-5.1 Transmission System Planning Performance Requirements for Extreme Weather (Phase 1 - Order No. 896, 25 directives)[13];
- Project 2024-03 Modifications to EOP-012-2, (June 27, 2024 Order, 5 directives)[14];

## Continuing Projects

The following projects (new and existing), will continue into 2025:

1. Project 2017-01 Modifications to BAL-003-1.1 (Phase 2)
2. Project 2019-04 Modifications to PRC-005-6
3. Project 2020-06 Verifications of Models and Data for Generators (FERC Order 901 Milestone 3 Project)
4. Project 2021-01 Modifications to MOD-025 and PRC-019 ( FERC Order 901 Milestone 3 Project)
5. Project 2021-02 Modifications to VAR-002
6. Project 2021-03 CIP-002 Transmission Owner Control Centers (Phase 2)
7. Project 2021-08 Modifications to FAC-008
8. Project 2022-02 Uniform Modeling Framework for IBR (FERC Order 901 Milestone 3 Project)
9. Project 2022-05 Modifications to CIP-008 Reporting Threshold
10. Project 2023-01 EOP-004 IBR Event Reporting
11. Project 2022-04 EMT Modeling
12. Project 2023-05 Modifications to FAC-001 and FAC-002
13. Project 2023-07 Modifications to TPL-001-5.1 Transmission System Planning Performance Requirements for Extreme Weather (Phase 2)
14. Project 2023-08 Modifications of MOD-031 Demand and Energy Data
15. Project 2023-09 Risk Management for Third-party Cloud Services
16. Project 2024-01 Rules of Procedure Definitions Alignment (Generator Owner and Generator Operator)
17. Project 2024-02 Planning Energy Assurance
18. Project 2024-03 Revisions to EOP-012-2

Additional project information is available on the NERC website on the Standards web page.[15]

## Completed Projects

The following projects have been completed in 2024 (actual Board adoption dates are noted):

1. Project 2016-02 Modifications to CIP Standards (adopted by the Board May 2024)
2. Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination (Phase 2) (EOP-012-2 adoption by the Board February 2024)

[13] FERC June 15, 2023 Order No. 896 – Final Rule Transmission System Planning Performance Requirements for Extreme Weather; Docket RM22-10-000

[14] FERC June 27, 2024 Order Approving Extreme Cold Weather Reliability Standard EOP-012-2 and Directing Modification; Docket No. RD24-5-000; RD24-1-000

[15] As of the date of publication, the subject web page resides at http://www.nerc.com/pa/Stand/Pages/default.aspx.

3. Project 2022-01 Reporting ACE Definition and Associated Terms (adopted by the Board February 2024)
4. Project 2023-03 Internal Network Security Monitoring (INSM) (adopted by the Board May 2024)

## Anticipated to be Completed Projects

The following projects have been, or are planned to be, completed in 2024 (anticipated Board adoption dates are noted):

1. Project 2020-02 Modifications to PRC-024 (Generator Ride-through) (*anticipated* Board adoption October 2024)
2. Project 2020-06 Verifications of Models and Data for Generators (IBR Definition) (*anticipated* Board adoption October 2024)
3. Project 2021-03 CIP-002 Transmission Owner Control Centers (Transmission Owner Control Centers (TOCCs) SAR *anticipated* Board adoption December 2024)
4. Project 2021-04 Modifications to PRC-002-2 (Phase 2, *anticipated* Board adoption October 2024)[16]
5. Project 2022-03 Energy Assurance with Energy–Constrained Resources (Operations SAR *anticipated* Board adoption December 2024)
6. Project 2023-02 Analysis and Mitigation of BES Inverter-Based Performance Issues (*anticipated* Board adoption October 2024)
7. Project 2023-04 Modifications to CIP-003 (*anticipated* Board adoption December 2024)
8. Project 2023-06 CIP-014 Risk Assessment Refinement (*anticipated* Board adoption December 2024)
9. Project 2023-07 Modifications to TPL-001-5.1 Transmission System Planning Performance Requirements for Extreme Weather (*anticipated* Board adoption December 2024)

