NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Directives from FERC June 2024 Order Approving EOP-012-2 and Directing Further Revisions

Project 2024-03 Revisions to EOP-012-2

Summary

This mapping document summarizes how the Project 2024-03 drafting team (DT), and the Standards Committee in carrying out its responsibilities under Section 321 of The North American Electric Reliability Corporation (NERC) Rules of Procedure, considered The Federal Energy Regulatory Commission's (FERC's) directives for further revisions to Reliability Standard EOP-012-2 in its June 27, 2024 approval order[1] when drafting proposed EOP-012-3.

Paragraph 47 – Address Ambiguities Regarding the term Generator Cold Weather Constraint and Criteria

Directive

"Accordingly, we direct NERC, pursuant to section 215(d)(5) of the FPA, to develop and submit to the Commission for approval modifications to proposed Reliability Standard EOP-012-2 that address concerns related to the ambiguity of the newly defined Generator Cold Weather Constraint term and criteria. Specifically, we direct NERC to ensure that the Generator Cold Weather Constraint declaration criteria included within the proposed Reliability Standard are objective *and* sufficiently detailed so that applicable entities understand what is required of them. One approach to satisfy this directive could be to incorporate into the proposed Reliability Standard a limited and discrete list of circumstances that would qualify as acceptable constraints. We note that NERC's technical rationale document, created by NERC's Standard Drafting Team(SDT) and included in NERC's filing, includes a list of technical constraints that could serve as a starting point for a list of circumstances that would qualify as acceptable constraints. To the extent that NERC continues to believe that the extent of industry adoption for winterization technologies should be a criterion for declaring a constraint, NERC should clearly explain in its filing how it will assess the extent of such adoption in a way that provides for consistent compliance and enforcement outcomes. Alternatively, NERC could establish a pre-approval process for all Generator Cold Weather Constraint declarations. While a clearly defined list may be preferable, a pre-approval

[1] *N. Am. Elec. Reliability Corp.*., 187 FERC ¶ 61,204 (2024) ("June 2024 Order"). In this document, internal citations included within the cited text of the FERC order are omitted.

process could be established to ensure entities' declared Generator Cold Weather Constraints are appropriate and can be supported and defended. Further, as part of the directive to develop and submit modifications to the Generator Cold Weather Constraint definition of proposed Reliability Standard EOP-012-2, we direct NERC, pursuant to section 215(d)(5) of the FPA, to remove the references to "cost," "reasonable cost," "unreasonable cost," and "good business practices" and replace them with criteria that are objective, unambiguous, and auditable. NERC may propose to develop modifications that address the Commission's concerns in an equally efficient and effective manner, however, NERC must explain how its proposal addresses the Commission's concerns."

Consideration of Directive

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Generator Cold Weather Constraint - Any condition that would preclude a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components using the criteria below. Freeze protection measures are not intended to be limited to optimum practices, methods, or technologies, but are also intended to include acceptable practices, methods, or technologies generally implemented by the electric industry in areas that experience similar winter climate conditions. Criteria used to determine a constraint include practices, methods, or technologies which, given the exercise of reasonable judgment in light of the facts known at the time the decision to declare the constraint was made: • Were not broadly implemented at generating units for comparable unit types in regions that	**Generator Cold Weather Constraint** - Any condition that would preclude a Generator Owner from implementing freeze protection measures on one or more Generator Cold Weather Critical Components. Freeze protection measures are not intended to be limited to optimum practices, methods, or technologies, but are also intended to include practices, methods, or technologies that would be expected to result in improved generating unit performance during cold temperatures. **** **R8.** Each Generator Owner that declares a Generator Cold Weather Constraint in accordance with Attachment 1 shall: **8.1.** Submit its Generator Cold Weather Constraint declaration(s) to the CEA as follows:	Proposed EOP-012-3 along with the modified definition of Generator Cold Weather Constraint removes all of the references to "reasonable cost," "unreasonable cost," "cost," and "good business practices" consistent with the FERC directive. The definition of Generator Cold Weather Constraint now refers generally to a condition that would preclude implementing freeze protection measures, clarifying that freeze protection measures are not limited to just optimum solutions but any solution that may be effective for improving performance. Proposed EOP-012-3 adds Attachment 1, referenced in Requirement R8 and R9, to define the criteria by which a valid Generator Cold Weather Constraint may exist. Attachment 1 consists of:

