152 FERC ¶ 61,182
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Philip D. Moeller, Cheryl A. LaFleur,
Tony Clark, and Colette D. Honorable.

PJM Interconnection, L.L.C. Docket No. ER15-643-002

ORDER ON REHEARING

(Issued September 8, 2015)

1. PSEG Companies (PSEG)[1] seek rehearing of the Commission's April 10, 2015 order accepting a filing by PJM Interconnection, L.L.C. (PJM) to provide a new extended reserve product.[2] For the reasons discussed below, we deny rehearing.

I. Background

2. On December 17, 2014, as amended on February 11, 2015, PJM proposed a pricing mechanism applicable to the reserves it may elect to procure in the real-time energy market in excess of the Primary Reserves necessary to satisfy North American Electric Reliability Corporation (NERC) standards.[3] PJM explained that during times of increased stress on its system, or during periods of uncertainty, an increased level of reserves may be required in excess of PJM's Primary Reserves Requirement. PJM further explained that if the risks that initially warranted the procurement of additional reserves do not materialize in the real-time market, in whole or in part, the additional

[1] PSEG includes Public Service Electric and Gas Company, PSEG Power LLC, and PSEG Energy Resources and Trade LLC.

[2] *PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,017 (2015) (April 10 Order).

[3] *See* PJM Open Access Transmission Tariff (OATT) at Attachment K-Appendix, section 1.3.29F. Primary Reserves are relied upon by PJM to maintain reliability and comply with standards established by NERC. Primary Reserves consist of a specified amount of Synchronized Reserves (i.e., reserves that are electrically synchronized with the system), with the remaining amount consisting of the most economic combination of Synchronized Reserves and Non-Synchronized Reserves. PJM procures Primary Reserves in the day-ahead reserves market to meet a 30-minute Day-ahead Scheduling Reserves Requirement. *Id.*

reserves may be rendered uneconomic and as a result, could suppress real-time clearing prices and increase uplift payments.

3. To address these concerns, PJM proposed to establish, during certain operating conditions, an Extended Primary Reserve Requirement and an Extended Synchronized Reserve Requirement (collectively, Extended Reserves).[4] PJM further proposed to price these Extended Reserves using a Reserve Penalty Factor of $300 per megawatt hour (MWh).[5] The penalty factor operates as a cap on the clearing price for procuring Extended Reserves (during a period when PJM has satisfied its NERC Primary Reserve Requirement). As PJM further explained, it initiated a stakeholder process that agreed with this valuation as an indication of load's willingness to pay for Extended Reserves.[6] PJM further explained that its proposed pricing of Extended Reserves was based on observed clearing prices in PJM's Day-ahead Scheduling Reserve Market, which serves as PJM's day-ahead 30-minute reserve market. PJM presented its findings to stakeholders on July 28, 2014, and as part of that presentation, presented documentation supporting its proposed $300/MWh cap. PJM also answered stakeholder questions related to the appropriateness of its proposed cap.

4. PJM determined that the average Day-ahead Scheduling Reserves Market clearing price during hours in which the clearing price was not $0/MWh, plus three standard deviations, equaled $239/MWh. PJM then added a small additional margin to arrive at the $300/MWh level.[7] PJM subsequently confirmed the $300/MWh price by conducting an additional analysis of combined turbine (CT) units' offer prices. PJM analyzed CT units' offer prices because such units are the most likely to provide Extended Reserves.

5. PJM also proposed to add a second step to the Operating Reserve Demand Curve with a height of $300/MWh (on the vertical price axis) and a varying width (on the horizontal quantity axis) depending on the quantity of Extended Reserves procured. PJM

[4] PJM clarified that the operating conditions during which these Extended Reserves would be procured would be limited to Cold Weather Alerts, Hot Weather Alerts, or any other escalating emergency condition.

[5] The price point on PJM's demand curve may be thought of as a "penalty" because it represents the cost or "penalty" at which market participants are willing to "go short" of a reserve requirement, thereby sending the proper market signal that a greater supply of reserves is needed to meet the reserve requirement.

[6] The $300/MWh Reserve Penalty Factor sets the price for real-time reserves when PJM is unable to satisfy the Extended Reserve requirement at a price less than or equal to $300/MWh.

