

Unofficial Comment Form

Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination

Do not use this form for submitting comments. Use the [Standards Balloting and Commenting System \(SBS\)](#) to submit comments on **Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination Standard Authorization Request (SAR)** by 8 p.m. Eastern, December 21, 2021.

Additional information is available on the [project page](#). If you have questions, contact Senior Standards Developer, [Alison Oswald](#) (via email), or at 404-446-9668.

Background Information

The primary purpose of this project is to address reliability related findings from the FERC, NERC, and Regional Entity Joint Staff Inquiry into the February 2021 Cold Weather Grid Operations (“Joint Inquiry”). From February 8 through February 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 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. Additionally, the February 2021 event is the fourth cold weather event in the past 10 years which jeopardized bulk-power system reliability.

The Project Scope will address nine recommendations for new or enhanced NERC Reliability Standards proposed by the Joint Inquiry into the February 2021 Cold Weather Grid Operations which were presented at the September 23, 2021 FERC Open Meeting¹. The final Joint Inquiry report was published on November 16, 2021².

¹ [February 2021 Cold Weather Grid Operations: Preliminary Findings and Recommendations - Full Presentation | Federal Energy Regulatory Commission \(ferc.gov\)](#)

² [The February 2021 Cold Weather Outages in Texas and the South Central United States | FERC, NERC and Regional Entity Staff Report | Federal Energy Regulatory Commission](#)

Questions

1. Please use the following subparts to indicate which Reliability Standards you believe should be revised to address the recommendations in the FERC/NERC Joint Inquiry report

- a. Which Reliability Standard(s) should be revised to address the recommendation: “Generator Owners are to identify and protect cold-weather-critical components and systems for each generating unit. Cold-weather-critical components and systems are those which are susceptible to freezing or otherwise failing due to cold weather, and which could cause the unit to trip, derate, or fail to start.”

Comments: TAPS does not take a position regarding which standard is the appropriate home for the proposed new GO/GOP requirements, but we urge the SDT to consolidate the proposed GO/GOP requirements in a single standard to the extent possible, for ease of reference.

- b. Which Reliability Standard(s) should be revised to address the recommendation: “Generator Owners are to design new or retrofit existing generating units to operate to a specified ambient temperature and weather conditions (e.g., wind, freezing precipitation). The specified ambient temperature and weather conditions should be based on available extreme temperature and weather data for the generating unit’s location, and account for the effects of precipitation and accelerated cooling effect of wind.”

Comments: TAPS does not take a position regarding which standard is the appropriate home for the proposed new GO/GOP requirements, but we urge the SDT to consolidate the proposed GO/GOP requirements in a single standard to the extent possible, for ease of reference.

- c. Which Reliability Standard(s) should be revised to address the recommendation: “Generator Owners and Generator Operators are to conduct annual unit-specific cold weather preparedness plan training.”

Comments: TAPS does not take a position regarding which standard is the appropriate home for the proposed new GO/GOP requirements, but we urge the SDT to consolidate the proposed GO/GOP requirements in a single standard to the extent possible, for ease of reference.

- d. Which Reliability Standard(s) should be revised to address the recommendation: “Generator Owners that experience outages, failures to start, or derates due to freezing are to review the generating unit’s outage, failure to start, or derate and develop and implement a corrective action plan for the identified equipment, and evaluate whether the plan applies similar equipment for its other generating units.”

Comments: TAPS does not take a position regarding which standard is the appropriate home for the proposed new GO/GOP requirements, but we urge the SDT to consolidate the proposed GO/GOP requirements in a single standard to the extent possible, for ease of reference.

- e. Which Reliability Standard(s) should be revised to address the recommendation: “The Reliability Standards should be revised to provide greater specificity about the relative roles of

the Generator Owners, Generator Operators and Balancing Authorities in determining the generating unit capacity that can be relied upon during “local forecasted cold weather,” which is language from the revised Reliability Standard TOP-003-5, R2.3. -Each Generator Owner/Generator Operator should be required to provide the Balancing Authority with the percentage of the total generating unit capacity that the Generator Owner/Generator Operator reasonably believes the Balancing Authority can rely upon during the “local forecasted cold weather,” including reliability risks related to natural gas fuel contracts. -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 each individual generating unit’s total capacity that it can rely upon during the “local forecasted cold weather,” and share its calculation with the Reliability Coordinator. Each Balancing Authority should be required to use that calculation of the percentage of total generating capacity that it can rely upon to “prepare its analysis functions and Realtime monitoring,” and to “manag[e] generating resources in its Balancing Authority Area to address . . . fuel supply and inventory concerns” as part of its Capacity and Energy Emergency Operating Plans.”

