2023 Long-Term Reliability Assessment: North American Electric Reliability Corporation December 2023 Report



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12/14/2023

The North American Electric Reliability Corporation ("NERC") has published a December, 2023 report titled:

2023 Long-Term Reliability Assessment ("Report")

The Report is described as an independent assessment and comprehensive report on the adequacy of planned North American Bulk Power System ("BPS") resources to reliably meet the electricity demand of the next ten (10) years.

The topics discussed in the Report include:

- Reliability trends
- Emerging issues
- Potential risks that could impact long-term reliability, resilience, and security of the BPS

The Report views its findings as:

… vitally important to understanding the reliability risks to the North American BPS as it is currently planned and being influenced by government policy, regulations, consumer preferences, and economic factors.

NERC describes itself as a not-for profit international regulatory authority with the mission to assure the reliability of the BPS in North America. The organization states that it develops and enforces reliability standards; annually assesses seasonal and long-term reliability; monitors the BPS through system awareness; and educates, trains, and certifies industry personnel.

The Report expresses concern for what it describes as "sharp increases" in peak demand forecast and the potential for higher generator retirements. The horizon considered is the next ten years. Growth rates of forecasted peak demand in energy are stated to have risen significantly since the 2022 Report. The long-term trend of falling or flat growth rates has therefore been reversed. These are expected to affect reliability.

Factors contributing to the growth in demand are stated to include:

- Data centers
- Electric vehicles

- Electrification of heating systems (affecting seasonal demand)

The Report therefore identifies potential resource adequacy concerns occurring throughout the next ten (10) years. Cited factors include:

- Higher demand
- Generator retirements (83 GW of fossil-fired and nuclear generator retirements are anticipated through 2033)
- Potential for replacement resources to fall short of capacity

Noted is the change in resource mix during this period. This is due to the addition of wind, solar photovoltaic and battery resources.

The Report identifies recommendations that it characterizes as actions to assist or to enhance reliability:

- Add new resources with reliability attributes, manage retirements and make existing resources more dependable
- Expand the transmission network to provide more transfer capability
- Adapt bulk power system planning, operations, resources procurement markets, and processes to a more complex power system
- Strengthen relationships among reliability stake holders

Key components of the Report include:

- Capacity of energy assessment
- Resource mix changes
- Demand trends and implications
- Transmission development trends and implications
- Emerging issues
- Regional assessments

A copy of the Report can be downloaded here.