[7] PJM Deficiency Letter response at 4.

explained that falling short of Extended Reserves would not cause a potential NERC reliability violation.

6. PJM argued that it was appropriate to value the Extended Reserves at a level lower than Primary Reserves, which currently has a penalty factor of $850/MWh, given the balance of considerations at issue. Specifically, PJM noted that falling short of the proposed Extended Reserves Requirement would not violate the applicable NERC reliability standards. PJM further argued that it had balanced the market's willingness to pay for the additional reserves to mitigate system uncertainty with the possibility that the Extended Reserves at issue would ultimately be rendered unnecessary as real-time events unfolded and thus provide limited reliability benefits. In addition, PJM argued that the proposed Extended Reserves Penalty Factor was appropriate based on its internal analysis of actual offer data from resources offering to provide reserves in PJM.

7. In the April 10 Order, the Commission accepted PJM's proposed tariff changes, subject to an informational reporting requirement.[8] The April 10 Order also addressed PSEG's argument that PJM's proposed $300/MWh Extended Reserves Penalty Factor should be rejected in favor of a penalty factor equal to the higher of $300/MWh or the marginal cost of Primary Reserves procured in real-time. The April 10 Order found that PJM's proposed Extended Reserves Penalty Factor represented an appropriate measure of market participants' maximum willingness to pay for the proposed Extended Reserves, i.e., for those reserves procured in excess of the NERC reliability requirement.[9] The April 10 Order also found that it was not possible, as PSEG urged, to set the Extended Reserves Penalty Factor at one level in PJM's Operating Reserve Demand Curve and then adjust that level after-the-fact to allow for a higher price.[10]

8. The April 10 Order found that establishing an Extended Reserves Penalty Factor of $300/MWh, as proposed, would allow interested parties to judge its effectiveness, in practice, and noted that PJM has the ability to file changes with the Commission, if warranted. Finally, the April 10 Order noted that this issue currently is under consideration as part of the Commission's price formation inquiry and may be subject to change based on information developed in that proceeding.[11]

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[8] April 10 Order, 151 FERC ¶ 61,017 at P 29. PJM's reporting requirement addresses issues not raised by PSEG's rehearing request.

[9] *Id.* P 26.

[10] *Id.*

[11] *Id.* at P 26-27 (citing *Price Formation in Energy and Ancillary Services Markets Operated by Regional Transmission Organizations and Independent System Operators*, Docket No. AD14-14-000) (2015).

II. Request for Rehearing

9. PSEG argues that the April 10 Order erred by setting the Extended Reserves Penalty Factor to $300/MWh, which PSEG states is a significantly lower level than the rate applicable to PJM's existing Primary Reserves Requirement. PSEG asserts that the reliability provided by Primary Reserves and Extended Reserves was equal because both are procured to mitigate the risk of a loss-of-load event or other significant disruption. PSEG argues that, regardless of the NERC standard, Extended Reserves will have been determined by PJM to have been needed for reliability and thus should be paid based on the value provided to the system.

10. PSEG further asserts that PJM failed to demonstrate that the value of these products was unequal and/or failed to quantify why Primary Reserves were valued at three times the value of Extended Reserves. In particular, PSEG disputes PJM's reliance on an internal staff analysis of offer data for reserves that are likely to be purchased should PJM elect to procure Extended Reserves. PSEG argues that parties to this proceeding were not given the opportunity to rebut this study's findings because it was not made a part of the record.

11. PSEG posits that PJM, in establishing its pricing mechanism for Extended Reserves, should have been required to apply shortage pricing logic, which it claims was used to establish the original Operating Reserve Demand Curve. PSEG asserts that a shortage pricing mechanism will accurately value reserves, as supplied at all levels, sufficient to procure the reserves required. Consistent with this approach, PSEG argues that PJM's proposed $300/MWh Extended Reserves Penalty Factor should be rejected in favor of a pricing mechanism that allows Extended Reserves to be priced at the marginal cost of production up to the Primary Reserves penalty factor.

