

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Project 2021-07

Extreme Cold Weather Grid Operations, Preparedness and  
Coordination

Industry Webinar  
August 30, 2023

**RELIABILITY | RESILIENCE | SECURITY**



## Administrative

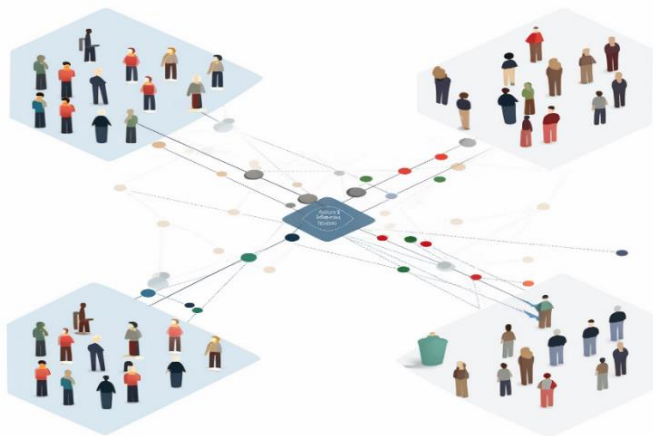
- Review NERC Antitrust Compliance Guidelines and Public Announcement

## Agenda

- Opening Remarks
- EOP-011-4 Revisions
- TOP-002-5 Revisions
- Implementation Plan
- Posting Update
- Q&A

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.

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.



- *Consensus driven standards*
- *Considered all comments*

- *Enhancements to Reliability Standards relating to cold weather*
- *Upcoming NERC/FERC deadlines*



- To require Balancing Authorities' operating plans (for contingency reserves and to mitigate capacity and energy emergencies) to prohibit use for demand response of critical natural gas infrastructure loads

- To protect critical natural gas infrastructure loads from manual and automatic load shedding (to avoid adversely affecting Bulk Electric System reliability):
  - To require Balancing Authorities' and Transmission Operators' provisions for operator-controlled manual load shedding to include processes for identifying and protecting critical natural gas infrastructure loads in their respective areas;
  - To require Balancing Authorities', Transmission Operators', Planning Coordinators', and Transmission Planners' respective provisions and programs for manual and automatic (e.g., underfrequency load shedding, undervoltage load shedding) load shedding to protect identified critical natural gas infrastructure loads from manual and automatic load shedding by manual and automatic load shed entities within their footprints;

- To require manual and automatic load shed entities to distribute criteria to natural gas infrastructure entities that they serve and request the natural gas infrastructure entities to identify their critical natural gas infrastructure loads; and
- To require manual and automatic load shed entities to incorporate the identified critical natural gas infrastructure loads into their plans and procedures for protection against manual and automatic load shedding.



- Proposed changes address identification and prioritization of critical natural gas infrastructure Load (Recommendations 1h and 1i)
  - Manual Load Shed
  - Automatic Load Shed
  - Demand Response programs
- Added Functional Entities to Applicability
  - Distribution Provider
  - UFLS-only Distribution Provider
  - Transmission Owner

## Comment themes from first ballot:

- Should there be a definition of critical natural gas infrastructure load?
- Dependency on natural gas entities participating in the process
- Lack of a notification provision from TOPs to DPs, UFLS-Only DPs, and TOs that will be subject to certain requirements
- Use of the term “Operating Plan” in reference to DP, UFLS-Only DP, and TO obligations
- Implementation timeline does not provide adequate time identify critical natural gas infrastructure Loads and make physical changes that may be required to comply with the new requirements

The SDT has elected to add clarifying language in the applicable requirements and expand content in the Technical Rationale document in lieu of making “critical natural gas infrastructure Load” a defined term.

- Criticality of certain gas facility types will vary based on system characteristics
- Entities need flexibility to determine critical facilities based on the specifics of their system and footprint
- A broad definition may negatively impact reliability by over-designating facilities as critical

A definition would have been overly broad and would not provide substantial additional clarity given the diversity of these types of facilities throughout the BES footprint.

The phrase “*which are essential to the reliability of the BES*” has been added to related requirements to specifically link any determination of criticality to the impacts of the load on BES reliability.

