Thursday, March 13, 2025

Written Testimony of
Midwest Reliability Organization

Before the Minnesota House Energy, Finance and Policy Committee Hearing

Introduction

Midwest Reliability Organization (or MRO) is one of six Regional Entities operating under delegated authority by the North American Electric Reliability Corporation[1] (NERC) to protect and enhance the reliability of the North American bulk power system. MRO is an independent and objective regulator responsible for monitoring and enforcing compliance with mandatory reliability standards for more than 245 utility companies in our regional footprint. MRO assesses the power grid's ability to meet electricity demand, analyzes bulk power system disturbances, and shares information and best practices with industry stakeholders across the region. MRO's territory[2] covers the central part of North America, stretching south from the Canadian provinces of Manitoba and Saskatchewan through all or part of sixteen U.S. states, from Minnesota down to Texas.

MRO's work requires collaboration with industry experts across the region to identify and raise awareness of risk and develop mitigation strategies that support a stable and reliable regional power grid. MRO is uniquely positioned to coordinate with an extensive network of stakeholders who share common bulk power system reliability and security interests. MRO employs a team of knowledgeable experts that work daily to confront the many challenges facing the electricity industry. MRO serves as a trusted, independent, and credible source of information for key decision-makers in the region.

This testimony is submitted because MRO is a technical resource to the committee regarding reliability of the regional bulk power system, including in the state of Minnesota. While energy policy should appropriately prioritize bulk power system reliability, this written testimony is not intended, and should not be interpreted, as advocating for a specific energy resource.

---

[1] The North American Electric Reliability Corporation (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 on compliance monitoring and enforcement activities. Collectively, NERC and the Regional Entities comprise the ERO Enterprise. The ERO Enterprise jurisdiction includes users, owners, and operators of the BPS, which serves nearly 400 million people in the continental United States, Canada, and Mexico.

[2] See appendix for map of regional territories.

The Importance of Bulk Power System Reliability

Within the MRO footprint, over 28 million people depend on a reliable electric grid to deliver electricity from where the electricity is produced to where electricity is used. Without electricity, today's society would look very different. Demand for electricity is rapidly increasing. More and more sectors of the economy are relying on electricity to support new technology, reduce planet-warming emissions, and enrich people's lives. At the same time, the way electricity is produced is undergoing a major transition, increasing the potential for system imbalances and making it harder to maintain a reliable power grid. Weather conditions are also having a greater impact on grid reliability. Not only is the supply and performance of some resources dependent on the weather, but extreme weather has become more prevalent and is necessitating enhanced system resiliency.

Recent NERC and MRO assessments indicate that the most critical challenge we face is uncertainty about whether there will be sufficient electricity to meet projected increases in demand.[3] A reliable bulk power system requires system operators to maintain a constant balance between electricity supply and demand - referred to as resource adequacy. The assessments project that electricity demand is expected to surge rapidly, primarily driven by the continuous power needs of expanding data centers. This growth coincides with increasing variability in electricity supply, which is becoming more weather-dependent, complicating resource adequacy.

The NERC Long-Term Reliability Assessment (LTRA) evaluates resource adequacy, identifying gaps or potential shortfalls in energy supply compared to projected demand over a 10-year period. The 2024 NERC LTRA[4] highlighted growing reliability challenges for the industry, which include meeting rising electricity demand, managing the pace of generator retirements, and overcoming obstacles to building new energy resources and transmission. The Midcontinent Independent System Operator (MISO) region, which includes most of Minnesota, is identified as being at high risk for a potential energy shortfall, meaning there may not be enough power to meet future demand within the next 10 years.

