MARCH 8, 2023

RSSC
Reliability Standards and Criteria Development Update
NERC/NPCC

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Extreme Cold Weather Grid Operations, Preparedness, and Coordination – Recap

Phase	Reliability Standard	Effective Date	Summary of Changes
I	EOP-011-2 Emergency Preparedness and Operations	October 1, 2023	Assess impact of cold weather in Emergency Operating Plans
I	EOP-011-3 Emergency Preparedness and Operations	October 1, 2024	Minimize overlap between manual and automatic UFLS
II	EOP-011-4 Emergency Preparedness and Operations	Under development	Protect critical natural gas infrastructure load from load shedding and DR
I	IRO-010-4 Reliability Coordinator Data Specification and Collection TOP-003-5 Operational Reliability Data	October 1, 2023	Include generator cold weather operating parameters in RC/BA data specifications
I and II	EOP-012-1 Extreme Cold Weather Preparedness and Operations	Under development - TBD	Implement winter preparedness plans and freeze protection measures
II	TOP-002-5 Operations Planning	Under development	Determine the generating unit capacity that can be relied upon during “local forecasted cold weather”

Extreme Cold Weather Grid Operations, Preparedness, and Coordination

Status

- Draft 1 balloting on April 23rd failed for:
  - EOP-011-4 – Emergency Operations
  - TOP-002-5 – Operations Planning

- Comment period and balloting due July 20, 2023 for:
  - EOP-012-2 – Extreme Cold Weather Preparedness and Operations
  - Implementation Plan

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Extreme Cold Weather Grid Operations, Preparedness, and Coordination:

EOP-012-2 Proposed Revisions Include:

- **New defined term, Generator Cold Weather Constraint**, which includes criteria on what qualifies as a permissible constraint:
  - **Technical Constraint** – A technical constraint exists when there is no known technical solution for addressing the issue or implementation of selected freeze protection measure(s) requires application of new technologies or existing technologies in new applications that would facilitate operations outside of the existing equipment.
  - **Commercial Constraint** - A commercial constraint exists when implementation of selected freeze protection measure(s) are uneconomical to the extent that they would result in the generating unit not operating or not being put into service at the time of the evaluation.
  - **Operational Constraint** – An operational constraint exists when implementation of selected freeze protection measure(s) would cause the generating unit to limit its operations in order to protect either the reliability of the BES, the generating unit itself, the surrounding environment, or personnel.

- Adding **new R8** to require the GO to provide the constraint declaration to the Balancing Authority and update the generating unit's data specification regarding operational limitations to the generator unit's capability and availability under R1.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination:

EOP-012-2 Proposed Revisions Include: *(cont'd)*

- Refined **definition** of Generator Cold Weather Critical Components:
  - **Fixed Fuel Supply Component**:
    - Non-mobile equipment that supports the reliable delivery of fuel to the generating unit and under the control of the Generator Owner at a plant site.
    - Gaseous, liquid, or solid fuel handling components that are installed on site as fixed parts of the fuel delivery system that are under the Generator Owner's control are included.
    - Mobile equipment such as trains, bulldozers, or other equipment that are not fixed in one location are excluded.

- **Added sub-requirement 6.4** (through the CAP process) for Generator Owners to update the list of Generator Cold Weather Critical Components in the cold weather preparedness plan in R4.

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Extreme Cold Weather Grid Operations, Preparedness, and Coordination:

EOP-012-2 Proposed Revisions Include: *(cont'd)*

- **Clarified** existing language in EOP-012-1 R3.5.2 and moved it to R1.2.2 to account for the effects of **precipitation** and the cooling effects of **wind** when providing the generating unit minimum temperature.

- Requirements for generator cold weather freeze protection measures would continue to apply only to generation that is relied upon during freezing conditions; however, those **limitations are identified in those specific requirements**, **rather than in the applicability** sections of the standard.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination:

EOP-012-2 Proposed Implementation Plan:

	EOP-012-1	EOP-012-2
Effective Date	10/1/2024	10/1/2024
Have Capability to Operate at ECWT or CAP Developed	4/1/2028	10/1/2025
CAP Completed	no end date specified	10/1/2027 (R7.1.1) or 10/1/2029 (R7.1.2)

BAL-003 – 3 – Frequency Response and Frequency Bias Setting -Phase II

Status

Comment period and ballot for draft 2 concluded June 1, 2023 - Failed

Proposed Revisions Included:

