

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Industry Webinar

Project 2024-03: Revisions to EOP-012-2

December 12, 2024

RELIABILITY | RESILIENCE | SECURITY

- **Administrative Items**
- **Background**
- **Consideration of FERC Directives**
- **Project Timeline**
- **EOP-012-3 Standard Revisions**
- **Generator Cold Weather Constraint & Attachment 1**
- **Implementation Plan**
- **Generator Cold Weather CAP Extension and Constraint Process**
- **Calculating Extreme Cold Weather Temperature**
- **Next Steps**
- **Questions and Answers**

- It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition. It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

- **Public Announcement**
 - Participants are reminded that this meeting is public. Notice of the meeting was widely distributed. Participants should keep in mind that the audience may include members of the press and representatives of various governmental authorities, in addition to the expected participation by industry stakeholders.
- **Presentation Material**
 - Information used herein is used for presentation purposes and may not reflect the actual work of the official posted materials.
- **For the official record**
 - This presentation is not a part of the official project record.
 - Comments must be submitted during the formal posting.
- **Q&A Session**
 - Q/A feature or the raise hand feature.

| Name | Organization/ Company |
|-----------------------------------|---|
| David Kezell (Chair) | ERCOT |
| Brad Pabian (Vice Chair) | Louisville Gas & Electric / Kentucky Utilities (LGE-KU) |
| David McRee | Duke Energy |
| Mike Herman | Great River Energy |
| Thor Angle | Puget Sound Energy |
| Jill Loewer | Utility Services |
| Alan Wahlstrom | Southwest Power Pool |
| Scott Reinhold, Jr. | Midcontinent Independent System Operator (MISO) |
| Curtis Crews | WECC |
| Vince Stefanowicz | PJM |
| Venona Greaff | Occidental Chemical Corporation (OXY) |
| Jonathan Davidson | City Utilities of Springfield, MO |
| Pamela Frazier | Southern Power Company |

- Reliability Standard EOP-012-3 is being revised to address seven FERC directives in the June 27, 2024 order approving EOP-011-4 and EOP-012-2 as published in the Standard Authorization Request (SAR).
- The standard drafting team has also made minor modifications to the standard as appropriate to clarify specific items. The SDT also incorporated many comments from the industry in this revision of the Standard.
- The drafting team continues to solicit feedback from interested parties, particularly specific suggested language revisions that enhance the standard.
- The NERC Board has indicated that it will exercise “special standards authority” under Section 321 of the Rules of Procedure if the current ballot is not converging on approval of Reliability Standard EOP-012-3.
- Members of the drafting team will continue to make themselves available for outreach meetings with interested parties to answer questions, discuss concerns, and seek support for the standard.

- Paragraph 47: Address concerns related to the ambiguity of the Generator Cold Weather Constraint term and criteria.
- Paragraph 54: Address concerns regarding the need for a timely review and evaluation of declared Generator Cold Weather Constraints by NERC.
- Paragraph 68: Address concerns that timeline requirements for implementing corrective actions for Generator Cold Weather Reliability Events are too long.
- Paragraph 70: Require NERC pre-approval of Corrective Action Plan (CAP) timeline extensions beyond the maximum implementation timeframe.
- Paragraph 72: Address concerns regarding timeliness requirements for new facilities (commercially operable on or after October 1, 2027).
- Paragraph 76: Address concerns regarding timelines for CAP actions for existing and new freeze protection measures.
- Paragraph 94: Address the concern that Generator Cold Weather Constraint Declarations should be reviewed more frequently.

| Process Steps | Dates | Notes |
|---|-------------------|--|
| Drafting Team members seated | 08/21/2024 | Standards Committee (SC) August meeting |
| Standards Committee Executive Committee (SCEC) authorize revisions | 09/05/2024 | SCEC Special Call |
| SC approval of initial ballot | 10/16/2024 | SC October Meeting |
| Initial Ballot | 10/17/24–11/05/24 | 20-day initial ballot and comment period per waiver approved at July SC meeting |
| First Additional Ballot | 12/3/24–12/20/24 | 18-day additional ballot and comment period per waiver |
| Consideration of 321 Action | 01/02/25–01/08/25 | Based on additional ballot results, NERC staff will consider the comments received and if 321 action should be proposed to the NERC Board to meet the FERC deadline. |
| Second Additional Ballot | 01/29/25–02/12/25 | 15-day additional ballot and comment period per waiver |
| Final Ballot | 03/03/25–03/07/25 | 5-day final ballot per waiver |
| NERC Board Approval | TBD | Anticipated NERC Board approval in mid-March |
| FERC Order Filing Deadline | 03/27/25 | |

