

Media Release

Adequacy of Essential Reliability Services, Fuel Assurance Integral to Bulk Power System Planning, Operations

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ATLANTA – Ensuring adequate levels of essential reliability services and fuel assurance are key to enabling a rapidly changing resource mix, meeting renewable policy goals and maintaining a highly reliable and resilient bulk power system, the North American Electric Reliability Corporation’s long-term assessment finds.

The ongoing shift away from coal and nuclear generation through retirements and canceled projects over the next decade is accompanied by major additions of natural gas, wind and solar resources, as well as tightening reserve margins in some areas the *2017 Long-Term Reliability Assessment* concludes.

Essential reliability services including voltage support and inertia help maintain the stability of the bulk power system. The influx of generation from natural gas and renewables provides industry with a unique set of challenges and opportunities to maintain essential reliability services.

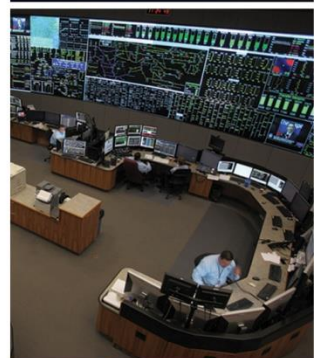
“The accelerating move toward natural gas and renewables means the industry must adopt a more robust approach to planning the bulk power system so that it continues to be reliably operated,” said John Moura, director of Reliability Assessment and System Analysis.

The assessment’s key findings include:

- NERC-wide growth in electricity demand is at its lowest rate on record.
- Recently announced retirements of coal generation in Texas and a canceled nuclear expansion in SERC result in reserve margins that drop below reference margin levels beginning in 2018 and 2020 respectively.

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- Other reserve margin across North America are adequate through 2022.
- Conventional generation retirements have outpaced conventional generation additions with continued additions of wind and solar.
- Retirement plans have been announced for 14 nuclear units, totaling 10.5 GW.
- Natural-gas-fired capacity has increased to 442 GW from 280 GW in 2009 with an additional 44.6 GW planned during the next decade.
- Wind generation currently accounts for more than 10 percent of total installed capacity in six areas with 14.8 GW of NERC-wide additions projected during the next decade.
- A total of 37 GW of solar additions are projected by 2022. Of these, 20 GW are distributed, raising visibility concerns for system planners.
- Operating procedures that recognize potential inertia constraints were recently established in ERCOT and Québec.
- With continued rapid growth of distributed solar, CAISO's three-hour ramping needs have reached 13 GW, exceeding earlier projections and reinforcing the need to access more flexible resources.

Among the assessment's recommendations are that NERC examine the adequacy of its requirements to address potential gaps in reliability. Other recommendations in the assessment include:

- All new resources should have the capability to support voltage and frequency.
- The Federal Energy Regulatory Commission should support new market rules that support the provision of essential reliability services.
- FERC should consider the reliability attributes of all generation to ensure that the generation resource mix continues to evolve in a manner that ensures the reliability and resilience of the bulk power system.
- When evaluating infrastructure requirements, policy makers should consider NERC and industry studies related to the potential bulk power system impacts of natural gas disruptions.
- Transmission planners and operators should identify and report on expected reliability concerns related to interruptible natural gas transportation.

"NERC will work with the industry on a comprehensive review of Reliability Standards to ensure compatibility with the changing resource mix and adequate levels of essential reliability services, including frequency response and increased system flexibility," said Thomas Coleman, director of Reliability Assessment.

NERC assessments provide a high-level view of resource adequacy and identify long-term emerging issues and trends that will influence future bulk power system planning, development and system analysis. NERC assessments also provide risk-informed recommendations and support a learning environment for industry and policy makers to pursue improved reliability performance.