

Implementation Plan

Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination Reliability Standards EOP-011-3 and EOP-012-1

Applicable Standard(s)

- EOP-011-3 Emergency Preparedness and Operations
- EOP-012-1 Extreme Cold Weather Preparedness and Operations

Requested Retirement(s)

- EOP-011-2

Prerequisite Standard(s)

- None

Proposed Definition(s)

- [Generator Cold Weather Critical Component](#)
- [Extreme Cold Weather Temperature](#)
- [Generator Cold Weather Reliability Event](#)

Applicable Entities

- See subject Reliability Standards.

Background

The purpose of Project 2021-07 is to develop Reliability Standards to enhance the reliability of the Bulk Electric System (BES) through improved operations, preparedness, and coordination during extreme cold weather, as recommended by the Federal Energy Regulatory Commission (FERC), NERC, and Regional Entity Joint Staff Inquiry into the February 2021 extreme cold weather event¹ ([the “Report”](#)).¹

[The February 2021 Event](#)

From February 8 through 20, 2021, extreme cold weather and precipitation caused large numbers of generating units to experience outages, derates, or failures to start, resulting in energy and transmission emergencies (referred to as “the Event”). The total Event firm load shed was the

¹ See FERC, NERC and Regional Entity Staff Report, *The February 2021 Cold Weather Outages in Texas and the South Central United States* (Nov. 2021) (referred to as “the Report”).

largest controlled firm load shed event in U.S. history and was the third largest in quantity of outaged megawatts (MW) of load after the August 2003 northeast blackout and the August 1996 west coast blackout. The Event was most severe from February 15 through February 18, 2021, and it contributed to power outages affecting millions of electricity customers throughout the regions of ERCOT, SPP, and MISO South.

Extreme cold weather has repeatedly challenged the reliable operation of the bulk-power system (BPS). The Event ~~is~~ was the fourth in the past 10 years which jeopardized BPS reliability. In February 2011, an arctic cold front impacted the southwest U.S. and resulted in numerous generation outages, natural gas facility outages, and emergency power grid conditions with firm customer load shed. In January 2014, a polar vortex affected Texas, central and eastern U.S, which triggered many generation outages, natural gas availability issues, and resulted in emergency conditions including load shed. In January 2018, an arctic high-pressure system and below average temperatures in the south-central U.S. resulted in many generation outages and voluntary load management measures.

Project 2021-07

Project 2021-07 is a two-phase project to address the 10 sub-recommendations in Key Recommendation 1 of the Report for new or enhanced NERC Reliability Standards. This implementation plan addresses Reliability Standards EOP-011-3 and EOP-012-1, which were developed to address the first phase of Reliability Standards recommendations.

Proposed Reliability Standard EOP-012-1 is a new extreme cold weather preparedness and ~~operation~~ operations Reliability Standard that addresses Recommendations 1d, 1e, and 1f of the Report. This standard includes requirements for implementing freeze protection measures for new and existing BES generating units to operate at location-specific temperature (Requirements R1 and R2), and for addressing the causes of outages, de-rates, and failures to synchronize caused by freezing (Requirement R6). For accountability, the proposed Reliability Standard includes a requirement to implement any required Corrective Action Plans under the standard and update such plans if actions or timetables change (Requirement R7). The proposed Reliability Standard also includes requirements for cold weather preparedness plans and training (Requirements R3 and R5), originally included in Reliability Standard EOP-011-2 ~~by Project 2019-06, Cold Weather Preparedness and Communication Requirements between Functional Entities~~. Proposed Reliability Standard EOP-012-1 builds upon the existing cold weather preparedness plans and training requirements by requiring entities to periodically review their local cold weather conditions to ensure the continued ~~validity~~ effectiveness of cold weather operating plans and freeze protection measures (Requirement R4) by making any updates that are needed based on changes in the local weather, and by specifying that cold weather training under Requirement R5 must be completed on an annual basis.

Proposed Reliability Standard EOP-011-3 is a revised Reliability Standard that addresses Recommendation 1j of the Report, minimizing the overlap of manual Load shed and automatic Load shed programs such as underfrequency Load shed (UFLS) and undervoltage Load shed (UVLS). This revision also removes Requirements R7 and R8, as this language was moved to the new EOP-012-1, noted above.

General Considerations

This implementation plan reflects consideration that entities will need time to develop, implement, and maintain cold weather plans and freeze protection measures. This implementation plan covers the key recommendations from the Report identified for phase one only, Recommendations 1d, 1e, 1f, and 1j.

