

Announcement

Evolving Resource Mix is Changing Reliability, Security and Resilience Landscape, Assessment Finds

December 15, 2020

ATLANTA – The [2020 Long-Term Reliability Assessment](#) finds sufficient resource adequacy across most of North America and highlights reliability, security and resilience risk associated with the changing generation resource mix. In all but two areas, there is sufficient capacity to meet the electricity demand over the next 10 years. However, the addition of variable energy resources, primarily wind and solar, the continued growth of distributed energy resources (DER) and the retirement of conventional generation are fundamentally changing how the grid is planned and operated.

Even where system capacity is shown as sufficient, some areas demonstrate potential for inadequate energy to serve demand. Specifically, nearly all parts of the Western Interconnection, ERCOT and MISO show levels of increased risk over the next five years. The *2020 LTRA* highlights the need for increased attention to planning and operating the grid in a more complex environment.

“As the system becomes more reliant on wind and solar generation, resource and energy adequacy must be assured,” said Mark Olson, manager of Reliability Assessments. “The changing resource mix introduces greater variability, making long-term planning more complex. To meet this challenge, we need to create the necessary models, technology, and strategies to properly support future grid operators.”

In response, NERC developed several key recommendations for the ERO and industry, which include:

- Enhancing the reliability assessment process by evaluating energy adequacy risks in seasonal reliability assessments.
- Developing design-basis fuel supply scenarios of normal and extreme events for use by planners and adopted as a component of the Reliability Standards.

CONTACT:
Kimberly.Mielcarek@nerc.net

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



- Increasing communication and outreach of resource adequacy risks with state and provincial policymakers.
- Modifying existing Reliability Standards to account for inverter-based resource performance and characteristics.
- Ensuring accurate and valid power flow and dynamics base case models, specifically addressing any model deficiencies associated with existing and newly interconnecting bulk power system-connected inverter-based resources.
- Addressing aggregate DER data needs for transmission planning and operational studies.

Throughout the assessment period (2021–2030) and particularly between the years of 2021-2025, there is heightened uncertainty in demand projections stemming from the ongoing pandemic. While the pandemic does not present a specific threat to the reliability of the grid, it does lead to uncertainty in future electricity demand projections and presents cyber security and operating risks. This could exacerbate planning reserve shortfalls in areas that are below or near Reference Margin Levels.

This independent assessment focuses on the adequacy of planned bulk power system resources to meet electricity demand across North America over the next 10 years. The electricity sector is undergoing significant changes that are unprecedented in both transformational nature and rapid pace. While this extraordinary evolution presents new challenges, it also provides new opportunities for the ERO Enterprise to assure the reliability, resilience and security of the grid.

###

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization Enterprise 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.