[16] The first phase of this project completed in 2023, with Board adoption of Reliability Standard PRC-002-4 in February 2023.This project is now revising PRC-002-5 and drafting new PRC-028-1 Reliability Standard

# Project Prioritization

NERC Standards Projects have been increasing in quantity; coinciding with an increasing pace of technology changes in our industry. Additionally, many of these projects are identified as higher priority with strict timelines as they may be associated with FERC Order directives or NERC corporate goals. On the counterbalance are finite industry resources that are not expanding at the same rate; leading to an unsustainable capability to complete priority projects in a timely manner. As such, NERC and industry have been driving prioritization efforts to assure available resources are focused on the most critical issues. This prioritization effort, within the Standards Development, identifies those Reliability Standards Projects that must be allocated resources (time, drafting team members) as well how NERC may acceptably lower the resource demands on projects that have not been designated as "high priority".

## Purpose of Prioritization

The purpose of the prioritization process is to formalize a consistent approach. While the Standards prioritization effort is in the early stages of implementation, NERC Standards Development has designed and implemented a process to assure prioritization continues beyond the initial effort and becomes embedded as common practice. Conceptually, this prioritization effort includes internal resource management to meet ambitious goals in a dynamic environment. The process applies an initial strategy and approach but is intended to be revised as needed to reflect lessons learned and as this process matures.

In 2024 NERC staff has prioritized projects based on new directives. Due to the high volume of work from high priority projects in 2024, the medium and low priority projects that were originally anticipated to complete in 2024 will be continuing into 2025. Medium priority projects were not allowed to post for formal or informal comment through Q2 2024. In Q3 of 2024, these projects were allowed to post for informal comment to receive industry feedback in anticipation of a formal comment period being available in Q4 of 2024 or Q1 of 2025. It is anticipated that once these projects are allowed to resume normal posting they would be completed in 12-18 months. Low priority projects were not allowed to post for formal or informal comment through Q3 of 2024. This hold on postings for low priority projects is likely to continue into 2025; depending on the work load from multiple high priority projects with FERC directives and NERC Board Work Plan Priorities. Due to this rationale, no anticipated completion times have been included in the low priority projects listed below at this time.

## Project Prioritization

In determining high, medium, or low priority designations for projects as listed in this RSDP, the following factors were taken into consideration:

1. Outstanding regulatory and NERC Board of Trustees directives with filing deadlines (High Priority)
2. RISC category rankings of high impact and NERC annual work plan priorities with consideration of probability of occurrence (High or Medium Priority)
3. Potential reliability risks from stakeholders and technical committees provided through feedback mechanisms (High, Medium, or Low Priority, based on the risk)
4. Outstanding regulatory directives without regulatory deadlines or "soft directives" such as considerations (High or Medium Priority)
5. Outstanding requirements that are known candidates for retirement (Medium or Low Priority)
6. Any known adverse content and quality assessments (likely Low Priority, as any reliability gaps identified have already been addressed)

NERC staff takes these factors into account and prioritizes projects at a minimum of twice a year. The most current prioritization slide deck can be found on the NERC website under Reliability Standards Under Development.

## High Priority

NERC staff anticipates high priority projects will take a total of 755 work hours for 65 industry subject matter experts to complete by end of 2025.