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experience similar winter climate conditions to provide reasonable assurance of efficacy; • Could not have been expected to accomplish the desired result; or Could not have been implemented at a reasonable cost consistent with good business practices, reliability, or safety. A cost may be deemed "unreasonable" when implementation of selected freeze protection measure(s) are uneconomical to the extent that they would require prohibitively expensive modifications or significant expenditures on equipment with minimal remaining life. *** **R8.** Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: **8.1**. Review the Generator Cold Weather Constraint declaration at least every five calendar years or as needed when a change of status to the Generator Cold Weather Constraint occurs; and **8.2**. Update the operating limitations associated with capability and availability under Requirement R1 Part R1.2 if applicable.	• For Generator Cold Weather Constraints determined in accordance with Requirement R2 for generating unit(s) upon beginning commercial operation, submit within 15 calendar days after commercial operation; or • For all other Generator Cold Weather Constraints, submit within 45 calendar days of determining that the Generator Cold Weather Constraint is applicable. **8.2.** Update the operating limitations under Requirement R1 Part R1.2 if applicable; **8.3.** If the CEA determines the declared Generator Cold Weather Constraint is invalid, update its Corrective Action Plan(s) to require corrective actions be completed in accordance with Requirement R6 or Requirement R7, as applicable, subject to any extensions approved by the CEA, or implement freeze protection measures to provide the necessary capability in accordance with Requirement R2;	1. Known Generator Cold Weather Constraints, consisting of circumstances which, if present and confirmed as valid by the Compliance Enforcement Authority, would constitute Generator Cold Weather Constraints; and 2. Case-by-case Determinations of Generator Cold Weather Constraints, consisting of situations which may constitute Generator Cold Weather Constraints, depending on the specific facts and circumstances. Only upon approval by the Compliance Enforcement Authority would these circumstances comprise a valid Generator Cold Weather Constraint under Requirement R8. Attachment 1 provides significant clarity on the conditions or issues that may constitute a valid Generator Cold Weather Constraint. The criteria are intended to be objective, unambiguous, and auditable. The standard retains flexibility to address potentially valid constraints that are not specifically defined in the standard through the Compliance Enforcement Authority review process. Please refer to the Technical Rationale for additional supporting information.

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	8.4. Document and provide notice to the CEA, when a generating unit experiences a Generator Cold Weather Reliability Event with the same cause of a previous Generator Cold Weather Reliability Event at the same or a similar unit, and one or more corrective actions to address the cause is addressed by an existing validated Generator Cold Weather Constraint for the same or a similar unit. **** **Attachment 1** (criteria for determining the applicability of a Generator Cold Weather Constraint) (*see standard*)	

Paragraph 54: Address Concerns Regarding the Need for a Timely Review and Evaluation of Declared Generator Cold Weather Constraints by NERC

Directive

"Accordingly, we again direct NERC, pursuant to section 215(d)(5) of the FPA, to modify proposed Reliability Standard so that NERC receives, reviews, evaluates, and confirms for validity the Generator Cold Weather Constraint declarations in a timely manner. We also direct NERC to include in its compliance filing, a plan to timely review such declarations to verify compliance with proposed Reliability Standard EOP-012-2 and its successors or obligations in a corrective action plan and take corrective action where necessary. For example, modifying Standard to require the generator owners to provide declarations (or changes to the declarations) to NERC within 45 days. It is up to NERC whether it would like to delegate this task to the relevant Regional Entities. NERC may propose to develop modifications that address the Commission's concerns in an equally efficient and effective manner, however, NERC must explain how its proposal addresses the Commission's concerns."

Consideration of Directive

Consideration of Directive in EOP-012-3		
Approved Definition/Standard	**Revisions in Definition/Standard or Other Action**	**Description and Change Justification**
R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: **8.1**. Review the Generator Cold Weather Constraint declaration at least every five calendar years or as needed when a change of status to the Generator Cold Weather Constraint occurs; and **8.2**. Update the operating limitations associated with capability and availability under Requirement R1 Part R1.2 if applicable.	**R8.** Each Generator Owner that declares a Generator Cold Weather Constraint in accordance with Attachment 1 shall: **8.1.** Submit its Generator Cold Weather Constraint declaration(s) to the CEA as follows: • For Generator Cold Weather Constraints determined in accordance with Requirement R2 for generating unit(s) upon beginning commercial operation, submit within 15 calendar days after commercial operation; or	Requirement R8 would require the Generator Owner declaring a Generator Cold Weather Constraint in accordance with Attachment 1 to submit that constraint to its Compliance Enforcement Authority within 45 days of determining that a Generator Cold Weather Constraint is applicable (for new units, this time is within 15 days of entering commercial operation). This requirement helps ensure the timely submission of constraints to the Compliance Enforcement Authority, which may be NERC or the Regional Entity, for review and approval.

