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Practice Group(s):

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Renewable Energy

Trade Group Complains that PJM's Frequency Regulation System Unduly Discriminates Against Energy Storage Resources

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The Energy Storage Association (ESA) filed a complaint with the Federal Energy Regulatory Commission (FERC or Commission) alleging that PJM Interconnection, L.L.C. (PJM) has adjusted its system operations to unduly discriminate against certain market participants. ESA argues that PJM changed the rules of its frequency regulation market, without prior FERC approval, and that those rule changes unduly discriminate against limited energy resource participants, such as energy storage providers.

FERC has set May 15, 2017, as the deadline for parties to comment, intervene, or protest ESA's complaint. Commenting and/or intervention are important procedural tools that allow interested parties to protect and advocate for their interests. Given the potentially broad impact of this complaint on PJM's energy and frequency regulation market design, numerous entities may seek to participate in this proceeding. K&L Gates will continue to follow this proceeding closely.

Background

Following FERC's Order 755,¹ PJM revised its tariff to differentiate between two types of participants in its frequency regulation market: (1) Regulation A resources that are generally traditional generators with limited ramp rates; and (2) Regulation D resources, including batteries, that have faster ramp rates but are energy limited (i.e., resources that do not have the ability to sustain output for a long period of time). PJM established different automatic generator control (AGC) signals to deploy each type of resource. ESA explains that the signal for Regulation D resources was designed to be energy neutral. In other words, when averaged over time, the amount of increased output provided by a resource in response to the Regulation D AGC signal was intended to match the amount of energy the resource withdrew from the system in response to the Regulation D AGC signal. Until adjusting the frequency regulation market rules in January 2017, ESA states that the Regulation D market signal converged to energy neutral within 15 minutes approximately 95 percent of the time.

PJM established a benefits factor to compare offers of both Regulation A and Regulation D resources within the same regulation market. The benefits factor was intended to account for the additional value of fast-responding Regulation D resources and to lower the effective offer price for Regulation D resources, making them more likely to clear the regulation market. ESA explains that the methodology for calculating this benefits factor is not part of PJM's tariff and, therefore, PJM has not submitted it to FERC for review.

¹ 137 FERC ¶ 61,064 (2011).

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ESA's Complaint

ESA alleges that PJM made a series of changes to its frequency regulation market that disadvantaged market participants with limited energy resources, such as energy storage providers, and did so without Commission review.² ESA explains that in December 2015 PJM arbitrarily capped the amount of Regulation D resources it would procure in the regulation market and adjusted the benefits factor to lower the relative value of Regulation D resources, further limiting the amount of Regulation D resources that cleared the market.

In January 2017, ESA explains that PJM changed the logic of its Regulation D signal, eliminating the constraints that maintained energy neutrality. As a result, ESA explains that energy storage resources are now being directed to accept power (i.e., withdraw energy) for prolonged periods of time that are inconsistent with the resources' design and operational parameters. ESA argues that use of Regulation D resources in this manner for prolonged periods of time is inconsistent with the purpose of frequency regulation service, and such longer-term deviations should be addressed through redispatch of other resources or unit commitment adjustments.

ESA asserts that PJM made these changes unilaterally through revisions to business practice manuals. ESA argues that because these changes significantly affect rates, terms, and conditions of frequency regulation service in PJM, they should be filed with and approved by FERC. ESA also alleges that these operational changes have harmed ESA's members by requiring Regulation D resources to operate outside their design parameters. ESA requests that FERC take the following actions to address PJM's alleged noncompliance and the harm to energy storage resources in PJM:

1. Direct PJM to file with FERC, and to justify the reasonableness of, its methodology for calculating the benefits factor used in clearing resources in the frequency regulation market;
2. Order PJM to eliminate the frequency regulation procurement cap defined in PJM's business practice manuals; and
3. Direct PJM to revise its tariff provisions regarding its Regulation D signal, file those revisions with FERC for approval, and revert to its prior Regulation D signal until FERC approves any changes.

Implications

Although ESA, an energy storage interest group, brought this complaint, its impact is not limited to energy storage interests. Because the complaint questions PJM's benefits factor methodology and the logic behind the AGC signals that drive Regulation A and Regulation D frequency regulation deployment decisions, the outcome of this proceeding could affect PJM's broader energy and frequency regulation market design. A decision in this proceeding could also provide insight into how the new Commission will address issues regarding integration of energy storage resources into the organized markets.

² Renewable Energy Systems Americas and Invenergy Storage Development LLC also cited PJM's changes to its Regulation D deployment decisions in a similar [complaint](#) filed with FERC on April 14, 2017.

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