- Project 2020-06 Verifications of Models and Data for Generators (FERC Order 901 Milestone 3 Project) (drafting estimated to be completed by October 2025 requiring approximately 11 subject matter experts for approximately 150 work hours each for this project).
- Project 2021-01 Modifications to MOD-025 and PRC-019 (FERC Order 901 Milestone 3 Project) (drafting estimated to be completed by October 2025 requiring approximately 11 subject matter experts for approximately 140 work hours each for this project).
- Project 2021-03 CIP-002 Transmission Owner Control Centers (Phase 2) (drafting estimated to be completed by December 2025 requiring approximately 10 subject matter experts for approximately 130 work hours each for this project). This project will also have a phase 3 that is anticipated to be completed in 2026. Additional subject matter experts will be solicited to address these phases as needed.
- Project 2022-02 Uniform Modeling Framework for IBR (Phase 2 - FERC Order 901 Milestone 3 Project) (project to be completed in phases with the initial SAR to be put on hold to address Phase 2 – FERC Order Milestone 3J; drafting estimated to be completed by October 2025 (Phase 2) requiring approximately 10 subject matter experts for approximately 150 work hours each for this project and Phase 1 drafting estimated to be completed by December 2025).
- Project 2024-03 Revisions to EOP-012-2 (drafting estimated to be completed by March 2025 requiring approximately 13 subject matter experts for approximately 125 work hours each for this project)
- Project 2024-01 Rules of Procedure Definitions Alignment (Generator Owner and Generator Operator) (Phase 1) (drafting estimated to be completed by February 2025 requiring approximately 10 subject matter experts for approximately 60 work hours each for this project)
- Project 2024-02 Planning Energy Assurance (drafting estimated to be completed by March 2026 requiring approximately 13 subject matter experts for approximately 270 work hours each for this project).

## Medium Priority

NERC staff anticipates medium priority projects will take 1,165 work hours for 64 industry subject matter experts to complete by end of 2026.

- Project 2022-04 EMT Modeling (drafting estimated to be completed by March 2026 requiring approximately 12 subject matter experts for approximately 35 work hours each for this project).
- Project 2023-01 EOP-004 IBR Event Reporting (drafting estimated to be completed by December 2025 requiring approximately 12 subject matter experts for approximately 220 work hours each for this project).
- Project 2023-07 Modifications to TPL-001-5.1 Transmission System Planning Performance Requirements for Extreme Weather (Phase 2) (drafting estimated to be completed by May 2025 requiring approximately 14 subject matter experts for approximately 400 work hours each for this project)
- Project 2023-09 Risk Management for Third-party Cloud Services (drafting estimated to be completed by December 2025 requiring approximately 13 subject matter experts for approximately 240 work hours each for this project).

## Low Priority

NERC staff anticipates low priority projects will take 375 work hours for 68 industry subject matter experts to complete.

- Project 2017-01 Modifications to BAL-003-1.1 (phase 2) (drafting requiring approximately 9 subject matter experts for approximately 60 work hours each for this project).
- Project 2019-04 Modifications to PRC-005-6 (drafting requiring approximately 9 subject matter experts for approximately 40 work hours each for this project).
- Project 2021-02 Modifications to VAR-002 (drafting requiring approximately 13 subject matter experts for approximately 40 work hours each for this project).
- Project 2021-08 Modifications to FAC-008 (drafting requiring approximately 9 subject matter experts for approximately 80 work hours each for this project).
- Project 2022-05 Modifications to CIP-008 Reporting threshold (drafting requiring approximately 8 subject matter experts for approximately 55 work hours each for this project).
- Project 2023-05 Modifications to FAC-001 and FAC-002 (drafting requiring approximately 10 subject matter experts for approximately 60 work hours each for this project).
- Project 2023-08 Modifications of MOD-031 Demand and Energy Data (drafting requiring approximately 10 subject matter experts for approximately 40 work hours each for this project).

# Standards Grading

At the joint Standards Committee (SC) and Compliance and Certification Committee (CCC) meeting on July 20, 2022, the committees discussed the efficacy of the annual Standards Grading process and potential opportunities for improvement. The two committees agreed there was a need for a joint task force to review the Standards Grading process including the need, the methodology, and the outputs. Volunteers from both committees were solicited and a task force formed which will conclude its work in 2024. A low priority project addressing the results on the task force will be initiated in 2025. Recommendations from that project will be considered by RISC leadership when developing the bi-annual risk report.