MARCH 8, 2023

RSSC
Reliability Standards Development Update

Helen Lainis
Compliance Assurance

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination

Status

Formal comment period and initial ballot due **April 13, 2023** for the following:

- EOP-011-4 – Emergency Operations
- TOP-002-5 – Operations Planning

This posting does not include EOP-012-2. The drafting team is holding this standard back to make revisions based on FERC Order. An initial posting for EOP-012-2 will occur at a future date.

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 1 – FERC Order

FERC Order approved Phase 1 and requires additional modifications to EOP-12 (SDT to address)

- Applicability
  - Modify EOP-012-1 to ensure that it captures all bulk electric system generation resources needed for reliable operation and excludes only those generation resources not relied upon during freezing conditions

- Allowance of exceptions for generator owner-defined technical, commercial, or operational constraints
  - Modifications to EOP-012-1 Requirements R1 and R7 to address concerns related to the ambiguity of generator- defined declarations of technical, commercial, or operational constraints that exempt a generator owner from implementing the appropriate freeze protection measures

- Absence of a deadline by which generator owners must implement the new or modified freeze protection measures required by their corrective action plans
  - Modify EOP-012-1 to address concerns related to the lack of an implementation timeframe for corrective action plans (deadline)

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 1 – FERC Order

FERC Order approved Phase 1 and requires additional modifications to EOP-12 (SDT to address) – cont'd

- Implementation Time Period
  - Require a shorter implementation period and staggered implementation for unit(s) in a generator owner's fleet

- Continuous Operations Requirements
  - Modify EOP-012-1 Requirement R1 to ensure that generators that are technically incapable of operating for 12 continuous hours (e.g., solar facilities during winter months with less than 12 hours of sunlight) are not excluded from complying with the Standard.

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 2

Phase 2 includes the following Recommendations from the Joint Inquiry Report:

- 1a – GO identification of cold-weather-critical components and systems (partly resolved in Phase 1 proposal)
- 1b – GO identification and implementation of freeze protection measures on each of the elements identified per 1a (partly resolved in Phase 1 proposal)
- 1c – GO requirement to account for the effects of precipitation and wind
- 1g – Revisions to provide greater specificity of the role each GO, GOP, and BA plays in determining generator capacity.
- 1h – Language in BA operating plans that prohibits critical natural gas infrastructure loads from participating in demand response programs.
- 1i – Specific requirements applicable to BAs, TOPs, PCs, and TPs around manual and automatic load shedding that protect critical natural gas infrastructure from load shedding.

Due to NERC Board by September 30, 2023

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 2

Phase 2 TOP-002-4 (New Requirement)

- Balancing Authority Operating Process (Recommendation 1g)
  - BAs to be required to have an extreme cold weather Operating Process, as part of its Operating Plan

- Criteria for extreme cold weather Operating Process
  - 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

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 2

Phase 2 EOP-011-4

• Proposed changes address identification and protection of critical natural gas infrastructure load (Recommendations 1h and 1i)

- Excluded from Manual Load Shed
- Excluded from Automatic Load Shed
- Excluded from Demand Response programs

• Added Functional Entities to Applicability

- Distribution Provider
- UFLS-only Distribution Provider
- Transmission Owner

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 2

Phase 2 EOP-011-4: New requirements

- TOP in its Emergency Operations Plan to include:
  - Provisions for identification and prioritization of designated critical natural gas infrastructure loads
  - Provisions for identification of Distribution Providers, UFLS-only Distribution Providers, and Transmission Owners required to mitigate operating Emergencies

- BA in its Emergency Operations Plan to include:
  - Provisions for excluding critical natural gas infrastructure loads as interruptible load, curtailable load, and from demand response
  - During periods when it would adversely impact the reliable operation of the BES

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 2

Phase 2 EOP-011-4: New requirements

- Distribution Provider, UFLS-only Distribution Provider, and Transmission Owner to create Operating Plans that:
  - Provisions for identification and prioritization of designated critical natural gas infrastructure loads
  - Minimizes overlap of circuits designated for manual and automatic load shedding from circuits for designated critical load, including critical natural gas infrastructure loads
  - Minimize overlap of circuits designated for manual and automatic load shedding from circuits utilized for UFLS and UVLS
  - Limit utilization of UFLS or UVLS circuits from manual load shed to situations where warranted by system condition

ieso
Connecting Today. Powering Tomorrow.

Extreme Cold Weather Grid Operations, Preparedness, and Coordination: Phase 2

Phase 2 EOP-011-4: New requirements

- Distribution Provider, UFLS-only Distribution Provider, and Transmission Owner to create Operating Plans that:
  - Provisions for identification and prioritization of designated critical natural gas infrastructure loads
  - Minimizes overlap of circuits designated for manual and automatic load shedding from circuits for designated critical load, including critical natural gas infrastructure loads
  - Minimize overlap of circuits designated for manual and automatic load shedding from circuits utilized for UFLS and UVLS
  - Limit utilization of UFLS or UVLS circuits from manual load shed to situations where warranted by system condition

ieso
Connecting Today. Powering Tomorrow.

Reporting ACE Definition and Associated Terms – Standard Authorization Request

Status

Comment period due March 16, 2023.

There is a separate ballot for each of the definitions related to this project – a total of 35.

The SAR states that the current definition of Reporting Area Control Error (ACE) presents a conflict with the Western Interconnection's Automatic Time Error Correction (ATEC) process and does not allow other Interconnections to pursue ATEC.

Additionally, there is confusion in that the terms ACE and Reporting ACE are both used throughout the standards.

A revised definition should provide improve long-term average frequency performance as well as give other Interconnections the ability to pursue automatic correction approaches.

Standard(s) Affected: Multiple standards reference the Reporting ACE definition, including BAL.

EOP-004 IBR Event Reporting – Standard Authorization Request

Status

Comment period due March 8, 2023.

The SAR proposes modifications to EOP-004-4 (EOP-004) focused on ensuring timely reporting by industry to NERC through reporting of events involving inverter-based resources (IBRs).

Currently, the standard has relatively large generator loss size thresholds and uses language more suitable for synchronous generation.

The modifications will add clarity and lower the generator loss threshold to encompass the lessons from widespread IBR loss events that have occurred.

Standard Affected: EOP-004-4

ieso
Connecting Today. Powering Tomorrow.

Performance of IBRs – Standard Authorization Request

Status

Comment period due March 23, 2023.

Standard Affected: PRC-004-6

Scope

- Require analysis and mitigation of unexpected or unwarranted protection and control operations from inverter-based resources following the identification of such a performance issue.
- Include any types of protections or controls that result in abnormal performance issues within the plant, including abnormal performance resulting in anomalous behavior of active power output from the facility during events.
- Considerations may be needed for legacy facilities, but the root cause analysis of the abnormal performance and determination of any mitigating measures should be conducted.
- The SAR should be applicable to all Bulk Electric System (BES) inverter-based generating resources, including battery energy storage resources.

ieso
Connecting Today. Powering Tomorrow.

Thank You

ieso.ca

1.888.448.7777

customer.relations@ieso.ca

engagement@ieso.ca

@IESO_Tweets

linkedin.com/company/IESO

ieso
Connecting Today. Powering Tomorrow.