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	• For all other Generator Cold Weather Constraints, submit within 45 calendar days of determining that the Generator Cold Weather Constraint is applicable. **8.2.** Update the operating limitations under Requirement R1 Part R1.2 if applicable; **8.3.** If the CEA determines the declared Generator Cold Weather Constraint is invalid, update its Corrective Action Plan(s) to require corrective actions be completed in accordance with Requirement R6 or Requirement R7, as applicable, subject to any extensions approved by the CEA, or implement freeze protection measures to provide the necessary capability in accordance with Requirement R2; **8.4**. Document and provide notice to the CEA, when a generating unit experiences a Generator Cold Weather Reliability Event with the same cause of a previous Generator Cold Weather Reliability Event at the same or a similar unit, and one or more corrective actions to address the cause is addressed by an existing validated	Attachment 1 contains a list of known Generator Cold Weather Constraints as well as a list of situations, circumstances, and criteria that may constitute a Generator Cold Weather Constraint for which a Generator Owner must include documentation that defends and supports the declared constraint and also describes other compensating or mitigating freeze protection measures, if applicable, that the Generator Owner will apply to the Compliance Enforcement Authority for approval. If the Generator Cold Weather Constraint is determined to be invalid by the Compliance Enforcement Authority, the Generator Owner must update its Corrective Action Plan and implement according to the standard timelines, beginning from the date of notification. As NERC and the Regional Entities are not users, owners, nor operators of the BPS, provisions for the timeliness of Compliance Enforcement Authority review are not included in EOP-012-3. Additional support and detail for how the Compliance Enforcement Authority will review constraints in a timely manner consistent with the FERC directive is provided in the Generator Cold Weather CAP Extension and Constraint Process.

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	Generator Cold Weather Constraint for the same or a similar unit. **** **Attachment 1** (criteria for determining the applicability of a Generator Cold Weather Constraint) (*see standard*)	

Paragraph 68 - Address Concerns that Existing EOP-012-2 Requirement R7 Allows Too Long for Entities to Implement Corrective Actions for Existing or New Equipment or Freeze Protection Measures for those Generating Units that Experience a Generator Cold Weather Reliability Event

Directive

"Accordingly, we direct NERC, pursuant to section 215(d)(5) of the FPA, to develop and submit modifications to Requirement R7 of proposed Reliability Standard EOP-012-2 to require shorter deadlines to implement corrective actions for existing or new equipment or the freeze protection measures for those generating units that experience a Generator Cold Weather Reliability Event. Based on compliance with Requirements R2 and R3, those generating units should have already had appropriate freeze protection measures implemented to be capable of operating at the generating units' respective Extreme Cold Weather Temperature. Therefore, we find that a shorter timeframe to implement corrective actions that address existing or new equipment or freeze protection measures is appropriate. For example, to satisfy this directive, NERC could require generator owners to implement corrective actions prior to the next winter season for generating units that experience a Cold Weather Reliability Event and to complete freeze protection measures on similar equipment on all of its fleet within 24 months of becoming aware of the freeze issue. For corrective action plans that involve larger and more complicated implementations, NERC could incorporate a staggered 48-month corrective action plan implementation deadline."

Consideration of Directive

Consideration of Directive in EOP-012-3		
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R6. Each Generator Owner shall, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1 and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius), develop a Corrective Action Plan when the generating unit experiences a Generator Cold Weather Reliability Event. The Corrective Action Plan shall be developed	**R6.** Each Generator Owner shall, when experiencing a Generator Cold Weather Reliability Event at a generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1 and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius), develop	To address this directive, proposed EOP-012-3 revises Requirement R6 to specify shorter implementation timeframes at generating units experiencing a Generator Cold Weather Event, and removes references to this requirement under Requirement R7, which previously addressed all Corrective Action Plans developed under the EOP-012-2 standard. For Generator Owners experiencing a Generator Cold Weather Event, Corrective Action Plans

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within 150 days or by July 1, whichever is earlier, and contain at a minimum: **6.1.** A summary of the identified cause(s) for the Generator Cold Weather Reliability Event, where applicable, and any relevant associated data; **6.2.** A review of applicability to similar equipment at generating units owned by the Generator Owner; and **6.3.** An identification of operating limitations or impacts to the cold weather preparedness plan that would apply until execution of the corrective action(s) identified in the Corrective Action Plan. **R7**. Each Generator Owner, for each Corrective Action Plan developed pursuant to Requirements R1, R2, R3, or R6, shall: **7.1**. Include a timetable for implementing the selected corrective action(s) that shall: **7.1.1**. List the action(s) which address(es) existing equipment or freeze protection measures, if any, to be completed within 24 calendar months of completing development of the Corrective Action Plan; **7.1.2**. List the action(s) which require(s) new equipment or freeze protection measures, if any, to be completed within 48 calendar months of completing development of the Corrective Action Plan; and	and implement a Corrective Action Plan(s) to address identified issues as follows: **6.1**. The Generator Owner shall develop a Corrective Action Plan for the generating unit that experienced a Generator Cold Weather Reliability Event no later than prior to the first day of the first December following the Generator Cold Weather Reliability Event.[Fn9] **6.2.** The Generator Owner shall conduct a review of the other generating unit(s) in its fleet with the same or similar equipment as the affected generating unit to determine if any of those generating unit(s) are susceptible to the identified freezing issues. If corrective actions are needed, the Generator Owner shall develop or update a Corrective Action Plan to address the other generating unit(s). This review and, if applicable, the development or update of any Corrective Action Plan(s), shall be completed no later than 12 calendar months following the Generator Cold Weather Reliability Event.	must specify implementation of corrective actions at the affected unit (i.e. the one experiencing the event) by no later than the first day of the first December following the event. For events occurring in September, October or November (i.e. prior to December 1), corrective actions shall be implemented prior to the first day of December in the following calendar year. The focus of revised EOP-012-3 Requirement R6 is on the timely completion of corrective actions addressing known freezing issues, rather than the timely development of the Corrective Action Plan document itself. However, for clarity, Requirement R6 Part 6.1 specifies that the Corrective Action Plan(s) itself must be developed by no later than the implementation deadline to ensure that identified issues and the corrective actions taken to address them are memorialized. Recognizing that similar units may be subject to similar issues, Generator Owners must perform a review of applicability to similar equipment at their other units. This review must be completed within 12 months of the Generator Cold Weather Reliability Event. Requirement R6 Part 6.3.5.2 would provide that entities must implement any corrective measures within 24 calendar months of completing this review, or