Technical Rationale provides additional guidance on:

- Reasonable application of the term critical natural gas infrastructure loads
- Identification of critical natural gas infrastructure loads
- Prioritization of critical natural gas infrastructure loads

## TOP in its Emergency Operations Plan to include:

- Provisions to minimize the overlap of circuits that are designated for manual *or automatic* load shed and circuits that serve designated critical loads *which are essential to the reliability of the BES*
- Provisions for identification and prioritization of designated critical natural gas infrastructure loads *which are essential to the reliability of the BES*
  - The qualifier “essential to the reliability of the BES” was added
  - Some rewording was done to all Requirement language to clarify the SDT’s intent in the application of these requirement to manual and automatic load shed

Each Transmission Operator shall *annually* identify and notify Distribution Providers, UFLS-Only Distribution Providers, and Transmission Owners that are required to *assist with the mitigation* of operating emergencies in its Transmission Operator Area through operator-controlled manual Load shedding or automatic Load shedding.

- Moved to a separate Requirement (new R7)
- Added a notification provision to ensure that identified entities are appropriately notified
- Annual requirement

Distribution Provider, UFLS-Only Distribution Provider, and Transmission Owner to create a Load shedding plan that includes:

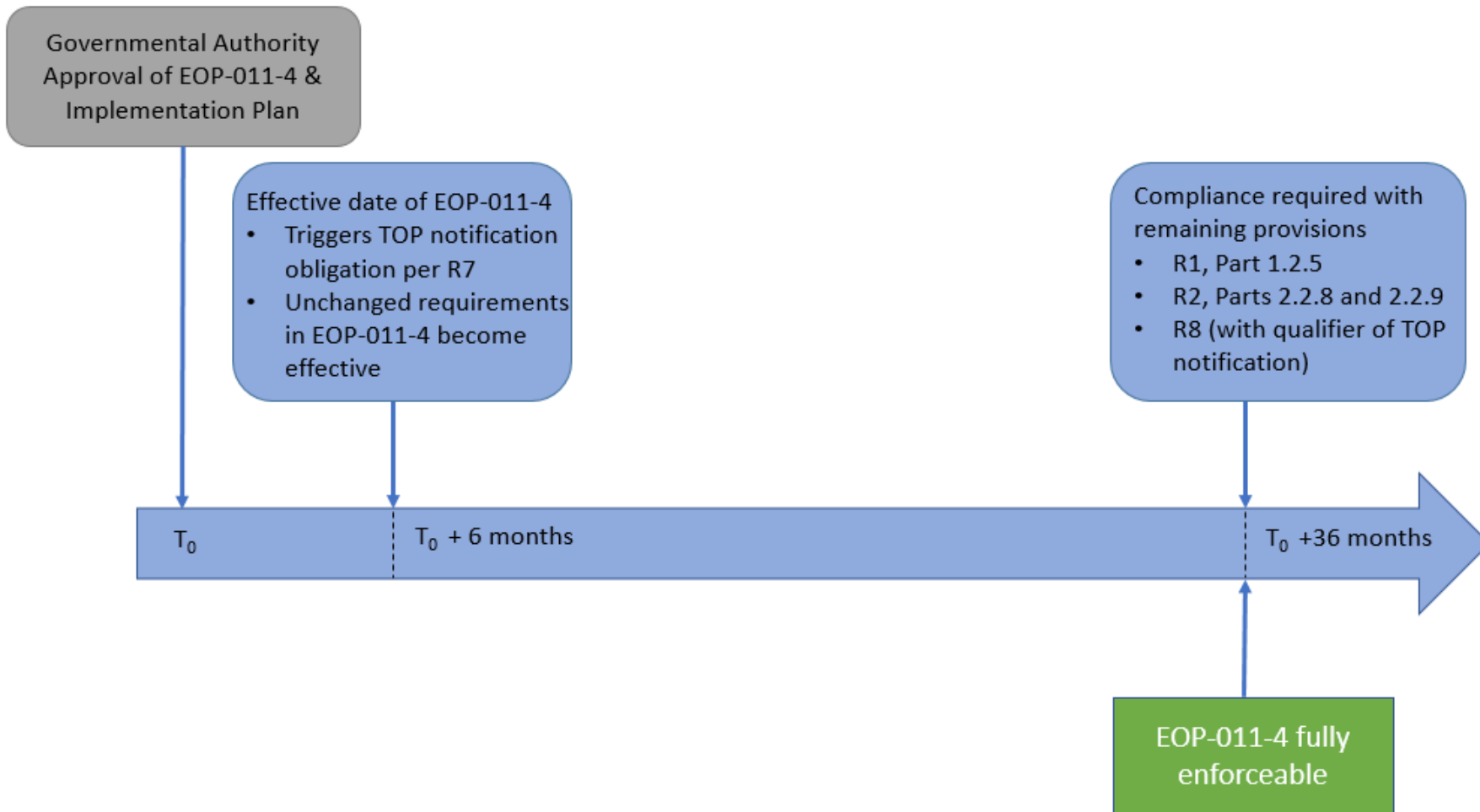
- Minimize overlap of circuits designated for manual *or automatic* load shedding from circuits that serve designated critical load *which are essential to the reliability of the BES*
- Minimize overlap of circuits designated for manual Load shed and circuits that are utilized for UFLS and UVLS
- Limit utilization of UFLS or UVLS circuits from manual load shed to situations where warranted by system conditions
- Identification and prioritization of designated critical natural gas infrastructure loads *which are essential to the reliability of the BES*
  - Applicable to entities are notified by a TOP per R7
  - Reworded “Operating Plan” to “Load shedding plan”
  - Additional edits to be consistent with TOP Requirement edits
  - Added provisions to provide the Load shedding plan to the TOP for review