Comments: TAPS does not take a position regarding which standard is the appropriate home for the proposed new GO/GOP requirements, but we urge the SDT to consolidate the proposed GO/GOP requirements in a single standard to the extent possible, for ease of reference.

- f. Which Reliability Standard(s) should be revised to address the recommendation: “In EOP-011-2, R7.3.2, Generator Owners are to account for the effects of precipitation and accelerated cooling effect of wind when providing temperature data.”

Comments: TAPS does not take a position regarding which standard is the appropriate home for the proposed new GO/GOP requirements, but we urge the SDT to consolidate the proposed GO/GOP requirements in a single standard to the extent possible, for ease of reference.

- g. Which Reliability Standard(s) should be revised to address the recommendation: “To protect critical natural gas infrastructure from manual and automatic load shedding in order to avoid adversely affecting bulk-power system reliability, Balancing Authorities’ and Transmission Operators’ (TOPs) provisions for operator-controlled manual load shedding are to include processes for identifying and protecting critical natural gas infrastructure loads in their respective areas from firm load shed. Critical natural gas infrastructure loads are natural gas production, processing and intrastate and interstate pipeline facility loads which, if de-energized, could adversely affect the provision of natural gas to bulk-power system natural gas-fired generation.”

Comments:

- h. Which Reliability Standard(s) should be revised to address the recommendation: “Balancing Authorities’ operating plans (for contingency reserves and to mitigate capacity and energy

emergencies) are to prohibit use of critical natural gas infrastructure loads for demand response.”

Comments:

- i. Which Reliability Standard(s) should be revised to address the recommendation: “In minimizing the overlap of manual and automatic load shed, the load shed procedures of Transmission Operators, Transmission Owners (TOs) and Distribution Providers (DPs) should separate the circuits that will be used for manual load shed from circuits used for underfrequency load shed (UFLS), undervoltage load shed (UVLS) or serving critical load. UFLS/UVLS circuits should only be used for manual load shed as a last resort and for UFLS circuits, should start with the final stage (lowest frequency).”

Comments:

2. Do you believe there are alternatives or more cost effective options to address the recommendations the in FERC/NERC Joint Inquiry report? If so, please provide your recommendation and, if appropriate, technical or procedural justification.

- Yes
 No

Comments: Recommendation 1b (“Generator Owners are to design new or retrofit existing generating units to operate to a specified ambient temperature and weather conditions.... The specified ambient temperature and weather conditions should be based on available extreme temperature and weather data for the generating unit’s location, and account for the effects of precipitation and accelerated cooling effect of wind”) does not indicate which entity should determine the “specified ambient temperature and weather conditions.” This responsibility should lie with the Generator Owner: each GO should determine the conditions to which it can economically retrofit each generating unit, in light of available extreme weather and temperature data, and inform its BA of its limitations. The BA can then plan accordingly. GOs’ decisions regarding the conditions to which they retrofit or design their units may well have implications for capacity markets, resource adequacy requirements, etc. Any such market and resource adequacy implications, however, are explicitly beyond NERC’s purview, and must be addressed by entities with responsibility for those areas.

The alternative—charging a different entity, such as the BA or RC, with determining the specified ambient temperature and weather conditions—may be superficially appealing, but TAPS is concerned that doing so would aggravate resource adequacy issues by causing the retirement of economically marginal generators that could otherwise continue to provide reliable service under most weather conditions. So long as entities with planning responsibilities are aware of and account for generators’ limitations, it is better to have a generator that can reliably operate in *most* weather, than to lose that generator in *all* weather.

TAPS notes as well that, even aside from the counterproductive effect noted above, designating the local record low as the “specified ambient temperature” for all generators is not a reasonable solution: given current weather trends, records may well change over the life of a generator. A reliability standard should not force every generator to undergo another round of retrofitting each time a new record is set; those decisions should be made on a case-by-case basis in light of the then-current generation mix and winter capacity needs of the region.

3. Provide any additional comments for the SAR drafting team to consider, if desired.

Comments: