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FERC Directs NERC to Further Enhance Extreme Cold Weather Reliability Standards for Generation Resources

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On February 16, 2023, the Federal Energy Regulatory Commission (FERC or the "Commission") issued an order approving two new extreme cold weather reliability standards for generation resources proposed by the North American Electric Reliability Corporation (NERC): EOP-011-3 (Emergency Operations) and EOP-012-1 (Extreme Cold Weather Preparedness and Operations).[1] These standards were proposed by NERC following a November 2021 FERC/NERC report on Winter Storm Uri that recommended additional measures to mitigate the reliability risks of cold weather events, including freeze protection measures, enhanced weather preparedness plans, annual training and coordination of load shedding.

Notably, however, FERC found that EOP-012-1's ill-defined terms, broad exemptions and delayed compliance timelines failed to do enough to ensure the reliable operation of bulk electric system generation resources during extreme winter weather events. FERC thus directed NERC to submit a filing, within 12 months, modifying that standard to:

- Capture "all bulk electric system generation resources needed for reliable operation and exclude[] only those generation resources not relied upon during freezing conditions."[2]
- Ensure that variable energy resources (e.g., solar and wind) are not excluded from complying with the standard.
- Extend the minimum run time required of generating units implementing freeze protection measures.
- Shorten the timeline for existing generation units to implement freeze protection measures.

- Submit a plan outlining how NERC will collect and assess information related to generator performance and the adequacy of the standard.

The Order underscores the increased emphasis the Commission has placed on addressing winter reliability risks in light of recent cold weather events. At the meeting approving the standards, Chairman Willie Phillips observed that the proposal was an "incremental step" but "an important step" toward addressing reliability issues associated with extreme cold weather events. The Order also evinces a willingness on the part of the Commission to push NERC towards adopting more rigorous standards when it believes that the standards development process has not arrived at a solution that the Commission believes is capable of addressing reliability needs.

Overview of NERC Winter Reliability Standards

1. Existing Winter Reliability Standards

The reliability standards approved in the Order build upon an initial round of cold weather reliability standards that were approved by the Commission in August 2021—Reliability Standards EOP-011-2, IRO-010-4 and TOP-003-5—that are set to go into effect on April 1, 2023.[3] Collectively, these standards require:

- Generators to develop cold weather preparedness plans including freeze protection measures, annual inspections and maintenance measures, and cold weather data and operating limitations.
- Generators to provide unit-specific training on cold weather preparedness plans.
- Transmission operators, reliability coordinators and balancing authorities to include cold weather data and information in their data specifications.
- Transmission operators and balancing authorities to include provisions addressing reliability impacts of cold weather conditions in emergency operating plans.

2. New Winter Reliability Standards

In its petition, NERC proposed to modify and expand upon the reliability standards approved in August 2021 in several respects.

a. EOP-012-1 (Extreme Cold Weather Preparedness and Operations)

First, NERC proposed a new reliability standard, EOP-012-1, intended to "address the effects of operating in extreme cold weather by ensuring each Generator Owner has developed and implemented plan(s) to mitigate the reliability impacts of extreme cold weather on its generating units."[4] In its petition for approval of the new standard, NERC proposed to apply EOP-012-1 to each generating unit on the bulk electric system that (a) commits or is obligated to serve load pursuant to a tariff obligation, state requirement or other contractual arrangement, rule or regulation for a continuous run time of four hours or more at a temperature of 32 degrees Fahrenheit or (b) is a blackstart resource. By excluding generating units that are not being depended on to operate in cold weather, NERC argued that the proposed standard would protect reliability while avoiding imposing undue burdens on generating units.

EOP-012-1 includes seven individual requirements, two of which expand upon existing standards that were proposed by the Commission in 2021:

- New generator units must either (i) be capable of operating at the Extreme Cold Weather Temperatures,[5] as defined in the standard, for a continuous 12-hour period or (ii) declare that technical, commercial or operational constraints prevent such continuous operation.
- Existing generator units must either (i) be capable of continuous operation for at least one hour at the Extreme Cold Weather Temperatures, as defined in the standard or (ii) develop a corrective action plan to address the unit's inability to meet such operating requirement.
- Generators must implement cold weather preparedness plans.
- Every five years, each generator must calculate the Extreme Cold Weather Temperature, as defined in the standard, and update its cold weather preparedness plan if the result is lower than the previous calculation, review its documented generating unit minimum temperature documented in its plan and review whether its generating unit has the freeze protection necessary to operate at the defined Extreme Cold Weather Temperature and, if not, develop a corrective action plan.
- Generators must train their personnel on the cold weather preparedness plan developed annually.
- A generator that experiences an outage, failure to start or derate due to freezing conditions must develop a corrective action plan to address the cause.

