

Announcement

NERC Report Highlights Major Contribution to Reliability Offered by Battery Storage

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ATLANTA – NERC’s [Impacts of Electrochemical Utility-Scale Battery Energy Storage Systems on the Bulk Power System](#) report was released today. The assessment emphasizes some of the potential reliability benefits that battery energy storage systems can offer, such as providing peaking capacity; minimizing the need for new generation and transmission infrastructure; and providing essential reliability services (e.g., frequency response, ramping and voltage support).

“North America currently has less than 2 GW of battery storage, but that capacity is projected to increase 100 percent to 4 GW by 2023,” said Thomas Coleman, NERC’s chief technical advisor of Engineering and Standards. “The rapid transformation of the transmission grid to meet carbon goals while maintaining reliability, security and resilience is a primary focus for industry and regulators. It is abundantly clear that battery energy storage systems have a key role in accomplishing that goal.”

While the report found existing NERC Reliability Standards adequately cover existing battery storage, it recommends that NERC should conduct a thorough assessment of existing standards and guidelines to ensure that they adequately consider the projected large increase in battery energy storage systems. In addition, data on battery storage lacks consistency across reporting entities, necessitating a need for better reporting mechanisms for this type of data. NERC recommends that entities that compile battery data information enhance both their data and their reporting methods.

The report identifies a number of other key findings and recommendations for consideration and implementation by industry and regulators that will leverage the reliability benefits those battery energy storage systems can offer. Based on the findings contained in the report, NERC recommends the following:

- System planners should prepare for a significant increase in the critical mass of battery storage. They should also ensure that deployed battery storage

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provides the necessary essential reliability services to maintain bulk power system reliability, security and resilience.

- As regulators provide more incentives for the viability of battery storage to provide capacity and energy, system planners must adequately plan the system for a projected large increase in battery storage, understanding the impact of size, location and operating characteristics on maintaining the reliable operation of the grid.
- The value of battery storage as a complement to variable energy resources, such as wind and solar, should be fully understood by system planners and operators. System planners must conduct adequate studies to determine the dynamic stability impacts of battery storage interconnection, the capability to provide capacity to meet long-term and contingency reserve margin requirements and the ability to provide essential reliability services.
- The NERC Reliability and Security Technical Committee (RSTC) should form a task force to study the forward-looking implications of battery energy storage systems and their overall effects on bulk power system reliability and resilience.

“As we continue to assess the implications created by the integration of cutting-edge technologies to the electrical grid and the increasing amount of projected battery storage in the future, industry and regulators must pay more attention to bulk power system-connected battery energy storage systems,” Coleman added.

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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.