## BA in its Operations Plan to include:

- Provisions for excluding critical natural gas infrastructure loads *which are essential to the reliability of the BES* as interruptible load, curtailable load, and demand response *during extreme cold weather periods* within each BA Area
- Provisions for Transmission Operators to implement operator-controlled manual Load shedding or automatic Load shedding in accordance with Requirement R1 Part 1.2.5
  - The qualifier “essential to the reliability of the BES” was added
  - Req. R2.2.8 was clarified to state the obligation is only during Extreme Cold Weather periods
  - Wording was refined to clarify the SDT’s intent in the application of these requirement to manual and automatic load shed



- Initial proposal was Standard effective 18 months after FERC approval
- New proposal is Standard is effective 6 months after FERC approval
  - At that time, new Requirement R7 is triggered and all other unchanged requirements in EOP-011-4 become effective
    - Notification by the TOP to DP/UFLS-Only DP/TO regarding assisting with mitigation of operating Emergencies
  - Compliance with new and revised provisions in R1, Part 1.2.5 and R2, Parts 2.2.8 and 2.2.9 is not required until 30 months after the effective date of the Standard
  - Compliance with R8 is not required until the later of (1) 30 months following notification by a Transmission Operator or (2) 30 months after the effective date of the Standard



- The Reliability Standards should be revised to provide greater specificity about the relative roles of the Generator Owner, Generator Operator, and Balancing Authority in determining the generating unit capacity that can be relied upon during “local forecasted cold weather” in TOP-003-5:
  - Based on its understanding of the “full reliability risks related to the contracts and other arrangements [Generator Owners/Generator Operators] have made to obtain natural gas commodity and transportation for generating units,” each Generator Owner/Generator Operator should be required to provide the Balancing Authority with data on the total percentage of the generating unit’s capacity that the Generator Owner/Generator Operator reasonably believes the Balancing Authority can rely upon during the “local forecasted cold weather.”

- Each Balancing Authority should be required to use the data provided by the Generator Owner/Generator Operator, combined with its evaluation, based on experience, to calculate the percentage of total generating capacity that it can rely upon during the “local forecasted cold weather,” and share its evaluation with the RC.
- Each Balancing Authority should be required to use its calculation of the percentage of total generating capacity that it can rely upon to “prepare its analysis functions and Real-time monitoring,” and to “manage generating resources in its Balancing Authority Area to address . . . fuel supply and inventory concerns” as part of its Capacity and Energy Emergency Operating Plans.

- **R2.** Each Balancing Authority shall maintain a documented specification for the data necessary for it to perform its analysis functions and Real-time monitoring. The data specification shall include, but not be limited to: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning]
  - **2.1.** A list of data and information needed by the Balancing Authority to support its analysis functions and Real-time monitoring.
  - **2.2.** Provisions for notification of current Protection System and Remedial Action Scheme status or degradation that impacts System reliability.
  - **2.3.** Provisions for notification of BES generating unit(s) status during local forecasted cold weather to include:
    - **2.3.1.** Operating limitations based on:
      - **2.3.1.1.** capability and availability;
      - **2.3.1.2.** fuel supply and inventory concerns;
      - **2.3.1.3.** fuel switching capabilities; and
      - **2.3.1.4.** environmental constraints.
    - **2.3.2.** Generating unit(s) minimum:
      - **2.3.2.1.** design temperature; or
      - **2.3.2.2.** historical operating temperature; or
      - **2.3.2.3.** current cold weather performance temperature determined by an engineering analysis.
    - **2.4.** A periodicity for providing data.
    - **2.5.** The deadline by which the respondent is to provide the indicated data.

## SDT approach to satisfying Recommendation 1g:

- After considerable discussion and collaboration, SDT determined that the current TOP-003-5 data specification requirement provides the mechanism for the BA to request necessary information from the GO and satisfies bullet 1 of the Recommendation 1g
- SDT developed a new Requirement R8 – extreme cold weather Operating Process to satisfy bullets 2 and 3 of Recommendation 1g
  - BA to utilize GO information and information from previous cold weather events to determine the appropriate reserve margin during extreme cold weather events

- BAs required to have an extreme cold weather Operating Process unique from its Operating Plan
  - Operating Process Definition per NERC Glossary of Terms: A document that identifies general steps for achieving a generic operating goal. An Operating Process includes steps with options that may be selected depending upon Real-time conditions. A guideline for controlling high voltage is an example of an Operating Process
  - For this draft, the SDT removed the direct link between the Operating Process and Operating Plan due to concerns that link would require a cold weather process year round

- Criteria for extreme cold weather Operating Process shall include but is not limited to:
  - Methodology for identifying an extreme cold weather period expected to affect Balancing Authority Area
  - Methodology that determines appropriate reserve margin during extreme cold weather period
  - Methodology to determine a five day hourly forecast during the extreme cold weather period
- Current TOP-003 data specification requirement provides the mechanism for the BA to request necessary information from the GO



- SDT increased proposed implementation timeline from 12 months to 18 months to address industry concerns with the required effort to consider previous extreme cold weather periods when determining adequate reserve margins in the new extreme cold weather Operation Process.

- EOP-011-4:
  - Provided a clear notification provision from TOPs to DPs, UFLS-Only DPs, and TOs that will be subject to certain requirements – **R7**
  - Reworded to “Load Shedding Plan” in **R8** to address concerns with the use of the term “Operating Plan” in reference to DP, UFLS-Only DP, and TO obligations
  - Provided additional clarity in technical rationale around approach for identifying critical natural gas infrastructure loads
  - Various clarifying wording changes to ensure that standard obligations are more clear
  - Extended implementation timeframes where warranted by legitimate industry concerns
- TOP-002-5:
  - Removed the direct link between the Operating Process and Operating Plan due to concerns that link would require an extreme cold weather process year round
  - Various clarifying wording changes to ensure that standard obligations are more clear
  - Extended implementation timeframe as warranted by legitimate industry concerns

- Documents Included
  - EOP-011-4 (clean, redline to last posted and redline to last approved)
  - TOP-002-5 (clean, redline to last posted and redline to last approved)
  - Implementation Plan
  - Technical Rationale for both standards
- Posting Date: August 24 – September 12, 2022 (20 days)
- [Project Page](#)

- Respond to Comments
  - Team Meetings September 2023
  - Final Ballot in September 2023
  - NERC Board Deadline September 30, 2023
- Point of Contact
  - Alison Oswald, Manager of Standards Development
    - [Alison.oswald@nerc.net](mailto:Alison.oswald@nerc.net) or call 404-446-9668
- Webinar Slides and Recording Posting
  - Within 48-72 hours of Webinar completion
  - Will be available in the Standards, Compliance, and Enforcement Bulletin

- Informal Discussion
  - Via the Questions and Answers Objectives feature
  - Chat only goes to the host, not panelists
  - Respond to stakeholder questions
- Other
  - Some questions may require future team consideration
  - Please reference slide number, standard section, etc., if applicable
  - Team will address as many questions as possible
  - Webinar and chat comments are not a part of the official project record
  - Questions regarding compliance with existing Reliability Standards should be directed to ERO Enterprise compliance staff, not the SDT



# Questions and Answers



**Webinar has ended – Thank You**