- A generator shall implement a corrective action plan if required pursuant to one of the above requirements or explain in a declaration why it is not implementing such a plan due to technical, commercial or operational constraints.

b. EOP-011-3 (Emergency Operations)

NERC's proposed Reliability Standard EOP-011-3 expanded on the existing requirements of EOP-011-2 by adding new requirements mandating that transmission operators include in their operating plans requirements that minimize the overlap between manual load shed circuits and circuits that serve critical load, as well as between circuits that are designed for manual load shed and circuits that are used for underfrequency load shedding (UFLS) or undervoltage load shedding (UVLS). It also requires the addition of provisions restricting manual load shed of UFLS or UVLS circuits to circumstances warranted by system conditions. By requiring greater separation of the circuits for load shedding, the purpose of these requirements is to help identify and prioritize service to critical loads during stressed system conditions.

Overview of the Order

In the Order, the Commission approved Reliability Standards EOP-011-3 and EOP-012-1, but directed NERC to modify EOP-012-1. While the Commission found NERC's proposed Reliability Standard EOP-012-1 to be an "improvement to the Reliability Standards" that "enhances the reliability operation of the Bulk-Power System," it ultimately concluded that the new standard did not go far enough in certain respects and that NERC's proposed timeline for implementation of the standard was too delayed given the severity of winter reliability risks. In particular:

- FERC expressed concern regarding the potential ambiguity of the scope of entities subject to EOP-012-1, as well as specified exemptions from the standard, on the basis that the standard may not encompass the full range of generation resources that are depended upon to operate in cold weather. Accordingly, FERC directed NERC to modify the standard to ensure that it captures all generation resources needed for reliability operations and noted that "excluded generating units [should be] the exception and not the rule."[6]
- FERC directed NERC to modify the standard to include auditable criteria on permissible technical, commercial and operational constraints that preclude the implementation of freeze protection required by the standard and to further clarify the consequence of declaring such a constraint.

- FERC found that it was unclear how the 12-hour continuous operation requirement would apply to variable energy resources, such as solar- and wind-powered generating facilities. The Commission explained that it was concerned that the requirement, as proposed by NERC, would allow solar generators that are technically incapable of operating for 12 continuous hours in cold, dark winter months from complying. The Commission thus directed NERC to revise the standard "to ensure that generators that are technically incapable of operating for 12 continuous hours . . . are not excluded from complying" with the standard.[7]
- The Commission found that the requirement that generators be capable of operating for at least one hour during Extreme Cold Weather Temperatures, as defined in the standard, to simply be insufficient. Notably, Commissioner Allison Clements remarked that NERC's proposed "critical generator weatherization requirements as proposed [were], to be frank, not up to the task," given that they would have required "existing generators to weatherize so they are capable of operating for one hour at extreme cold temperatures beginning in April of 2027." That, in her view, did not "bring comfort that we can get through a multi-day winter event like Winter Storm Uri, and waiting for four additional winters before weatherization requirements kick in does not reflect the urgency we feel."[8]
- FERC found the lack of deadlines for a generator to implement a corrective action plan concerning and directed NERC to incorporate deadlines explicitly into the standard.

FERC also expressed concern about NERC's proposed 60-month implementation plan for existing generation units and found that NERC must establish a shorter implementation timeline and provide for phased implementation for existing generator fleets. In justifying this shift, the Commission noted that the industry has been aware of the need for greater winterization measures since at least 2011 and, as Commissioner Clements noted, waiting four more winters is not acceptable.

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[1] *N. Am. Elec. Reliability Corp.*, 182 FERC ¶ 61,094 (2023) (the "Order").

[2] *Id.* at P 4.

[3] *N. Am. Elec. Reliability Corp.*, 176 FERC ¶ 61,119 (2021).

[4] NERC Petition at 29 (available here).

[5] Extreme Cold Weather Temperature is defined as equal to the lowest 0.2 percentile of the hourly temperatures measured in December, January and February from January 1, 2000 through the date the temperature is calculated. Order at P 69.

[6] Order at P 4.

[7] *Id.* at P 7.

[8]February 2023 Commission Meeting: Opening Remarks of Commissioner Allison Clements (available here).

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