[3] https://www.mro.net/document/mro-2025-regional-risk-assessment-executive-summary/?download
[4] https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Long%20Term%20Reliability%20Assessment_2024.pdf

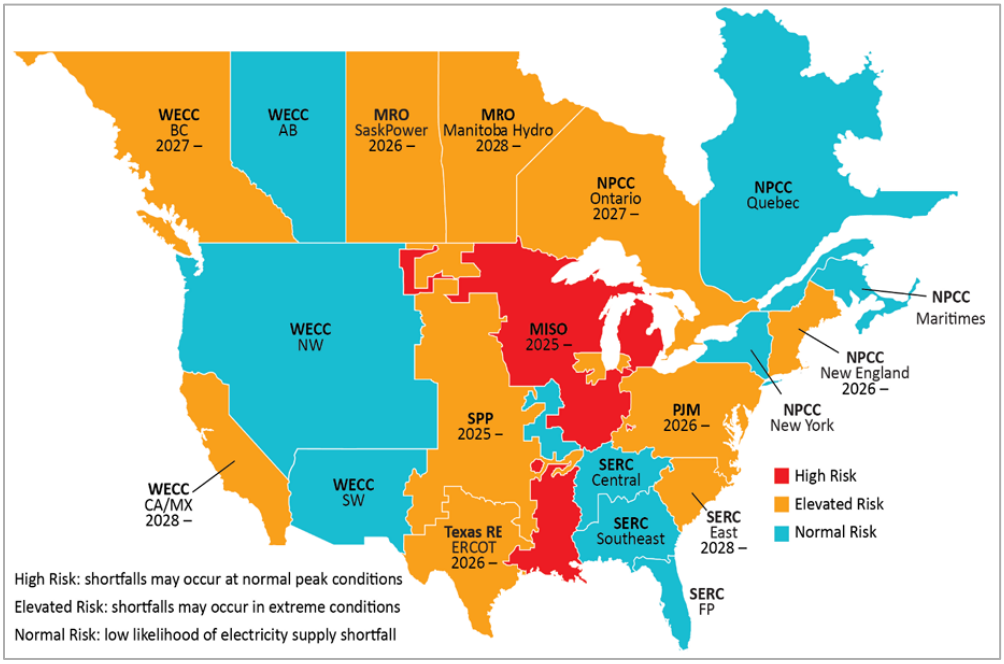

Figure 1: Risk Area Summary 2025-2029: NERC 2024 Long Term Reliability Assessment

This risk of electricity shortfall is driven by retirements of large, traditional power plants that are dispatchable and can serve load when variable resources are not available. New resource additions in the region are lagging the retirement of these traditional resources, shrinking reserve margins. At the same time, industry expects that electricity demand will rise significantly.

Grid reliability goes beyond having enough electricity supply to meet demands. Grid services that keep the bulk power system stable through disturbances, generator failures, or demand spikes are essential. Variable generation resources, like wind and solar, do not yet have the same operating features that provide these essential services. Technologies are being developed for renewables to help simulate some of that functionality, such as battery storage. Until energy storage and other technologies are fully developed and available at scale, dispatchable generation (like Nuclear) is the main contributor to the essential services that support the stability and reliability of the bulk power system.

Conclusion and Key Takeaways

In summary, demand growth, especially from large data centers is stressing the need for a continuous supply of electricity. As variable sources of electricity increase on the system, dispatchable power sources are required for resource adequacy to match supply and demand during periods when variable sources are unavailable. Without prompt attention to addressing resource adequacy issues, there is a real risk of power shortages and system reliability failures, which have economic and safety consequences for consumers and industries.

To be clear, we can navigate the energy transformation in a reliable and secure way through collaboration with stakeholders and consideration of all available technologies. However, we must work together to make sure the pace of change does not overtake the reliability needs of the system. North America needs an all-in resource strategy to appropriately address reliability risk. Removing the barrier to new nuclear plants within Minnesota allows consideration of all sources of electric power to be developed to ensure the stable and reliable operation of the electric system.

Midwest Reliability Organization looks forward to being an educational resource as this committee navigates grid reliability challenges that impact the BPS.

APPENDIX

Footprints of NERC and the Regional Entities