- Part 1.1. was revised to clarify the obligation to have Extreme Cold Weather Temperature (ECWT) calculation details.
- **R1.** At least once every five calendar years, each Generator Owner shall, for each of its applicable generating unit(s):
[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]
 - 1.1. Calculate the Extreme Cold Weather Temperature for each of its applicable **generating** unit(s) and identify the calculation date, source(s) of temperature data, **and adjustments utilized for missing or invalid hourly temperature data, if necessary; . .**
- Random missing hourly temperature values, even in significant quantities, result in very little or no impact to the calculated ECWT.
- From the Technical Rationale: “Any data set with missing or invalid hourly temperature values recorded during the coldest periods since January 1, 2000 should be carefully evaluated to assure that any adjustments utilized on those particular values are properly addressed in a transparent and logical way.”

- Requirement R2 revised to satisfy FERC Order paragraph 72.
- Applies to units that begin commercial operation on or after October 1, 2027.
- Divides units into those which established design criteria before the June 29, 2023 FERC Order date of EOP-012-1 and those after.
 - June 29th is the date issues with FERC's February 2023 approval of EOP-012-1 were resolved.
 - Units with earlier design criteria can create a Corrective Action Plan , but must have it developed, implemented and completed by April 1, 2028 or declare a Generator Cold Weather Constraint if they don't meet EOP-012 requirements.
 - Units with later design criteria date must meet EOP-012 requirements or declare a Generator Cold Weather Constraint.

- Brings Corrective Action Plan implementation requirements into R6 for Generator Cold Weather Reliability Events (GCWRE).
 - i.e., not just developing a CAP but also implementing it.
- Requires completion of Corrective Action Plan items before the following winter season if a GO experiences a GCWRE on the generator that experiences the GCWRE.
 - Note that the “by July 1 or within 150 days” language has been struck on this draft to more closely align with the FERC directive and industry feedback.
- Review of applicability to similar units in GO’s fleet with correction within 24 calendar months.
- Clarifying redlines made regarding CEA approval required for CAP timeline extensions.
- Generator Cold Weather Constraints governed per R8, if applicable.

- Clarifies Corrective Action Plan parameters for plans resulting from inability to meet ECWT and/or wind requirements in R1 or R3.
 - R2 CAP parameters removed from R7 but specified in R2.
- Retains the 24 calendar month CAP timelines for existing freeze protection measures and 48 calendar month CAP timelines for new freeze protection measures from EOP-012-2.
- Clarifying redlines made regarding CEA approval required for CAP timeline extensions beyond the 24/48 calendar month limits.
- Generator Cold Weather Constraints governed per R8, if applicable.

- Adjusted the requirement for clarity on reporting timelines for declaring a Generator Cold Weather Constraint.
 - In R8.1, separated out new commercial generation and existing into two different bullets.
 - For Generator Cold Weather Constraints determined in accordance with Requirement R2 for generating unit(s) upon beginning commercial operation, submit within 15 calendar days after commercial operation; or
 - For all other Generator Cold Weather Constraints, submit within 45 calendar days of determining that the Generator Cold Weather Constraint is applicable.
- Removed R8.2 and made its own requirement in R9.
- Wording clean up in what is now 8.2 and 8.3.

- Requirement R9 was R8.2 in previous version.
- Extended the review of the declaration from 24 calendar months to 36 calendar months.
 - The Generator Owner shall review each Generator Cold Weather Constraint declaration validated by the CEA every 36 calendar months to determine if it remains valid in accordance with Attachment 1.
- Measure was added that states that the Generator Owner will show evidence that the Constraint(s) were reviewed ever 36 calendar months.

- The Drafting Team recognizes that the definition of Generator Cold Weather Constraint has been a difficult point in EOP-012.
- Draft 1 of EOP-012-3 simplified the definition from EOP-012-2 and created Attachment 1 within the standard.
- The DT appreciates the constructive comments received from industry organizations to revise the definition and guide updates to Attachment 1.
- Draft 2 of EOP-012-3 restores some of the EOP-012-2 language and improves clarity of Attachment 1.