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7.1.3. List the updates to the cold weather preparedness plan required under Requirement R4 to identify the updates or additions to the Generator Cold Weather Critical Components and their freeze protection measures; **7.2**. Implement the Corrective Action Plan in accordance with the specified timetables in Requirement R7 Part 7.1; **7.3**. Update the Corrective Action Plan action(s) and timetable(s), with justification, if corrective action(s) change or timetable(s) exceed the timelines in Requirement R7 Part 7.1; and **7.4**. Document in a declaration, with justification, any Generator Cold Weather Constraint that precludes the Generator Owner from implementing selected action(s) contained within the Corrective Action Plan.	**6.3.** For each Corrective Action Plan, the Generator Owner shall include at a minimum: **6.3.1.** A summary of the identified cause(s) of the Generator Cold Weather Reliability Event, where applicable, and any relevant associated data; **6.3.2.** A list of actions to add new freeze protection measures or remedy issues with existing freeze protection measures; **6.3.3.** An identification of operating limitations on the generating unit(s), or impacts to the cold weather preparedness plan, if any, that would apply until implementation of the corrective action(s) identified in the Corrective Action Plan is completed; **6.3.4.** A description of the updates to the cold weather preparedness plan required under Requirement R4 to identify updates or additions to the Generator Cold Weather Critical Components	by no later than 36 months following the Generator Cold Weather Reliability Event. In developing these timelines, the drafting team and the Standards Committee considered multiple stakeholder comments suggesting that a 24-month timeline to implement corrective actions measured from the date of the event for similarly affected units would not be practical and may be unduly burdensome. The drafting team and the Standards Committee also considered the difficulties of defining, with specificity, the circumstances that would constitute "larger and more complicated implementations" – which FERC suggested may warrant a longer implementation period than provided in draft EOP-012-3 (e.g. 48 months compared to up to 36 months in EOP-012-3). To address these considerations, EOP-012-3 provides a uniform implementation period that incentivizes entities to understand the extent of condition across their fleets as soon as possible after the event and provides a definitive and reasonably expeditious timeline for completion. To the extent circumstances beyond the control of the Generator Owner prevent implementation within these timeframes, Requirement R6 Part 6.4 provides a process by which the Generator Owner may seek an

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	and their freeze protection measures, if required; and **6.3.5.** A timetable specifying that implementation of the Corrective Action Plan(s) shall be completed as follows **6.3.5.1.** For the generating unit experiencing the Generator Cold Weather Reliability Event, prior to the first day of the first December following the Generator Cold Weather Reliability Event. [Fn10] **6.3.5.2.** For other generating unit(s) owned by the Generator Owner, within 24 calendar months of completing the review required in Part 6.2, or no later than 36 months following the Generator Cold Weather Reliability Event. **6.4** If a Generator Owner determines it will be unable to complete one or more of the actions in a Corrective Action Plan in accordance with the timetables specified in Requirement R6 Part 6.3.5 due to circumstances	extension from the Compliance Enforcement Authority. This process is similar to that included in Requirement R7, discussed more fully in the following section. This provision addresses those larger and more complicated implementations for which even an up to 36 months implementation deadline may not be feasible.

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	beyond its control, the Generator Owner shall submit a Corrective Action Plan extension request to the Compliance Enforcement Authority (CEA) for approval. The submitted Corrective Action Plan extension request shall include the following: **6.4.1.** An explanation of the circumstances causing the delay and why those circumstances are beyond the control of the Generator Owner; **6.4.2.** Revisions to the selected actions in Part 6.3.2, if any, including utilization of operating procedures, if applicable; and **6.4.3.** Updated timetable for implementing the selected actions in Part 6.3.2. **6.5** The Generator Owner shall document in a declaration, with justification, if applicable, any Generator Cold Weather Constraint in accordance with Requirement R8, as applicable.	