Effective Date and Phased-In Compliance Dates

The effective dates for the proposed Reliability Standards are provided below. Where the standard drafting team identified the need for a longer implementation period for compliance with a particular section of a proposed Reliability Standard (i.e., an entire Requirement or a portion thereof), the additional time for compliance with that section is specified below. The phased-in compliance date for those particular sections represents the date that entities must begin to comply with that particular section of the Reliability Standard, even where the Reliability Standard goes into effect at an earlier date.

Please see Figure 1 EOP-012 Implementation Timeline below for an illustration of the implementation timeline in those jurisdictions where governmental approval is required.

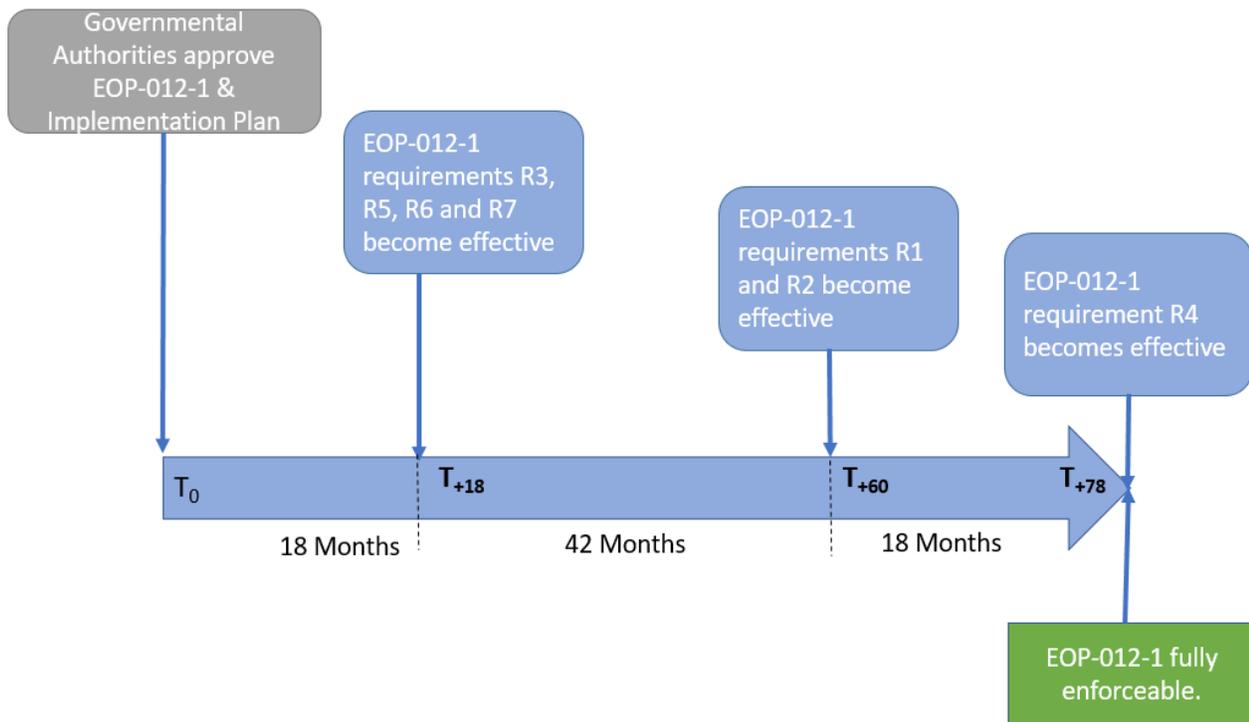


Figure 1 EOP-012 Implementation Timeline

Standard EOP-011-3

Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 18 months after the effective date of

the applicable governmental authority's order approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is 18 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Standard EOP-012-1

Where approval by an applicable governmental authority is required, the standard shall become effective on the first day of the first calendar quarter that is 18 months after the effective date of the applicable governmental authority's order approving the standard, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is 18 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Compliance Date for EOP-012-1 - Requirement R1 and R2

Entities shall not be required to comply with Requirement R1 and R2 until 42 months after the effective date of Reliability Standard EOP-012-1.

Compliance Date for EOP-012-1 - Requirement R4

Entities shall not be required to comply with Requirement R4 until 60 months after the effective date of Reliability Standard EOP-012-1.

Retirement Date

Standard EOP-011-2

Reliability Standard EOP-011-2 shall be retired immediately prior to the effective date of Reliability ~~Standard Standards~~ EOP-011-3 and EOP-012-1 in the particular jurisdiction in which the revised ~~standard is standards are~~ becoming effective.

Initial Performance of Periodic Requirements

Entities shall perform their first periodic review under Reliability Standard EOP-012-1 Requirement R4 by the Compliance Date (i.e. no more than 60 months after the effective date of EOP-012-1). Subsequent periodic reviews under Requirement R4 shall be performed once every five calendar years.