

Frequently Asked Questions

Level 3 Alert Essential Actions to Industry Cold Weather Preparations for Extreme Weather Events III

Background

NERC issued a Level 3 Essential Actions alert for Industry Cold Weather Preparations for Extreme Weather Events III to increase the Reliability Coordinators' (RC), Balancing Authorities' (BA), Transmission Operators' (TOP), and Generator Owners' (GO) readiness and enhanced plans for, and progress toward, mitigating risk for winter 2023–2024 and beyond. In response to industry queries, this frequently asked questions document addresses questions and concerns related to the alert, which is posted in the NERC alert system and publicly on the Bulk Power System Awareness page under [Alerts](#).

Questions

Q1: Will GO/BA/TOP entities be required to share their responses with their respective Planning Coordinators and RCs?

A1: While entities are not required to share their responses with their RCs, RCs should work with their Regional Entities to understand the responses within their footprints.

Q2: Will a data submission worksheet be included in the alert?

A2: A data submission worksheet is included with the alert and contains examples on how to input data in the worksheet.

Q3: Why did NERC publish the Level 3 Essential Actions Alert?

A3: Due to the number and severity of the extreme cold weather events in 2018, 2021, and 2022, NERC published this alert to gain a better understanding of entities' preparedness for winter 2023–2024 and beyond.

Q4: Is reporting required on equipment that is excluded from NERC's Bulk Electric System (BES) definition?¹

A4: Registered entities should report on BES generating units only.

Q5: Don't the RCs already have the ability to request this information?

A5: RCs do have the ability to request this information from their BAs, GOs, and TOPs on the current operating state of their equipment to update their operating plans. NERC encourages the RCs to make this request.

¹ <https://www.nerc.com/pa/RAPA/BES%20DL/BES%20Definition%20Approved%20by%20FERC%203-20-14.pdf>

Q6: Were RCs included in the distribution list of the alert?

A6: RCs were not included in the distribution of this Level 3 alert, which focused on GOs, BAs, TOPs, and generator preparations for extreme weather events. NERC urges RCs and other entities to review this alert for awareness of the essential actions listed.

Q7: Is there a difference between Level 3 alert responses and other alert responses?

A7: All alerts use the same user interface. Users of the system should respond in the same way they have responded to past alerts. Submit any system-related questions to nerc.alert@nerc.net.

Q8: In what format should data specifications be shared? Most data requests are part of data specifications under TOP-003 and without clear communication processes, the data may not be usable.

A8: To submit useable data, entities should coordinate with BAs, RCs, and TOPs within their footprint to determine the best format for sharing their data.

Q9: Does NERC expect the GO to provide efforts completed or the expected completion level by the due date on October 6?

A9: The alert questions provide options for completed or expected completion dates. For reference, see question #20 in the alert.

Q10: Many of the GOs experienced distress during cold weather due to the gas supplier's equipment being impacted and cutting off fuel supply. Are there actions being taken in the gas industry to ensure reliability of fuel supply infrastructure to ensure reliability of BES?

A10: NERC continues its outreach efforts with industry and stakeholders to better understand the fuel supply infrastructure and how to improve electric/gas coordination.

Q11: Do the cold weather requirements address cold weather preparedness or are the requirements deficient that new alerts have to be issued?

A11: NERC issued this level 3 alert for situational awareness and to understand how entities are preparing for winter 2023–2024 and beyond. The alert also hopes to increase RC, BA, TOP, and GO readiness, enhance plans, and progress toward mitigating risk for the upcoming winter and beyond.

Q12: How are "critical components" defined in this alert?

A12: Generator Cold Weather Critical Component is defined as "any generating unit component or associated fixed fuel supply component that is under the GO's control and is susceptible to freezing issues, the occurrence of which would likely lead to a Generator Cold Weather Reliability Event."

Q13: Will entity names be removed prior to submitting report to FERC?

A13: All responses will be anonymized in the report submitted to FERC.