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	[Fn9/Fn10]: For events that occur in September, October or November, the timetable shall specify completion prior to December 1 of the following calendar year. **** **R7.** Each Generator Owner that is required to develop a Corrective Action Plan under Requirements R1, R3, or R9 shall develop and implement the Corrective Action Plan in accordance with the following:	

Paragraph 70: Address the Finding that Any Extensions of a Corrective Action Plan Implementation Deadline Beyond the Maximum Implementation Timeframe Provided by the Standard be Pre-Approved by NERC

Directive

"Therefore, we direct NERC, pursuant to section 215(d)(5) of the FPA, to develop and submit modifications to Requirement R7 of proposed Reliability Standard EOP-012-2 to ensure that any extension of a corrective action plan implementation deadline beyond the maximum implementation timeframe required by the proposed Reliability Standard is pre-approved by NERC. This approach is consistent with prior Commission action in Order No. 851 where the Commission directed NERC to require pre-approval for extensions beyond the timelines required in the Reliability Standard. In Order No. 851, the Commission explained that although case-by-case extension determinations may be more uncertain or have associated burdens, the more compelling imperative is that automatic extensions have the potential for abuse by unduly delaying mitigation, and would lead to delayed visibility for NERC."

See also P 3 (summarizing directives): "[W]e direct NERC to:… develop and submit modifications to Requirement R7 of proposed Reliability Standard EOP-012-2 to ensure that any extension of a corrective action plan implementation deadline beyond the maximum implementation timeframe required by the Standard is pre-approved by NERC and to ensure that the generator owner informs relevant registered entities of operating limitations in extreme cold weather during the period of the extension."

Consideration of Directive

Consideration of Directive in EOP-012-3		
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R6. Each Generator Owner shall, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1 and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius), develop a Corrective Action Plan when the generating unit experiences a Generator Cold Weather Reliability	**6.4** If a Generator Owner determines it will be unable to complete one or more of the actions in a Corrective Action Plan in accordance with the timetables specified in Requirement R6 Part 6.3.5 due to circumstances beyond its control, the Generator Owner shall submit a Corrective Action Plan extension request to the Compliance Enforcement Authority for	To address this directive, proposed EOP-012-3 adds new Requirement R6, Part 6.4, and Requirement R7 Part 7.2 to require any Generator Owner seeking to extend a Corrective Action Plan implementation deadline beyond the maximum implementation timeframe required by the standard seeks pre-approval of the extension by the Compliance Enforcement Authority. This language is similar to that used in

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Event. The Corrective Action Plan shall be developed within 150 days or by July 1, whichever is earlier, and contain at a minimum: **6.1.** A summary of the identified cause(s) for the Generator Cold Weather Reliability Event, where applicable, and any relevant associated data; **6.2.** A review of applicability to similar equipment at generating units owned by the Generator Owner; and **6.3.** An identification of operating limitations or impacts to the cold weather preparedness plan that would apply until execution of the corrective action(s) identified in the Corrective Action Plan. **** **R7**. Each Generator Owner, for each Corrective Action Plan developed pursuant to Requirements R1, R2, R3, or R6, shall: **7.1**. Include a timetable for implementing the selected corrective action(s) that shall: **7.1.1**. List the action(s) which address(es) existing equipment or freeze protection measures, if any, to be completed within 24 calendar months of completing development of the Corrective Action Plan; **7.1.2**. List the action(s) which require(s) new equipment or freeze protection measures, if any, to be completed within 48 calendar	approval. The submitted Corrective Action Plan extension request shall include the following: **6.4.1.** An explanation of the circumstances causing the delay and why those circumstances are beyond the control of the Generator Owner; **6.4.2.** Revisions to the selected actions in Part 6.3.2, if any, including utilization of operating procedures, if applicable; and **6.4.3.** Updated timetable for implementing the selected actions in Part 6.3.2. **** **7.1.** For each Corrective Action Plan, the Generator Owner shall include at a minimum the following: *** **7.1.4.** An identification of operating limitations on the generating unit(s), or impacts to the cold weather preparedness plan, if any, that would apply until implementation of the corrective	the TPL-007 standard, and the ERO Enterprise would follow a similar review process. With respect to that part of Paragraph 3 relating to "ensuring the generator owner informs relevant registered entities of operating limitations in extreme cold weather during the period of the extension": Under EOP-012-3 Requirement R6 Part 6.3.3, pertaining to units experiencing a Generator Cold Weather Event, the Generator Owner would be required to identify operating limitations that would apply until execution of the Corrective Action Plan. Under EOP-012-3 Requirements R2 and R3, a Corrective Action Plan would be required where the Generator Owner cannot meet the required operational capability for its unit. Requirement R7 Part 7.1 addresses what generators must include in their Corrective Action Plans, including operating limitations that apply until implementation of the corrective actions is completed (Part 7.1.4). The TOP-003 and IRO-010 standards require the Transmission Operator, Balancing Authority, and Reliability Coordinator to maintain data specifications for their real-time and operational

