

**RELIABILITY FIRST****November 22, 2024****VIA ELECTRONIC FILING**

Mr. Andrew S. Johnston, Esq.
Executive Secretary
Maryland Public Service Commission
William Donald Schaefer Tower
6 St. Paul Street, 16th Floor
Baltimore, MD 21202-6806

**Re: Administrative Docket No. PC 66 –ReliabilityFirst Corporation Comments
on Resource Adequacy**

Dear Mr. Johnston,

In response to the Maryland Public Service Commission’s October 10, 2024 Notice Convening a Public Conference and Request for Comments, ReliabilityFirst Corporation (RF) respectfully provides comments on technical reliability considerations related to resource adequacy.

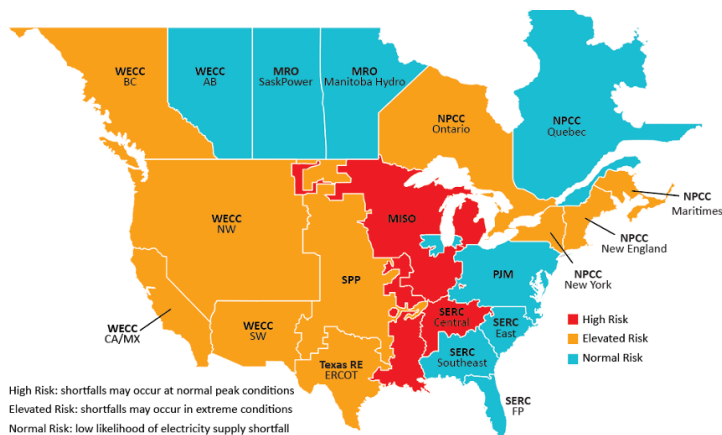
RF is one of the six North American Electric Reliability Corporation¹ (NERC) Regional Entities responsible for preserving and enhancing the reliability, resilience, and security of the bulk power system (BPS, or “system”).² Collectively, NERC and the Regional Entities comprise the ERO Enterprise. With specific authorities under the Federal Power Act and through a delegation agreement with NERC, RF’s mission serves the public good by assuring BPS reliability for over 73 million customers in 13 states (including Maryland) and the District of Columbia.² We audit and enforce the NERC Reliability Standards for more than 300 registered entities. We also provide outreach and education to registered entities in our footprint, and technical expertise to state public utility commissions, legislators, and other stakeholders. RF’s role with the states is to serve as an independent, objective technical resource concerning reliability risks. While energy policy should appropriately prioritize BPS reliability, our statements are not intended, and should not be interpreted, as advocating for a specific policy outcome.

¹ NERC is a not-for-profit international regulatory authority designated by the Federal Energy Regulatory Commission (FERC) to assure the effective and efficient reduction of risks to the reliability and security of the grid. Through delegation agreements and with oversight from FERC, NERC works with six Regional Entities (including RF) on compliance monitoring and enforcement activities.

² RF does not have jurisdiction over the local distribution of electricity, which is a state responsibility.

Resource Adequacy Reliability Considerations

Resource adequacy refers to matching supply with demand to ensure that the grid has adequate resources to supply loads twenty-four hours per day, three-hundred sixty-five days per year, during all operating conditions. NERC annually assesses the adequacy of the Bulk Electric System in the United States and Canada over a 10-year period. This report, the Long-Term Reliability Assessment (LTRA),³ projects electricity supply and demand, evaluates transmission system adequacy, and discusses key issues and trends that could affect reliability.



Over a ten-year horizon, the 2023 LTRA finds that numerous areas of North America are at risk of energy shortfalls during extreme weather conditions and even during normal peak conditions. Reliability concerns discussed in the 2023 LTRA include demand growth (increasing more rapidly than at any point in the past three decades), generator retirements and capacity shortage (with over 83 GW of generator retirements planned through 2033), and the impact of extreme weather events (exacerbated by reliance on natural gas supply).