Q14: Are there additional questions, other than those regarding Essential Actions, in the alert?

A14: In addition to the essential actions questions, there are 20 additional questions to be responded to in the alert.

Q15: Doesn't EOP-011-2 already have requirements to minimize manual load shedding with automatic load shedding overlap?

A15: The alert calls for enhanced actions that are consistent with the requirements in EOP-011-3.

Q16: What is the technical basis to require additional actions when there are already requirements in EOP-011 and the upcoming EOP-012?

A16: This alert was published to better understand how entities are taking steps to mitigate the risk of extreme cold weather conditions. Several notable events have demonstrated the substantial impacts that extreme cold weather conditions can have on reliability of the bulk power system.

Q17: If an entity has recently completed the EOP-11-2 Compliance Standard, Cold Weather Plan and Freeze Protection Measures, what is required from the GOs for this alert?

A17: The applicable information should be included in the alert responses and submitted.

Q18: Does a test of reasonableness apply to the word “component?” Or does the alert call for a list of potentially hundreds of pipe/tubing runs and valves?

A18: Guidance on Generator Cold Weather Critical Components can be found in NERC’s [Reliability Guideline: Generating Unit Winter Weather Readiness](#). This link is also included in the alert.

Q19: If an entity has a 100 MW wind farm and experiences a severe storm, what level of “impact” constitutes a site that was impacted by cold weather? (i.e., there is no question if production is lost, it should be reported. But if there was a severe storm that only partially impacted production and site was able to run through a storm, would a 10% derate from expected production constitute reporting?)

A19: Reporting should take place. The entity should determine whether the wind farm experienced a Cold Weather Reliability Event for which the apparent cause(s) was due to the freezing of equipment within the GO’s control and the dry bulb temperature at the time of the event was at or above the Extreme Cold Weather Temperature (ECWT). (See [Extreme Cold Weather Temperature](#) below.)

Q20: Do extreme cold weather requirements apply to all forms of generation and storage or are certain assets exempt? Specifically, do the standards apply to wind, solar, and battery technologies? If some are not, why?

A20: Generation units in this alert are defined to mean BES resources that plan to operate during the winter season, excluding those generators that do not operate during the winter season. The winter season is determined by the generating unit applicable BA.

Q21: Is the “specified start-up time” in the Generator Cold Weather Reliability Event definition the normal wintertime synchronization time given to the BA, RC, and/or TOP in response to their IRO-010/TOP-003 data specification? Where several different values exist (e.g., cold, warm and hot starts) is it sufficient to cite only the worst-case one (cold starting)?

A21: The required reporting for this alert is limited to extreme cold weather.

Q22: Is the Standards project page open to everyone?

A22: The [standards project page](#) is public and can be found on the [NERC](#) website.

Q23: If a GO has units that other entities are entitled to megawatts due to their financial contributions, how is that reported?

A23: There are two options recommended for entities reporting on shared units:

- A lead owner can submit a response on behalf of the entire asset or facility (as they may normally do for compliance activities). Other joint owners should leave the shared unit out of their data submissions. These other owners should enter “0” for the MWs, but they should affirmatively answer the other questions (that they have calculated an ECWT, etc.).
- Another option is that each joint owner may submit a response on behalf of their portion of the MW, so that the total MW sums up to the capacity of the asset.

Q24: My NCR number begins with a zero and I get a warning or error when entering the NCR number into the spreadsheet. How should I proceed?

A24: If your NCR number begins with a zero, enter an apostrophe before the zero (e.g., if your NCR number is NCR06240, enter '06240 in the designated field).

Extreme Cold Weather Temperature

Q25: How is the ECWT calculated?

A25: The ECWT represents the minimum threshold to which entities should provide operational capability under the approved EOP-012-1 Reliability Standard. The term ECWT refers to the FERC-approved definition in EOP-012-1 in which “Extreme Cold Weather Temperature” refers to “the temperature equal to the lowest .2 percentile of the hourly temperatures measured in December, January, and February from 1/1/2000 through the date the temperature is calculated.” The EOP-012 standard drafting team prepared a technical reference document—[Calculating Extreme Cold Weather Temperature](#)—to provide an example approach for calculating the ECWT that GOs may follow in calculating the ECWT for their generating units.

