

On October 17, 2017, the Commission issued a Combined Notice of Filings #1 setting November 7, 2017, as the intervention and comment date for PJM's October 17 filing. On October 25, 2017, the Commission issued a Combined Notice of Filings #2 setting November 15, 2017, as the intervention and comment date for PJM's October 25, 2017 *errata* of its October 17, 2017 Regulation Market Enhancements filing. On October 26, 2017, P3 filed a doc-less Motion to Intervene. P3 respectfully submits these comments in support of PJM's Regulation Market Enhancements.³

I. COMMENTS

PJM's request for the specified revisions to its Tariff and Operating Agreement to provide enhancements to PJM's Regulation market are timely, appropriate and should be approved by the requested effective date of April 1, 2018. P3 agrees that these targeted amendments will better reflect the value that specific Regulation resources provide to PJM's markets. Equally as important, P3 supports these amendatory changes due to the fact that they will further ensure the necessary system reliability of PJM's ancillary services markets.

As PJM notes, its Tariff defines Regulation as "the capability of a [resource] with appropriate telecommunications, control and response capability to separately increase and decrease its output or adjust load in response to a regulating control signal, in accordance with the PJM manuals. Regulation is an ancillary service and essential reliability product that PJM relies upon to aid in the continuous balancing of generation and load by helping to maintain interconnection frequency and manage ACE ("Area Control Error").⁴ PJM must abide by

³ The comments contained in this filing represent the position of P3 as an organization, but not necessarily the views of any particular member with respect to any issue.

⁴ PJM Regulation Market Enhancements filing at p. 3, footnote 7.

Commission Order No. 755, issued in 2011, to "remedy undue discrimination in the procurement of frequency regulation in the organized wholesale electric markets and ensure that providers of frequency regulation receive just and reasonable and not unduly discriminatory or preferential rates."⁵ As PJM states in detail in its Regulation Market Enhancements filing, in 2012, PJM introduced a performance-based Regulation market design in conjunction with a series of Order No. 755 compliance filings. The two Regulation signals that PJM relies upon to ensure that a wide variety of resources are eligible to participate in its frequency market are "RegA" and "RegD" resources."⁶ P3 was actively involved in the proceedings regarding PJM's Performance-Based Regulation Revisions for Order No. 755 compliance, and, in part, strongly supported PJM's preferred Market-based approach, noting at the time that it was "thoroughly vetted in PJM stakeholder processes, and (had) solid support from the PJM stakeholders."⁷

However, while PJM has instituted the necessary reforms to its markets to meet the requirements of Order No. 755, it expressed concerns in its January 2013 Compliance Filing that its "strict compliance" with Order No. 755's requirements would lead to operational issues. In part, PJM stated that:

Although PJM is submitting this filing in strict compliance with the Commission's order, in PJM's opinion the compliance model set forth in the Commission's November 16 Order will, over time, lead to significant challenges that will impact the long-term growth of energy storage resources . . . Without the alignment provided by the marginal benefits factor, fast-following resources that are not operationally necessary, beneficial, and provide little effect on system control (i.e., fast-following resources beyond the optimal mix of fast-following and

⁵ *Id.* at p. 3, citing *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, Order No. 755, 137 FERC ¶61,064 (2011) ("Order No. 755").

⁶ *Id.* at p. 4, citing footnotes 12 and 13.

⁷ *Motion to Intervene and Comments of the PJM Power Providers Group*, PJM Interconnection, L.L.C., Docket No. ER12-1204-000; dated March 26, 2013, at p. 6.

traditional resources in the KEMA Report) will likely enter the market because the compensation would remain high even when they have little effect on system control. Analysis has shown that it will require PJM to procure more regulation from traditional resources to maintain system control. This effect will drive regulation prices higher, which would only serve to encourage more fast-following resources to enter the market even as their effect on system control decreased.⁸

Unfortunately, PJM's prognostications came true. Several, significant operational issues were initially presented to stakeholders through a "problem statement" introduced in April, 2015, by PJM and its Independent Market Monitor. PJM's stakeholders have continued to evaluate and work on these issues over the past two years through the May 2015 initiation of the Regulation Performance Impacts working group, and the Regulation Market Issues Senior Task Force ("RMISTF"), which was chartered on October 22, 2015, by the PJM Markets and Reliability Committee ("MRC"). Following extensive stakeholder meetings that discussed and reviewed various operational analyses, PJM concluded that: 1) the benefits factor did not properly reflect the correct operational or engineering relationship between RegA and RegD resources; and 2) unconditionally respecting RegD resources' power balance was, at times, inhibiting PJM's ability to control the system and ensure reliability. Importantly, PJM has stated that these shortcomings "were no fault of any individual RegD resource or Market Seller, but instead resulted from flaws in the Regulation market construct and signal design that PJM implemented in 2012."⁹

