



## **NEWS RELEASE**

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### **Eastern Interconnection Planning Collaborative Completes Report on the Frequency Response of the Eastern Interconnection**

The interconnected power systems serving two-thirds of the US and Canada are projected to maintain system frequency for at least the next five years, despite a changing resource mix that could affect this capability, according to a report issued today by the Eastern Interconnection Planning Collaborative (EIPC).

The EIPC, a coalition of 19 major transmission Planning Coordinators responsible for the planning of the bulk power grid throughout the Eastern Interconnection (EI), conducted its second detailed power system frequency response analysis for the North American Electric Reliability Corporation (NERC). In response to a request from NERC, EIPC in July 2017 began taking a leadership role in providing forward-looking frequency response reviews. A report on the initial Frequency Response Working Group (FRWG) study was released in April 2019<sup>1</sup>.

“The EIPC has completed its second review of the expected frequency response of the EI over the next five years. As the generation resource mix continues to evolve over time to incorporate new and emerging technologies and address energy and environmental policies, it is essential to understand how the EI will be poised to maintain system frequency under a wide range of operating conditions,” said Keith Daniel, senior vice president of transmission policy at Georgia Transmission Corporation and chairman of the EIPC Executive Committee. “EIPC’s FRWG will update its analysis in the years ahead, in support of the NERC request. EIPC is also engaged in additional analysis on broader power system modeling issues for the EI. We are pleased that the EIPC organization is able to conduct power system analyses that provides critical information to maintain the reliability of the bulk electric power system and to inform state and federal regulators and policy makers.”

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<sup>1</sup> The 2018 FRWG Report can be found on the EIPC Website at:  
[EIPC FRTF 2018 Final Report 2019-02-27](#)

Frequency is one measure of the state of the power system. Electricity generation and electricity consumption must remain in almost perfect balance to maintain system stability.

If a generator trips offline, electricity generation will be lower than electricity consumption, or load, and system frequency will drop. If the frequency drops too far and too quickly, load may be shed automatically, or by grid operators, to mitigate the imbalance between load and generation and prevent more widespread impacts. Traditional synchronous generators on the power system respond automatically (inertial response) by slowing down slightly and releasing more energy into the grid, helping to arrest frequency decline. The asynchronous characteristics of newer wind and solar power generators can make them less responsive to frequency variations unless they have been designed and equipped to provide some form of frequency control.

With the planned retirements of synchronous resources (such as oil, coal and nuclear) that automatically respond to arrest frequency variations, combined with the addition of non-synchronous generation (such as wind, solar and other renewables), there are concerns about the continuing ability of large interconnections to properly maintain frequency. The EIPC has been tasked with identifying and understanding how future generation contingencies could lead to Under Frequency Load Shedding (UFLS) events on the EI due to the reduction of frequency support from the changing generation resource mix.

“Our updated analysis has demonstrated the Eastern Interconnection’s resource mix over the next five years will retain sufficient system inertia to maintain adequate frequency response, with the generation resource mix, load and interchange levels modeled.” said Jonathan Glidewell, project manager of the transmission planning stability group for Southern Company Services and chairman of the EIPC FRWG. “Our efforts to track the interconnection’s inertial response has established a framework and baseline for system planners. In coordination with other industry groups, EIPC will continue its work to improve the models and techniques used for this critical analysis to provide sufficient notice when the changing resource mix could have an adverse effect on frequency response, and to develop solutions to those adverse effects.”

The 2020 Frequency Response Working Group report is available on the EIPC website<sup>2</sup>.

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<sup>2</sup> The 2020 FRWG Report can be found on the EIPC website at:  
[EIPC FRTF 2020 Final Report 2020-10-21](#)

## **About the EIPC**

Formed under an agreement by 19 planning coordinators from the Eastern and Central United States, the EIPC has developed a “bottom-up” approach to transmission planning, starting with a roll-up of the existing grid expansion plans of electric system planning authorities in the Eastern Interconnection. The EIPC membership includes Associated Electric Cooperative, Inc.; Cube Hydro Carolinas, LLC; Dominion Energy South Carolina, Inc.; Duke Energy Carolinas, Duke Energy Florida, and Duke Energy Progress; Florida Power & Light Company; Georgia Transmission Corporation (An Electric Membership Corporation); ISO New England, Inc.; Louisville Gas & Electric Company and Kentucky Utilities Company; Midcontinent Independent Transmission System Operator, Inc.; Municipal Electric Authority of Georgia; New York Independent System Operator, Inc.; PJM Interconnection; PowerSouth Energy Cooperative; South Carolina Public Service Authority (Santee Cooper); Southern Company Services Inc., as agent for Alabama Power Company, Georgia Power Company and Mississippi Power Company; Southwest Power Pool, Inc.; and the Tennessee Valley Authority.

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