Q26: Is information provided as part of the alert being collected to help calculate ECWT?

A26: Information in the alert will be used to help calculate ECWT.

Q27: Is there a recommended procedure for calculating ECWT for Canadian entities?

A27: Canadian entities should obtain weather data from an Environment and Climate Change Canada location. The procedure for calculating the ECWT once the data is obtained is the same and a guide can be found [here](#).

Q28: Can Canadian GO/GOPs be excluded from the alert since they are not part of the cold weather reliability gap?

A28: To the extent that Canadian jurisdictions have implemented laws or requirements that vary from Section 810 of the ROP, NERC requests that entities in such jurisdictions voluntarily participate in acknowledgment and reporting pursuant to this alert.

Q29: Does the ECWT consider time below ECWT, wind speed, and relative humidity?

A29: ECWT is defined as “the temperature 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.” This calculated temperature does not take into account time, wind speed, or humidity.

Q30: What does an entity do if historical NOAA data (back to 2000) is not available for calculation of the ECWT? How far of a radius is acceptable for gathering this historical data, and can multiple weather stations be used?

A30: If reliable historical data dating back to January 1, 2000 is not available, the GO should document the methodology used to determine their ECWT, such as appending data from multiple weather stations or selecting a complete data set from a weather station with a similar climate.

Q31: Do GOs have to follow NERC’s Calculating Extreme Cold Weather Temperature document to calculate the ECWT for its generators?

A31: If organizations have a different method for calculating ECWT that is consistent with the definition, it can be used to calculate the ECWT.

Q32: Is the calculation of the ECWT applicable to only GOs or are TOPs included also?

A32: The Essential Action recommending calculation of ECWT is not applicable to TOPs.

Q33: How is “capable of operating at the ECWT” applied to units with precipitation (as opposed to freezing) issues? If a wind turbine is protected to -20 F and the ECWT is -10 F, is it capable for the purposes of the alert even though it can be brought down by an ice storm at 32 F due to ice accretion on the blades?

A33: For the purposes of this alert, please report on the generation that is capable of operating at the ECWT.

Q34: Does the term “freezing issues” in the Generator Cold Weather Component definition cover all problems resultant from getting too cold (e.g., lube oil heaters unable to produce adequate temperature for cold startup, not just the transition of liquid water to ice)?

A34: The intent of the Generator Cold Weather Component definition is to identify components that are susceptible to freezing and are critical to the operation of generating units.

Q35: Did you consider using the lowest historical temps instead of ECWT?

A35: The essential action is based on the approved EOP-12 standards that rely on a statistical approach for calculating an extreme cold weather temperature. More information is available in the [Technical Rationale for EOP-012-1](#).

Q36: If a plant has operational history of operating at well below the ECWT with no freezing or decreased capability, do critical components exist? This is an effort to alleviate excessive work at plants that have effective protections in place and have had no issues in the past during freezing (sub-zero) conditions.

A36: Units that have an operating history of performing below the ECWT should still have a list of Generator Cold Weather Critical Component(s). The definition of critical component is any generating unit component or associated with a Fixed Fuel Supply Component, that is under the Generator Owner's control, and is susceptible to freezing issues, which if were to occur would likely lead to a Generator Cold Weather Reliability Event. These components still exist, however, operational experience may suggest that no further freeze protection measures are required.

Q37: Is there a list of elements that NERC would like primary focus on for ECWT?

A37: This should be determined by the GO using current and historical practices.

Q38: If we already have a temperature in our winter prep procedures that was developed prior to ECWT for EOP-11-2, do we have to change to ECWT prior to next season?

A38: The unit will have to freeze protect to ECWT at the time of the requirements in the standard go into effect.