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months of completing development of the Corrective Action Plan; and **7.1.3**. List the updates to the cold weather preparedness plan required under Requirement R4 to identify the updates or additions to the Generator Cold Weather Critical Components and their freeze protection measures; **7.2**. Implement the Corrective Action Plan in accordance with the specified timetables in Requirement R7 Part 7.1; **7.3**. Update the Corrective Action Plan action(s) and timetable(s), with justification, if corrective action(s) change or timetable(s) exceed the timelines in Requirement R7 Part 7.1; and **7.4**. Document in a declaration, with justification, any Generator Cold Weather Constraint that precludes the Generator Owner from implementing selected action(s) contained within the Corrective Action Plan.	action(s) identified in the Corrective Action Plan is completed. **7.2.** If a Generator Owner determines it will be unable to complete one or more of the actions in a Corrective Action Plan in accordance with the timetables specified in Requirement R7 Part 7.1 due to circumstances beyond its control, the Generator Owner shall submit a Corrective Action Plan extension request to the CEA for approval. The submitted Corrective Action Plan extension request shall include the following: **7.2.1.** An explanation of the circumstances causing the delay and how those circumstances are beyond the control of the Generator Owner; **7.2.2.** Revisions to the selected actions in Parts 7.1, if any, including utilization of operating procedures, if applicable; and **7.2.3.** Updated timetable for implementing the selected actions in Part 7.1.	planning analyses that include provisions for notification of BES generating unit(s) status during local forecasted cold weather to include operating limitations based on capability and availability, among other factors. These standards require the Generator Owner to provide the requested data. Additionally, other mechanisms that reliability entities have for obtaining up-to-date information on the status and availability of generators was discussed during the development process. It was also considered that, under Reliability Standard TOP-002-5 Requirement R8, each Balancing Authority is required to have an extreme cold weather Operating Process that takes into consideration capability and availability concerns, considering generating operating limitations from previous cold weather periods. After considering these standards, it was determined that no additional requirement would be needed to ensure the “generator owner informs relevant registered entities of operating limitations in extreme cold weather” specifically during the period of Corrective Action Plan extension. Operating limitations should be communicated through other mechanisms regardless of whether those

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		operating limitations apply generally, during the time period provided in the Corrective Action Plan for implementation, or the period provided authorized by the CEA for an extension. To the extent a Transmission Operator, Balancing Authority, or Reliability Coordinator would find the additional detail useful (i.e. that the operating limitation applies during a Corrective Action Plan extension), it may request this information as part of its data specifications, and the Generator Owner would be required to provide it. However, a requirement in EOP-012-3 for the Generator Owner to provide this information through a separate mechanism, absent a communicated need, may not provide any reliability benefit.

Paragraph 72: Address the Finding that Generators that are First Commercially Operational on or after October 1, 2027, Should Have Freeze Protection Measures Either Designed into Their Generating Systems, or, if a Corrective Action Plan is Needed, then It Should be Completed by the Time that Such Generating Units Go into Commercial Operation.

Directive

"We thus find that generators that are commercially operational after October 1, 2027, should have freeze protection measures either designed into their generating systems, or, if a corrective action plan is needed, then it should be completed by the time that such generating units go into commercial operation. Accordingly, we direct NERC, pursuant to section 215(d)(5) of the FPA, to develop and submit modifications to Requirement R7 of proposed Reliability Standard EOP-012-2 to clarify that any Requirement R2 corrective action plans must be completed prior to the generating unit's commercial operation date."

Consideration of Directive

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R2. Applicable to generating units with a commercial operation date on or after October 1, 2027: Each Generator Owner, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1, and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius), shall: • Implement freeze protection measures to protect Generator Cold Weather Critical Components that provide the capability to operate at the unit(s)' Extreme Cold Weather Temperature with sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum	**R2.** Applicable to generating units that begin commercial operation on or after October 1, 2027[fn2]: Each Generator Owner, for each generating unit that has a calculated Extreme Cold Weather Temperature at or below 32 degrees Fahrenheit (zero degrees Celsius) as determined in Requirement R1, and that self-commits or is required to operate at or below a temperature of 32 degrees Fahrenheit (zero degrees Celsius), shall: • Implement freeze protection measures to protect Generator Cold Weather Critical Components that provide the capability to operate at the generating unit(s)'	To address this directive, proposed EOP-012-3 revises Requirement R2 which pertains to units going into commercial operation after October 1, 2027. Requirement R2 would require that a Generator Owner with a generating unit entering commercial operation on or after October 1, 2027 shall either implement the required capability or declare a Generator Cold Weather Constraint, if applicable. A new footnote is added to clarify that the October 1, 2027 date may be different in non-U.S. jurisdictions.