Demand Growth

There has been a rapid increase in demand, due to the recent rise in data centers, electric vehicles, and the overall electrification of society. For example, in 2023 PJM forecasted an average 1.4% net energy load growth per year over the next 10-year period,⁴ and in 2024 forecasted 2.3% growth (a spike compared to previous years).⁵ In the 2023 LTRA, NERC stated that the growth rates of forecasted peak demand and energy have “risen sharply since the 2022 LTRA, reversing a decades-long trend of falling or flat growth rates.”⁶ This growth in demand can be difficult to match with new generation and transmission, which can take years to plan, approve, and construct. Large loads such as data centers can also present planning and operational concerns. NERC is currently working on a white paper on the characteristics and risks of emerging large loads, to be released in the first half of 2025.

Generator Retirements and Capacity Shortage

Compounding resource adequacy concerns driven by the sharp increase in demand, there is also a sharp increase in generation retirements. We are observing that traditional baseload generation plants are retiring, and replacement energy is largely being supplied by inverter-based resources

³ See, [2023 LTRA](#), [2023 LTRA infographic](#).

⁴ <https://www.pjm.com/-/media/library/reports-notice/load-forecast/2023-load-report.ashx>

⁵ <https://www.pjm.com/-/media/library/reports-notice/load-forecast/2024-load-report.ashx>

⁶ 2023 LTRA at p. 33.

(mostly wind and solar) that do not yet have the same operating features essential for reliability, commonly referred to as Essential Reliability Services (ERS). We are seeing this trend across the country, including in Maryland. Generation retirements without sufficient replacements can reduce reserve margins (*i.e.*, available, dispatchable energy that can be quickly brought online to satisfy demand).⁷ This can jeopardize reliability during periods of increased demand on the system, and in some cases, retirements can require extensive transmission reinforcement projects to sustain reliability.

Extreme Weather

Decreased reserve margins can create additional risk during extreme weather events, when power is needed the most. Winter Storm Elliott, where generation outages resulted in demand outpacing supply, was the fifth major storm with reliability impacts in the last eleven years. There were unprecedented electric generation outages coinciding with winter peak electricity demands, resulting in about 5,000 MW of load shed as rolling blackouts. FERC, NERC, and the Regions recently released a Joint Inquiry Report on Winter Storm Elliott.⁸ More recently, on October 22 the SPP footprint had to declare Conservative Operations based on forecasts of high peak loads due to unseasonably warm temperatures combined with low expected output from wind and other intermittent resources.

ERO Enterprise Efforts

The ERO Enterprise and industry are working to create new and revised standards to enhance reliability in the face of these risks, such as Project 2022-03: Energy Assurance with Energy-Constrained Resources (revising several standards to require performance of energy reliability assessments to evaluate energy assurance and develop Corrective Action Plans to address identified risks), and Project 2023-07: Transmission System Planning Performance Requirements for Extreme Weather. There are also several ERO working groups working on these risks, such as the Reliability Issues Steering Committee (RISC) and the newly created Large Loads Task Force (LLTF).

NERC and the Regions have partnered to perform the Interregional Transfer Capability Study (ITCS), which will analyze total transfer capability (the amount of power that can be transferred between transmission planning regions to improve energy adequacy). It will also recommend prudent additions to total transfer capability that could strengthen reliability. The complete ITCS will be filed with the FERC by December 2, 2024, and will be followed by a public comment period.

To successfully address the complex reliability challenges emerging as the grid is transformed, NERC, the Regional Entities, and state and federal policymakers will need continued collaboration, coordination, and thoughtful action. As states craft policies for a cleaner, more sustainable grid, we are pleased to serve as a resource to help you remain well informed regarding key reliability topics.

⁷ For example, PJM's "[Energy Transition in PJM: Resource Retirements, Replacements & Risks](#)" report focusing on generation retirements and replacements through 2030, states that "For the first time in recent history, PJM could face decreasing reserve margins...should these trends – high load growth, increasing rates of generator retirements, and slower entry of new resources – continue." (p. 17)

⁸ See <https://www.ferc.gov/news-events/news/ferc-nerc-release-final-report-lessons-winter-storm-elliott>.