

Announcement

Generator Fuel Supplies, Power Plant Winterization, Load Forecasting Complexity Increase Reliability Risk in North America this Winter

November 8, 2023

ATLANTA – NERC’s [2023–2024 Winter Reliability Assessment](#) finds that much of North America is again at an elevated risk of having insufficient energy supplies to meet demand in extreme operating conditions. The areas identified as being at elevated risk extend over much of the eastern two-thirds of the continent. In these areas, although resources are adequate for normal winter peak demand, any prolonged, wide-area cold snaps will be challenging due to generator outages and fuel vulnerability, extreme levels of electricity demand, difficulties in accurate forecasting and the risk of firm electricity transfer curtailments.

“Extreme cold weather events can cause electricity demand to deviate significantly from historical forecasts. Electricity demand in winter is closely tied to outside temperature. As electric heat pumps and heating systems become more prevalent, their combined effect on system demand is even more pronounced,” said Mark Olson, NERC’s manager of Reliability Assessments. “The growth of intermittent resources, like solar generation, on the distribution system significantly increases load forecasting complexity and uncertainty. Once again, we strongly recommend that operators take the necessary steps to prepare for winter.”

The assessment reflects recommendations in the FERC, NERC and Regional Entity Staff Report, [Inquiry into Bulk-Power System Operations During December 2022 Winter Storm Elliott](#) which highlights the need to take urgent action on the interdependence between the bulk power and natural gas systems, including the need for sufficient and reliable gas and electric infrastructure to sustain energy reliability.

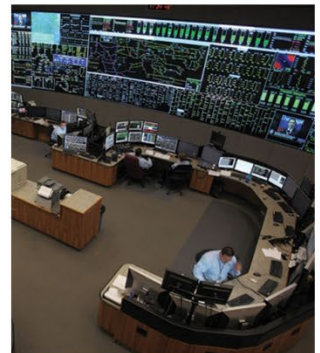
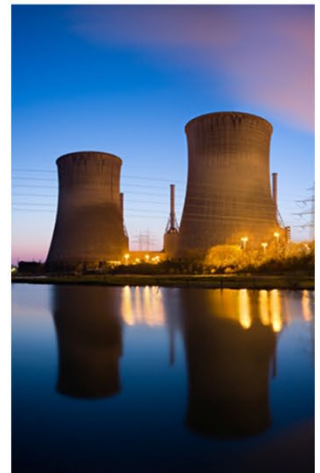
Since last year, NERC and industry stakeholders have worked diligently to revise existing standards and introduce a new standard to assure power plants are adequately winterized and prepared for extreme cold temperatures.

“We enter the winter season with new cold weather standards in effect, specifically aimed at improving winter preparedness and coordination between Generator Owners and Generator Operators and bulk power system operators. Additional cold weather standards recently adopted by NERC’s Board have been filed for FERC approval,” said John Moura, NERC’s director of Reliability Assessments and Performance Analysis. “This is a positive development in ensuring industry is prepared for extreme cold weather.”

CONTACT:
communications@nerc.net



3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com



This year's assessment, which was previewed in the [2023 Winter Reliability video](#), makes a series of recommendations to reduce the risks of energy shortfalls on bulk power system this winter that include:

- **Cold Weather Preparations** – Grid operators, Generator Owners and Generator Operators should implement the NERC Level 3 Essential Actions alert, [Cold Weather Preparations for Extreme Weather Events III](#), and winter operating plans.
- **Fuel** – Reliability Coordinators and Balancing Authorities should implement fuel surveys and monitor fuel supply adequacy.
- **Load Forecasting** – Balancing authorities should anticipate potential for underestimating load in extreme cold and take early action to reduce the risk of reserve shortfall.
- **State Regulators and Policymakers** – State regulators and policymakers should support public appeal for reduced electricity and natural gas use and be prepared to handle requests for environmental and transportation waivers when needed for reliability.

Undertaken annually in coordination with the Regional Entities, NERC's *Winter Reliability Assessments* examine multiple factors that collectively provide deep and unique insights into reliability risk. These factors include resource adequacy, encompassing reserve margins and scenarios to identify operational risk; fuel assurance; and preparations to mitigate reliability concerns.

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Electricity is a key component of the fabric of modern society and NERC, as the Electric Reliability Organization, serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of NERC and the six Regional Entities, is a highly reliable and secure North American bulk power system. Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.