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operational duration for intermittent energy resources if less than twelve (12) continuous hours; or • Develop a Corrective Action Plan(s) to add new or modify existing or previously planned freeze protection measures to provide the capability to operate at the unit(s)' Extreme Cold Weather Temperature with a sustained concurrent twenty (20) mph wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours.	Extreme Cold Weather Temperature with sustained concurrent twenty (20) mph (32 km/h) wind speed for (i) a period of not less than twelve (12) continuous hours, or (ii) the maximum operational duration for intermittent energy resources if less than twelve (12) continuous hours; or • Document in a declaration, with justification, if applicable, a Generator Cold Weather Constraint in accordance with Requirement R8. [fn2]: In non-U.S. jurisdictions, this will be the date established by the Applicable Governmental Authority.	There is no requirement to implement a Corrective Action Plan prior to entering commercial operation, as there were concerns raised about potential retroactive applicability of such a requirement (i.e. applying standards prior to registration for mandatory compliance purposes). However, the practical effect is the same: the entity must either implement the required capability or delay its commercial operation date until it is able to do so. Prior EOP-012 drafting teams believed that there needs to be allowances made for units that are far along in the development process, but do not expect to achieve commercial operation prior to October 1, 2027. It was discussed that some plants may take five years or more to complete construction and enter commercial operation, with significant investments in design occurring early in the process. After a certain point, changing such designs (if allowed) may subject the entity to significant added costs, delays, or both. While not changing the October 1, 2027 date as the date after which new units must meet the more stringent requirements for new generation, the implementation plan for proposed EOP-012-3 provides a slightly longer

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		phased-in compliance deadline for units meeting certain criteria. This phased-in compliance date would help accommodate the units that are thought to be much further along in the process of development and for whom the revised requirement might represent a significant hardship, while overall raising the bar for reliability. . Additional information and background are available in the Technical Rationale for proposed EOP-012-3.

Paragraph 76: To Address Concerns that EOP-012-2 Requirement R7 has Ambiguities in the Implementation Plan Timelines that Apply to Certain Generator Owners

Directive

"We believe that proposed Reliability Standard EOP-012-2, Requirement R7's corrective action plan implementation deadlines have remaining ambiguities that need to be addressed. As noted above, the Commission has previously expressed similar concerns regarding the vagueness and enforceability of Reliability Standards language. Specifically, we agree with the concerns raised by the ISO/RTO Council that Requirement R7 of proposed Reliability Standard EOP-012-2 does not provide clear direction as to the required corrective action plan implementation timeline that applies to certain generator owners. For example, it is unclear how the corrective action plan implementation timeline would apply if a generator owner had combinations of both existing and new equipment for freeze protection measures. Accordingly, we direct NERC, pursuant to section 215(d)(5) of the FPA, to develop and submit modifications to Requirement R7 of proposed Reliability Standard EOP-012-2 to address these ambiguities by expanding on Requirement R7.1.1 and 7.1.2 to make it clear which corrective action plan implementation deadline applies to which generator owner."

Consideration of Directive

Consideration of Directive in EOP-012-3		
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R7. Each Generator Owner, for each Corrective Action Plan developed pursuant to Requirements R1, R2, R3, or R6, shall: **7.1**. Include a timetable for implementing the selected corrective action(s) that shall: **7.1.1**. List the action(s) which address(es) existing equipment or freeze protection measures, if any, to be completed within 24 calendar months of completing development of the Corrective Action Plan; **7.1.2**. List the action(s) which require(s) new equipment or freeze protection measures, if any, to be completed within 48 calendar	**6.3.5.** A timetable specifying that implementation of the Corrective Action Plan(s) shall be completed as follows **6.3.5.1.** For the generating unit experiencing the Generator Cold Weather Reliability Event, prior to the first day of the first December following the Generator Cold Weather Reliability Event.[fn10] **6.3.5.2.** For other generating unit(s) owned by the Generator Owner,	To address this directive, proposed EOP-012-3 includes Corrective Action Plan timelines in Requirement R6 Part 6.3.5 for Corrective Action Plans developed due to experiencing a Generator Cold Weather Reliability Event which require corrective actions be completed no later than the first day of the first December following the event. For events occurring early in the season (i.e. prior to December 1), corrective actions shall be implemented prior to December 1 of the next calendar year following the event.

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months of completing development of the Corrective Action Plan; and **7.1.3**. List the updates to the cold weather preparedness plan required under Requirement R4 to identify the updates or additions to the Generator Cold Weather Critical Components and their freeze protection measures;	within 24 calendar months of completing the review required in Part 6.2, or no later than 36 months following the Generator Cold Weather Reliability Event. **** **R7.** Each Generator Owner that is required to develop a Corrective Action Plan under Requirements R1, R3, or R9 shall develop and implement the Corrective Action Plan in accordance with the following: **7.1.** For each Corrective Action Plan, the Generator Owner shall include at a minimum the following: **7.1.1.** A list of any actions that require new freeze protection measures, with a timetable specifying completion of such measures within 48 calendar months of completing development of the Corrective Action Plan; **7.1.2.** A list of any actions that remedy issues with existing freeze protection measures with a timetable specifying completion of such measures within 24 calendar months of	Recognizing that similar units may be subject to similar issues, Generator Owners must perform a review of applicability to similar equipment at their other units. Revised Requirement R6 Part 6.3.5.2 would allow the entity to perform this review within 12 calendar months and implement any corrective measures within 24 calendar months of completing this review, or no later than 36 months following the Generator Cold Weather Reliability Event. These revisions provide enhanced specificity regarding the timelines for completing corrective actions in a Corrective Action Plan, with more urgent deadlines to address freezing issues that were identified following a reliability event. Additionally in Requirement R7 Part 7.1.2, the phrase “regardless of any longer timelines in the Corrective Action Plan associated with new freeze protection measures” was added to clarify that actions to address issues with existing freeze protection measures must still be completed within 24 months, even if separate actions to implement new freeze protection measures have a longer timeframe. Additional information regarding what may be considered a “new” freeze protection measure and what may be considered an “existing” freeze protection measure is provided in the

