**UNITED STATES OF AMERICA**
**BEFORE THE**
**FEDERAL ENERGY REGULATORY COMMISSION**

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| PJM Interconnection, L.L.C. | ) | Docket No. ER12-513-000 |
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# PROTEST OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rules 214 of the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM ("Market Monitor"),[2] submits this protest to revisions to Attachment DD of the PJM Open Access Transmission Tariff ("OATT"), filed December 1, 2011, in connection with PJM's triennial review of the auction parameters used for Reliability Pricing Model ("RPM") auctions ("December 1st Filing"). The most serious defect in the December 1st Filing is the proposal to retain the rule that withholds 2.5 percent of the demand in RPM Auctions, to which we refer as the "2.5 Percent Holdback Rule" and which OATT terms the "Short Term Resource Procurement Target."[3] While PJM's filing recognizes the negative consequences of this rule and proposes a limited modification, the filing does not go far enough. Retention of this rule is a serious error because it results in the suppression of prices in Base Residual Auctions (BRAs), the critical signal for attracting new entry, and has acted as a barrier to

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1 18 CFR § 385.214 (2011).

2 PJM Interconnection, L.L.C. is a FERC approved Regional Transmission Organization. Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff ("OATT").

3 OATT Attachment DD § 2.65A.

efficient new entry in capacity constrained regions in PJM. RPM cannot serve its fundamental purpose of ensuring resource adequacy on the basis of competitive market principles and secure the confidence of ratepayers and those charged to protect them if this unjust and unreasonable aspect of RPM's design is maintained.

PJM proposes to improve the calculation of the Energy and Ancillary Services (EAS) offset, which is a key determinant of net CONE, by reflecting economic dispatch of the reference technology in both Day-Ahead and Real-Time Markets. While the Market Monitor supports this modification, PJM should also modify the unnecessarily restrictive tariff language defining how the reference technology can be dispatched. The result of both modifications together will be to more accurately reflect the actual dispatch of the reference technology in PJM markets, which is the goal of the EAS offset calculation.

## I. BACKGROUND

### A. The Short-Term Resource Procurement Target Suppresses Prices in the RPM Auctions Because It Arbitrarily Shifts the Demand Curve to the Left and Reduces Demand.

Effective for the 2012/2013 planning year, ILR was eliminated. Prior to this, PJM subtracted the ILR forecast from the reliability requirement. Effective for the 2012/2013 delivery year, the Short-Term Resource Procurement Target, or 2.5 Percent Holdback, Rule was implemented.[4] This rule removes 2.5 percent of the reliability requirement from the demand curve (VRR, or Variable Resource Requirement, Curve) used in the BRA for a delivery year, and provides for the procurement of the held back amount in the Incremental Auctions for the same delivery year. In other words, the rule shifts the demand curve to the

[4] OATT Attachment DD § 2.65A.

left. The stated rationale for this 2.5 Percent Holdback Rule is that it provides for the procurement of short lead time resources in incremental auctions for the given delivery year unless the need is obviated by a change in the reliability requirement.[5]

For the 2013/2014 BRA, the 2.5 Percent Holdback Rule resulted in the removal of 3,749.7 MW from the RTO demand curve. For comparison purposes, in the 2011/2012 BRA, removal of the ILR forecast from the reliability requirement resulted in a reduction in demand of 1,593.8 MW, or 1.2 percent of the reliability requirement of 130,658.7 MW. In the more recent 2014/2015 BRA, the 2.5 Percent Holdback Rule resulted in the removal of 3,708.1 MW from the RTO demand curve.

The Appendix shows the results if the reliability requirements had not been reduced by the 2.5 Percent Holdback Rule and everything else had remained the same. For example, for the 2012/2013 Delivery Year, the clearing prices would have increased by $7.46 per MW-day in Rest of RTO, by $41.63 in Rest of MAAC, by $45.27 in EMAAC, and would not have changed in PSEG North or DPL South. Cleared volumes would have been higher in each LDA.

