

# Implementation Plan

## Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination – Reliability Standards EOP-011-4 and TOP-002-5

### Applicable Standard(s)

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

### Requested Retirement(s)

- EOP-011-3
- TOP-002-4

### Prerequisite Standard(s)

- None

### Proposed Definition(s)

- None

### 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 event (the “Joint Inquiry Report”).<sup>1</sup>

### 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 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

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<sup>1</sup> 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 Joint Inquiry Report”).

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 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 Joint Inquiry Report for new or enhanced NERC Reliability Standards. Phase 1 of this project developed Reliability Standards EOP-011-3 and EOP-012-1. This implementation plan addresses Reliability Standards EOP-011-4 and TOP-002-5, which were developed to address the Phase 2 recommendations.

Proposed Reliability Standard EOP-011-4 is a revised Reliability Standard that builds upon changes first made in Reliability Standard EOP-011-3 to address Recommendation 1j of the Joint Inquiry Report regarding minimizing the overlap of manual Load shed and automatic Load shed programs such as underfrequency Load shed (UFLS) and undervoltage Load shed (UVLS). Proposed EOP-011-4 includes new requirements for excluding critical natural gas loads from load shed programs during periods where their participation could adversely impact the BES and for relevant entities to develop Operating Plan(s) addressing load shed considerations in response to Recommendations 1h and 1l of the Joint Inquiry Report.

Proposed Reliability Standard TOP-002-5 is a revised Reliability Standard that would require the Balancing Authority to specifically address extreme cold weather in its Operating Plans, including developing a methodology to determine the number of resources that can reasonably be expected to be available during extreme cold weather conditions. These revisions were developed to address Key Recommendation 1g of the Joint Inquiry Report.

### **General Considerations**

This implementation plan reflects consideration that entities will need time to develop, implement, and maintain enhanced cold weather plans and freeze protection measures, as follows:

For proposed Reliability Standard EOP-011-4, this plan reflects consideration of the interaction that will be required between applicable entities and natural gas entities, as well as the fact that several entities (Distribution Provider, UFLS-Only Distribution Provider, and Transmission Owner) will have obligations under this standard for the first time under proposed Requirement R7.

For proposed TOP-002-5, this implementation plan reflects consideration of the time needed to develop and implement a new extreme cold weather Operating Process under proposed Requirement R8.

### **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.

#### **Reliability Standard EOP-011-4**

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.

#### **Reliability Standard TOP-002-5**

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 12 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 12 months after the date the standard is adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

### **Retirement Date**

#### **Reliability Standards EOP-011-3 and TOP-002-4**

Reliability Standards EOP-011-3 and TOP-002-4 shall be retired immediately prior to the effective date of Reliability Standards EOP-011-4 and TOP-002-5 in the particular jurisdiction in which the revised standards are becoming effective.