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	completing development of the Corrective Action Plan (regardless of any longer timelines in the Corrective Action Plan associated with new freeze protection measures); ***	Technical Rationale. In summary, if there is a failure of a freeze protection measure (e.g., heat trace) and that freeze protection measure is replaced with the same/similar/commonly used technology, that would be considered "existing". Similarly, replacing a component of an existing system would be considered addressing issues with "existing" freeze protection measures. Examples of "new" freeze protection measures may include new permanent structures or new technologies not already applied. It is thought that the industry generally understands the distinction between "new" and "existing" in this context, but the additional support in the Technical Rationale should further clarify the matter consistent with the FERC directive and help ensure that the longer timeframes are only used where appropriate to the scope of work required for implementation.

Paragraph 94: To address the concern that Generator Cold Weather Constraint Declarations Should be Reviewed More Frequently than Once Every Five Years to Ensure the Constraint Remains Valid

Directive

"We agree with the ISO/RTO Council that the proposed five-year review period for the declared Generator Cold Weather Constraints in Requirement R8.1 could delay the identification and adoption of new freeze protection measures and does not represent the current pace of technological advancements. We acknowledge that a more frequent review does impose some additional administrative burden to the generator owner to review the technological advancements that hindered its ability to winterize; nonetheless, a lengthy period between a Generator Cold Weather Constraint declaration review by the generator owner offers little incentive to timely adopt new freeze protection technologies. Accordingly, we direct NERC, pursuant to section 215(d)(5) of the FPA, to develop and submit modifications to Requirement R8, Part 8.1 of proposed Reliability Standard EOP 012-2 to implement more frequent reviews of Generator Cold Weather Constraint declarations to verify that the declaration remains valid. NERC may propose to develop modifications that address the Commission's concerns in an equally efficient and effective manner, however, NERC must explain how its proposal addresses the Commission's concerns."

Consideration of Directive

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R8. Each Generator Owner that creates a Generator Cold Weather Constraint declaration shall: **8.1**. Review the Generator Cold Weather Constraint declaration at least every five calendar years or as needed when a change of status to the Generator Cold Weather Constraint occurs; and **8.2**. Update the operating limitations associated with capability and availability under Requirement R1 Part R1.2 if applicable.	**R9.** The Generator Owner shall review each Generator Cold Weather Constraint declaration validated by the CEA at least once every 36 calendar months to determine if it remains valid in accordance with Attachment 1. **9.1** If a Generator Cold Weather Constraint is determined to be no longer valid, then within six (6) calendar months of such determination, the Generator Owner shall develop or update a Corrective	To address this directive, proposed EOP-012-3 adds Requirement R9 to require review of all validated Generator Cold Weather Constraints at least once every 36 calendar months to ensure the constraint remains valid. Language regarding reviews "as needed when a change of status" occurs was removed due to the more frequent periodicity. This timeline was based on consideration of stakeholder comments regarding the optimal timeframe for such reviews, considering the pace that new technologies are brought to market. By shortening from five calendar years, the 36

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	Action Plan pursuant to Requirement R7. **** **Attachment 1** (criteria for determining the applicability of a Generator Cold Weather Constraint) (*see draft standard*)	calendar month timeline provides a reasonable approach to meeting the Commission's directives without creating undue administrative burden to periodically monitor if Generator Cold Weather Constraints remain valid or if new technologies have become available that effectively obviate the originally validated constraint. Part 9.1 clarifies the Generator Owner's obligations in the event the constraint is determined to be no longer valid. For example, a new freeze protection technology is developed that would address the issue, or circumstances change such that the implementation of an existing measure would no longer cause the plant to retire prematurely. The Generator Owner must then develop or update an existing Corrective Action Plan to specify implementation of the freeze protection measures according to the timelines provided in Requirement R7, along with the other required elements. This provision helps ensure that entities are taking timely action, if circumstances change, such that a constraint is no longer appropriate under the standard. If an entity determines that another category of Generator Cold Weather Constraint would apply based on the facts and circumstances, it may declare that constraint and submit it to the

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		Compliance Enforcement Authority for review as if it were a new constraint.