NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Announcement

NERC Warns Generation Resources Tight in Large Portion of North America this Winter

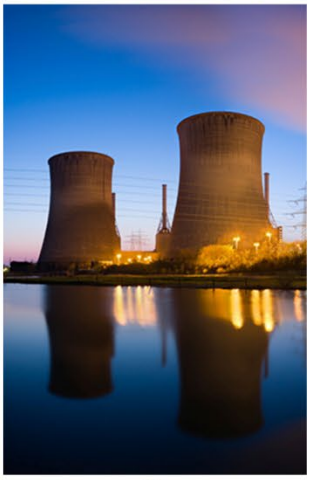
November 17, 2022

ATLANTA – NERC's *2022-2023 Winter Reliability Assessment* warns that a large portion of the North American bulk power system is at risk of having insufficient energy supplies during severe winter weather. NERC advises industry to be ready to implement operating plans to manage potential supply shortfalls and to ensure fuel supplies are secured, and generators and natural gas facilities are weatherized.

"Fuel supply issues appear prominently in this year's assessment. Reliability Coordinators across North America are closely monitoring the coal and liquid fuel inventories, as well as the potential impacts that transportation disruptions can have on availability and replenishment of all fuels," said John Moura, NERC's director of Reliability Assessment and Performance Analysis. "Also, while the grid has a sufficient supply of capacity resources under normal winter conditions, we are concerned that some areas are highly vulnerable to extreme and prolonged cold. As a result, load-shedding may be required to maintain reliability."

The assessment finds high peak-demand projections, inadequate generator weatherization, fuel supply risks, and limited natural gas infrastructure are contributory factors to reliability risk. Regions at particular risk this winter include:

- **Texas, SERC-East and southern parts of MISO** risk a significant number of generator forced outages in extreme and prolonged cold temperatures. Generators and fuel supply infrastructure are not designed for such conditions and remain vulnerable without weatherization upgrades. Peak electricity demand increases substantially during extreme cold which compounds the risk.
- **Midcontinent ISO (MISO)** has retired more than 4.2 GW of nuclear and coal-fired generation since last winter, with few resources being added. Consequently, reserve margins in the region have fallen by more than 5%. An extreme cold-weather event that extends deep into MISO's area could lead to high generator outages from inadequate weatherization in southern units and unavailability of fuel for natural-gas-fired generators.



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- **New England** has limited natural gas transportation capacity and relies on liquefied natural gas and oil-fired generators on peak demand days. Potential constraints on the fuel delivery systems, coupled with the limited inventory of liquid fuels, may exacerbate the risks for fuel-based generator outages and output reductions that result in energy emergencies during extreme weather.
- **Alberta and NPCC-Maritimes** both project that peak electricity demand will grow in these winter-peaking systems. In the Maritimes, this could strain capacity for normal winter peak conditions. Alberta has sufficient capacity for normal winter peak demand; however, extreme conditions that cause high generator forced outages are likely to cause energy emergencies.

The assessment acknowledges progress made by industry to improve generator performance, since Winter Storm Uri in 2021. Mark Olson, NERC's manager of Reliability Assessments said, "While the risk of energy emergencies in the three areas hardest hit during that event has not been eliminated, enhancements to equipment freeze protection and cold weather preparations for both the gas and electric industries is a positive step."

To reduce the risks of energy shortfalls on the bulk power system this winter, NERC recommends the following actions:

- **Cold Weather Preparations:** Generators should, while considering NERC's *Cold Weather Preparations for Extreme Weather Events–II* alert, prepare for winter conditions and communicate with grid operators.
- **Fuel:** Generators should take early action to assure fuel and communicate plant availability. Reliability Coordinators and Balancing Authorities should monitor fuel supply adequacy, prepare and train for energy emergencies, and test protocols.
- **State Regulators and Policymakers:** States regulators should preserve critical generation resources at risk of retirement prior to the winter season and support requests for environmental and transportation waivers. Support electric load and natural gas local distribution company conservation and public appeals during emergencies. In New England, the states should support fuel replenishment efforts using all means possible

Undertaken annually in coordination with the Regional Entities, NERC's Winter Reliability Assessment examines 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.