- Removal of proposed Requirement R5 from Draft 1 which required inclusion of explicit consideration of frequency responsive reserves in the Balancing Authority's Operating Plans.
  - -The proposed requirement is administrative in nature and redundant to other requirements in other standard
- Removal of proposed Requirement R7 from Draft 1 which required Generator Owner to ensure minimum settings for the Governor droop and dead-band or for notification to the Balancing Authority if the settings were not within the minimum settings.
  - -Balancing Authority already has the ability to request this information from their Generator Owners under TOP-003-4
- Allows for governor exemptions

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MOD-026-2 – Verification of Dynamic Models and Data for BES Connected Facilities

Status

Comment period and ballot for draft 3 is due July 21, 2023

Summary of Changes for Draft 3:

- Clarification of models associated with Facilities in R1.1, R1.2
- Trimmed list of Protection Systems of R2.3
- Merged footnotes of R6.1, R6.3, and R6.4 into requirement language
- Footnote describing large signal disturbance added to R6.2
- Reorganized R7 to similar structure of R8/R9
- Added footnote to R7 describing which in-service equipment changes are included
- All mentions of timeframes moved to Attachment 1 (R8/R9)
- Added dispute resolution phrase to R9
- Implementation Plan: effective date increase from 1 to 2 years (R1, R8, R9), 5 years total to implement R2-R6, R7 (R7 timing aligned with R2-R6)
- R6 exemption date: commissioning date before January 1, 2023

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MOD-025-3 – Verification of Real and Reactive Power Capability for BES Facilities
PRC-019-3 – Coordination of Generating Unit or Plant Capabilities, Voltage Regulating Controls and Protection

Status

Comment period and ballot for draft 2 was due June 8, 2023 - Failed

Summary of Changes for Draft 2:

- Added verification date language to R1/R2
- Aligned R1.3.3 and R2.3.3 language with Attachment 1
- Updated language to R3 and R4 based on comments
- Updated Attachment 1-3 based on comments
- Revised Implementation Plan to allow for 66 month periodicity to carry forward for existing Facilities

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Modifications to IRO-010-4 and TOP-003-5
RC, TOP and BA Data Specification and Collection

Status

Comment period and ballot for draft 2 is due June 20, 2023

Revisions:

- Standards Efficiency Review Phase 2: Operational Data Exchange Simplification
- Proposed IRO-010-5 and TOP-003-6 are substantively identical
- Dispute resolution process included in data specification
- Clarifies protocols for responding to data requests

Summary of Changes for Draft 2:

- Deleted the data third party intermediary language from standards.
- Combined and re organized sub requirements in R1 R3
- Modified VRFs and VSLs in accordance to NERC grading

Modifications to TPL-001-5.1 Transmission Planning System Performance Requirements and MOD-032-1 Data for Power System Modeling and Analysis

Status

Comment period and ballot for draft 1 of MOD-032-2 is due June 29, 2023

Revisions:

- Load-Serving Entity (LSE) is replaced with Distribution Provider (DP) because of the removal of LSEs from the NERC registry criteria.
- Items in Attachment 1 that were previously required to be provided by the LSE are now required to be provided by the DP.

Modifications to PRC-005-6 – Protection System, Automatic Reclosing, and Sudden Pressure Relaying Maintenance

Status

Comment period and ballot for draft 1 of PRC-005-7 is due July 10, 2023

Revisions:

Changes are intended to clarify and expand applicability of protective system maintenance requirements:

- Clarification that BES protective functions enabled within analog/digital AVRs, excitation systems, and BES protective functions enabled within control systems that respond to measured electrical quantities and trip BES Elements either directly or indirectly or via lockout or auxiliary tripping relays.
- Included new dc supplies (e.g., lithium ion, flow) for Protection Systems.
- Included entities registered as UFLS-only Distribution Providers (DPs) in the Applicability section
- Modified the definition of Protection System

Modifications to VAR-002-4.1
Generator Operation for Maintaining Network Voltage Schedules

Status

Comment period and ballot for draft 2 of VAR-002-5 is due June 23, 2023

Revisions include:

Replaced "generator or dispersed power producing resource" with applicable Facility

Added prompt notification to TOP if no other method of control is available

Added footnote clarifying that for an aggregate generating plant, the volt/VAR controller includes the voltage & reactive power control system controlling and coordinating plant voltage

Replaced "mutually-agreeable format" with mutually agreeable criteria"

Clarified reactive capability change that "degrades or restores <u>from degradation"</u>

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