III. Commission Determination

12. We deny rehearing of the April 10 Order. On rehearing, PSEG renews its protest argument that a $300/MWh cap on the clearing price for Extended Reserves undervalues the contribution that such reserves provide to maintain grid reliability, given that both Extended Reserves and Primary Reserves are needed for reliability. While we agree with PSEG that all reserves procured by PJM (both Extended Reserves and Primary Reserves) protect the PJM system against risks, such as loss-of-load events, generator outages, and load forecast errors, we do not agree that both products necessarily should have the same penalty factor. In any given time period under PJM's proposal, reserves providing the same service are paid the same price, whether they are Primary Reserves or Extended Reserves. During a shortage of Extended Reserves, the reserves price would be $300/MWh for identical reserve products, regardless of whether they were procured as Primary Reserves or Extended Reserves.

13. In the event of a shortage of Primary Reserves, the market clearing price for a reserve product, whether procured as Primary Reserves or Extended Reserves, would be the same, at $850/MWh (although during such a shortage, there would be no capacity available to provide Extended Reserves). But Extended Reserves represent a quantity of reserves that PJM seeks to procure in excess of its mandatory NERC requirement during times of increased stress on its system, or during periods of uncertainty. PJM, therefore, reasonably concluded that the marginal value of reserves during a shortage of Extended Reserves is less than the marginal value of reserves during a shortage of Primary Reserves and hence the price cap for Extended Reserves should be lower than for Primary Reserves.

14. As such, we reaffirm the Commission's finding in the April 10 Order that the $300/MWh Extended Reserves Penalty Factor represents a reasonable approximation of market participants' maximum willingness to pay for Extended Reserves.[12] PJM conducted an analysis of offers (provided to stakeholders) that supported the reasonableness of its proposal. PJM also confirmed the validity of this analysis based on its internal review of data for CT units. Setting a penalty factor for Extended Reserves at a level lower than Primary Reserves is reasonable given that the procurement of reserves above the level required by NERC reliability requirements would be expected to have a lower value than reserves needed to meet the NERC standard. This approach to valuation, moreover, represents an appropriate balance among competing interests, namely the desire to establish market clearing prices for reserves at an appropriate level when Extended Reserves are procured versus the willingness to pay for the Extended Reserves, which are not required to comply with NERC reliability standards and may ultimately prove uneconomic in real-time.

15. PSEG argues that PJM's proposed $300/MWh Extended Reserve Penalty Factor was unsupported because, according to PSEG, PJM did not produce the internal analysis on which this penalty factor was developed. PJM did, however, produce and provide to stakeholders the results of its initial analysis based on offer data, and PSEG does not take issue with these data on rehearing. We note that PJM also conducted a subsequent confirmatory analysis in response to Commission's Staff's deficiency letter, which it filed on a non-public basis.[13] Commission regulations would have required PJM to make that information available to PSEG upon request, subject to a protective agreement.[14] To the extent PSEG failed to timely seek access to such information and now challenges the adequacy of the record for the first time on rehearing, we find that reopening the record at

[12] April 10 Order, 151 FERC ¶ 61,017 at P 26.

[13] *See* PJM Deficiency Letter response at 5.

[14] 18 C.F.R. § 388.112(b) (2015).

this late stage of the proceeding would be disruptive to the administrative process and is unnecessary given the support for the proposal, as discussed above.[15]

16. Finally, PSEG restates its argument, on rehearing, that Extended Reserves should be priced at a level equal to the marginal price applicable to Primary Reserves. However, as the April 10 Order found when rejecting this argument, it is not possible to set the Extended Reserve Penalty Factor in PJM's Operating Reserve Demand Curve at one level and then adjust that level after-the-fact.[16]

The Commission orders:

PSEG's request for rehearing is hereby denied, as discussed in the body of this order.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

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[15] *Midcontinent Indep. Sys. Operator, Inc*. 150 FERC ¶ 61,024, at P 16 (2015) ("the Commission looks with disfavor on parties raising issues for the first time on rehearing because other parties are not permitted to respond to a request for rehearing"); *Baltimore Gas & Electric Co*., 91 FERC ¶ 61,270, at 61,922 (2000) ("we look with disfavor on parties raising on rehearing issues that should have been raised earlier. Such behavior is disruptive to the administrative process because it has the effect of moving the target for parties seeking a final administrative decision").

[16] April 10 Order, 151 FERC ¶ 61,017 at P 26 (citing PJM Deficiency Letter response at 8).