# Primary Frequency Response Senior Task Force Report
# PJM Interconnection
# Members Committee Webinar
# February 20, 2018

The purpose of the Primary Frequency Response Senior Task Force (PFRSTF) is to evaluate primary frequency response within PJM, evaluate if additional language is needed to PJM Operating Agreement, Tariff and Manuals for requirement of frequency response capabilities and discuss any potential compensation mechanisms associated with providing primary frequency response capability.

The PFRSTF held its 1st meeting on July 25, 2017. The Problem Statement and Issue Charge were approved by the Markets & Reliability Committee (MRC) at its May 25, 2017 meeting. The Charter was approved by the MRC at its September 28, 2017 meeting.

At the July 25th and September 1st meetings, PJM staff provided education on the definition of primary frequency response, its use in system operations and importance in system restoration and reviewed the current requirements for primary frequency response within PJM.

At the October 9th meeting, additional education was provided on primary frequency response from inverter based technology and an overview of the requirements and operation of primary frequency response in ERCOT. Stakeholders then identified their interests related to primary frequency response and began the process of identifying design components and solution options.

At the October 27th meeting, stakeholders continued to identify solution options. PJM presented a draft solution proposal. This proposal included a requirement for all new and existing resources (except nuclear and limited other exceptions) to have the capability to provide Primary Frequency Response. It allowed for a "cost of service" compensation and would provide some measurement and verification requirements.

At the December 1st meeting, PJM provided more detail on key components of its solution proposal. Stakeholders are asked to provide any solution packages for discussion at the December 1st meeting. Any solution packages should be finalized for the December 20th meeting.

At the December 20th meeting, the task force continued discussion on some of the details of the design components. A third solution package exempting existing small generators (<20 MW) from PFR requirements was proposed. Final solution proposals are due to PJM by January 17. At the January 24th meeting, final solution proposals will be reviewed and any outstanding questions will be addressed. Voting will occur between the January 24th meeting and the February 28th meeting.

At the January 24th meeting, more details around the exemption process, performance evaluation and compensation were discussed. Two additional solution packages were proposed leaving the current number at five packages. Due to the additional packages being presented as well as stakeholders having some lingering questions about some of the design components, voting was delayed. At the next meeting on February 28, the solution packages will be reviewed for any final questions and an anticipated vote will occur following the February 28 meeting.

At the February 28 meeting, PJM Legal discussed FERC Order 842 which requires all new interconnecting resources to provide primary frequency response. Voting was delayed to analyze the impact of this order on the proposed solution packages. Additional discussion was held around the issues of performance measurement and compensation.

At the March 21 meeting, final details on each of the solution packages were presented. PJM offered a compromise proposal (Option B) which would require PFR during restoration scenarios. A non-binding poll was conducted on the Option packages. Results of the poll will be discussed at the next meeting on April 26.

At the April 26 meeting, the poll results were discussed. Only the AEP proposal received more than the 50% threshold. The importance of PFR during system restoration was also discussed.

At the May 23 meeting, PJM reviewed the exception document and a template for PFR performance calculation. Calpine offered a new solution proposal and presented the details.

At the June 19 meeting, PJM provided education on Wholesale Market Participation Agreements. Calpine and AEP presented updates to their solution proposals.

At the July 25 meeting, final solution options and packages were reviewed. The task force agreed to go on a limited hiatus until the clarification on FERC Order 842 was issued. The PFRSTF did not feel comfortable voting absent this clarification from FERC.

At the September 26 meeting, PJM provided information on the FERC Clarification to Order 842. PJM provided data on recent PFR performance. PJM reviewed the current M14-D requirements for reporting generator governor outages through the eDART system. Solution sponsors did a final review of their proposals. Voting is scheduled to take place following the October 24 meeting.

Next meeting: October 24, 2018

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