Generator Cold Weather Constraint – Any condition that would preclude a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components. **Freeze protection measures include practices, methods, or technologies implemented by the electric industry in areas that experience similar winter climate conditions and are not intended to be limited to optimum practices, methods, or technologies.**

- All Generator Cold Weather Constraints are submitted by the GO and then reviewed, evaluated, and validity confirmed by the CEA.
- Maintains 2 categories of Constraints: those broadly known and those to be evaluated on a case-by-case basis.
- **Known Generator Cold Weather Constraints**
 - Wind turbine structural limitations, blade de-icing unavailable or ineffective technologies, blade replacement, removal of frozen precipitation on solar, upstream heat applied to inlet air on combustion turbines.

- **Case-by-case Determinations of Generator Cold Weather Constraints**

- Intended to provide description of circumstances that are objective, unambiguous, and auditable.
- Freeze protection measures that have or would cause equipment issues: warranty provisions, exceed design limits, technical/physical limitations.
- Bulk Power System reliability: accelerated retirement, loss of capacity, units near retirement.
- Freeze protection measures lacking a record of effective use or commercial availability on comparable units in similar climates.
- Limitations on fuel supply outside GO's control.
- Freeze protection measure results in non-compliance with another regulatory requirement.
- Other situations beyond the GO's control that limit freeze protection measures.

- **EOP-012-3 and Definitions**

- Where approval by an applicable governmental authority **is required**, the standard and associated definitions shall become effective on the later of: (1) October 1, 2025; or (2) the first day of the first calendar quarter that is three (3) months after the effective date.
- Where approval by an applicable governmental authority **is not required see (2) above.**

- **Retirement Date of EOP-012-2**

- Reliability Standard EOP-012-2 shall be retired immediately prior to the effective date of Reliability Standard EOP-012-3 in the particular jurisdiction in which the revised standard is becoming effective.

- Requirement R1 - by the effective date of EOP-012-2. Entities perform first periodic review by no more than 60 months after the effective date of EOP-012-2.
- Requirement R2 - (on/after Oct 1, 2027) no later than the commercial operations date for the applicable unit.
- Requirement R3 - Units beginning commercial operation after the effective date of EOP-012-3 but before October 1, 2027 no later than the commercial operations date for the applicable unit. Existing units upon the effective date of EOP-012-3.

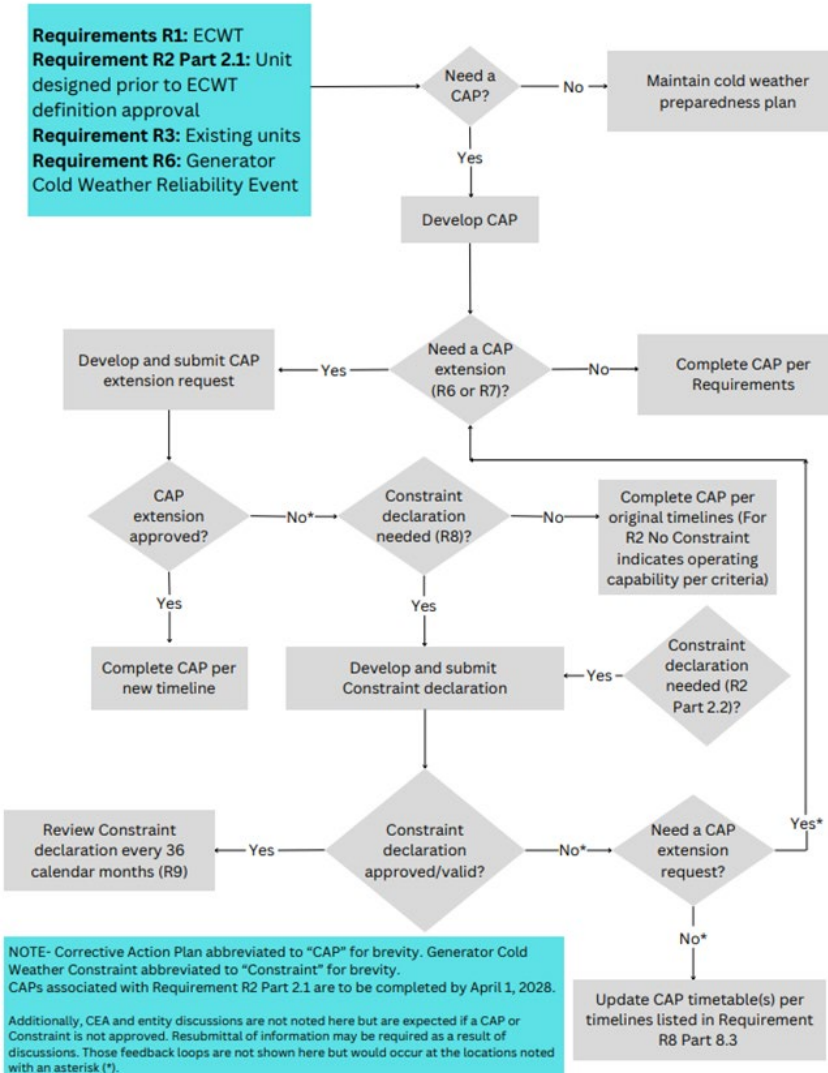
- **Generator Cold Weather Constraints**