While PJM has instituted some of the operational changes to the Regulation signals in January 2017, additional, targeted revisions to PJM's Tariff based upon the work of the RMISTF needs to be done. Thus, in PJM's Regulation Market Enhancements filing, it is recommending

⁸ PJM Regulation Market Enhancements filing, p. 6, footnote 18, citing *PJM Interconnection, L.L.C., Performance-Based Regulation Revisions*, Docket Nos. ER12-1204-004 and ER12-2391-003 (Jan. 15, 2013) ("January 2013 Compliance Filing").

⁹ *Id.*, at p. 9.

modifications to its Tariff to reflect new defined terms, and to provide specified market design changes that include: 1) the current Benefit Factor will be replaced with a new, Regulation Rate of Technical Substitution ("RRTS") curve; 2) modification of Performance Scoring to use a precision-only calculation; 3) modification of the Settlements Equation for all Regulation resources; and 4) a change in the Lost Opportunity for online resources that provide Regulation service.

P3 agrees with PJM that its targeted Regulation Market Enhancements are needed for several important reasons. PJM has shown a significant problem with the current structure of its Regulation markets that must be addressed by the proposed revisions it has submitted. Two of the more important issues include a combination of overcompensation for some resources and potential reliability issues that result from compensation misalignments between RegA and RegD resources. More specifically, PJM's extensive analyses have found that over the past several years, RegD resources have been overcompensated relative to RegA resources. "That overcompensation, in turn, has caused too many RegD resources to enter the market in pursuit of a flawed financial signal, which ultimately has worked against reliability considerations."¹⁰ And while RegD resources "were performing in a manner that was appropriate to respect their power balance . . . RegD resources at times actually were performing in a manner that defeated the core purpose of the Regulation market, which is to manage ACE."¹¹

While the RegD resources are a valuable part of the Regulation market's equation, they are nonetheless performing in PJM's markets at a level that the Commission may not have

¹⁰ *Id.*, at p. 24.

¹¹ *Id.*, at p. 8.

foreseen in 2011 with the release of Order No. 755, when it stated, in part, that "[T]he faster a resource can ramp up or down, the more accurately it can respond to the AGC ("automatic generation control") signal and avoid overshooting. Alternatively, when a resource ramps too slowly, its ramping limitations may cause it to work against the needs of the system and force the system operator to commit additional regulation resource to compensate."¹² In other words, while the Commission's original concerns expressed in FERC Order No. 755 may have been the overvaluing and overcompensation of slower-ramping resources (RegA), at the expense of faster-ramping resources (RegD), PJM's actual operating experience is now showing the opposite. Therefore, in hindsight, it appears that the Commission undervalued the sustainable output of the slower-ramping (RegA) resources, and overestimated the ability of fast-ramping (RegD) resources to provide a sustained Regulation level output, resulting in operational control and reliability problems.

P3 therefore supports PJM's suggested Tariff revisions. As PJM notes, these changes received strong support through the stakeholder process.¹³ Moreover, the requested changes to the Regulation market will better comply with the Commission's goals, stated in Order No. 755, of improving operational and economic efficiency for Regulation resources, remedying undue discrimination in the compensation for frequency regulation, and ultimately providing lower costs to consumers in organized markets and greater.¹⁴

¹² Order No. 755 at P.5.

¹³ PJM Regulation Market Enhancements filing, at p. 37, footnotes 40 and 41, citing the PJM Markets and Reliability Committee's endorsement of the proposed Tariff revisions at its June 22, 2017 meeting in a sector-weighted vote with 3.89 in favor, and the PJM Members Committee sector-weighted vote of 4.238 in favor on July 27, 2017.

¹⁴ Order No. 755, at P. 19 and P. 69.

II. CONCLUSION

P3 respectfully requests that the Commission consider these comments and issue an order granting PJM's proposed revisions of its Tariff and Operating Agreement in order to implement the requested Regulation Market Enhancements with an effective date of April 1, 2018.

Respectfully submitted,

On behalf of the PJM Power Providers Group

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 15^h day of November 2017.

On behalf of the PJM Power Providers Group

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