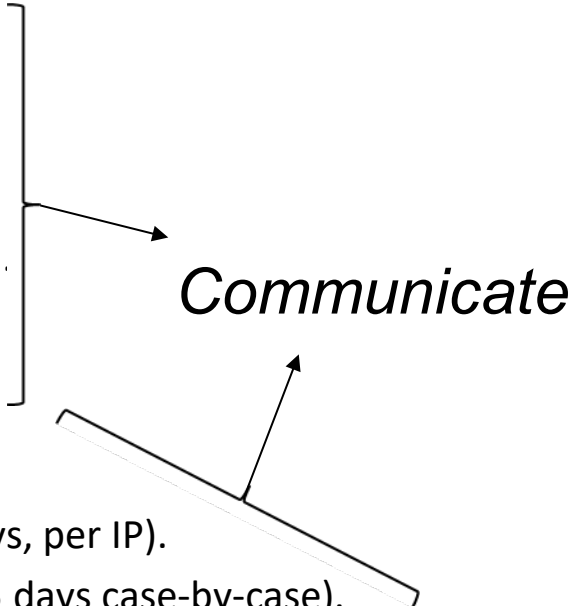
- Requirement R8

- Review all Generator Cold Weather Constraints previously declared under Reliability Standard EOP-012-2 for compliance with Reliability Standard EOP-012-3 Attachment 1 by the **effective date of EOP-012-3**.
- Submit any previously declared Generator Cold Weather Constraints **no later than 45 days** following the effective date of EOP-012-3.
- Newly declared Generator Cold Weather Constraints submitted per the timelines specified in Requirement R8.

- **Requirement R9 - No later than 36 calendar months following validation by the Compliance Enforcement Authority.**

EOP-012-3 Process Flow Chart: Below is a graphical representation demonstrating the relationship between Requirements:



- **Meets FERC directives**
 - **CAPs/Constraint declaration coverage**
 - **CAP Extension Request Review Process**
 - Registered Entity Submittal (60 days prior expected).
 - ERO Enterprise Review (15 days receipt/45 days to review).
 - Registered Entity Notification (rationale provided).
 - Denial process.
 - **Constraint Review Process**
 - Registered Entity Submittal (as soon as, per R8—45/15 days, per IP).
 - ERO Enterprise Review (15 days receipt/10 days known/45 days case-by-case).
 - Registered Entity Notification (rationale provided).
 - Denial process.
 - **Generator Owners obligation and responsibility to provide clear documentation to allow review/validation.**
- 
- The diagram consists of a vertical bracket on the left side of the slide, spanning the 'CAP Extension Request Review Process' and 'Constraint Review Process' sections. Two arrows originate from the right side of this bracket: one points horizontally to the word 'Communicate', and another points diagonally upwards to the same word. Additionally, a separate arrow points from the 'Generator Owners obligation...' section towards the word 'Communicate'.

- **Determination of Location's Extreme Cold Weather Temperature**
 - NOAA/National Weather Service (NWS) examples.
 - Data analysis using Excel.
 - Gathering Data From Automated Surface Observing System (ASOS).
- **Missing Data**
 - Emphasized impact of missing data.
 - Look for reasonable alternatives (*"adjustments utilized for missing or invalid hourly temperature data"* —R1).
 - **Document** approach.

- **Postings**

- The 18-day Additional Posting will close on December 20, 2024
- Future Meetings: January 7 – 9, 2025
- The 2nd Additional Posting will be posted from January 29 – February 12, 2025 (if needed)
- [Project Page 2024-03](#)

- **Point of contact**

- Ben Wu, Senior Standards Developer
- Ben.Wu@nerc.net or call 470-542-6882



Questions and Answers