For example, for the 2013/2014 Delivery Year, the clearing prices would have increased by $14.27 per MW-day in Rest of RTO, by $46.19 in Rest of MAAC, by $79.01 in EMAAC, and by $25.20 in Pepco. Cleared volumes would have been higher in each LDA.

As another example, for the 2014/2015 Delivery Year, the clearing prices would have increased by $16.70 per MW-Day for the Annual product in Rest of RTO, by $23.50 in Rest

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5 *See PJM Interconnection, L.L.C.*, 126 FERC ¶61,275 at P 68 (2009).

of MAAC and would not have changed in PSEG North. Cleared volumes of the annual product would have been higher in each LDA where prices would have been higher.

The conclusion is that for the three delivery years for which this rule has been place, the removal of 2.5 percent of demand significantly reduced the capacity market clearing prices and quantities.

PJM also performed a sensitivity analysis of the price suppressing effects of the 2.5 Percent Holdback Rule in the 2014/2015 BRA.[6] PJM's analysis found impacts on RPM pricing matching those found by the Market Monitor.[7]

The analysis of RPM Performance prepared by the Brattle Group included an assertion that the Market Monitor's analysis of these price impacts must be interpreted with caution because behavior by DR suppliers may change if the 2.5 percent holdback rule were eliminated.[8]

Brattle did not do a simulation analysis, which would have shown the same price suppressing effects found by the Market Monitor and PJM. Brattle's speculation that the market behaviors of DR providers might have been different without the artificial reduction in the demand curve may be correct but is irrelevant to whether it is appropriate to reduce demand in the BRA. The Market Monitor agrees that DR provider behavior might respond to higher prices in the BRA by increasing offers. That is a good thing and entirely consistent

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6 PJM posts copy of this analysis on its Website (Simulation 1), which can accessed at: <*http://www.pjm.com/markets-and-operations/rpm/~/media/markets-ops/rpm/rpm-auction-info/2014-2015-sensitivity-scenario-analysis-results.ashx*>.

7 The differences in results are not significant.

8 December 1st Filing, Attachment E (The Brattle Group, Second Performance Assessment of PJM's Reliability Pricing Model: Market Results 2007/08 through 2014/15) at 144 ("Second Assessment").

with the Market Monitor's recommendation, which is to get the market design right and the price signals right and let market participants respond.

More importantly, both Brattle and PJM explicitly recognize the price suppressing effects of the Holdback Rule.[9] In addition, both Brattle and PJM point out that the rule has exactly the opposite of the intended effect on the ability to offer limited DR in Incremental Auctions (IAs). The operation of the rule in the 2014/2015 BRA meant that the maximum amount of limited DR was taken in the BRA and that no more may clear in subsequent IAs.

As a result, Brattle and PJM recommend that the 2.5 percent holdback come entirely from limited DR, in order to leave the option to purchase some limited DR in IAs. But this partial step should be replaced with the complete elimination of the 2.5 percent holdback. PJM's partial step still results in price suppression in the BRA because it still results in a 2.5 percent shift in the market demand curve (VRR curve), but is designed to avoid the unsupportable outcome that no limited DR could be purchased in the IAs.

The proposal to eliminate the 2.5 Percent Holdback Rule is not counter to the interests of DR. Most DR clears in the BRA where prices have been substantially higher than in the IAs. Price suppression is a barrier to the entry of new DR resources in exactly the same way that it is a barrier to the entry of new generation resources.

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9 December 1st Filing at 4; Second Assessment at 144-147.

## B. The 2.5 Percent Holdback Rule Is Inconsistent with Three-Year Forward Procurement, a Fundamental Feature of RPM Design.

The Market Monitor has since its inception recommended immediate termination of the 2.5 Percent Holdback Rule.[10] The logic of reducing demand in a market design that looks three years forward, to permit other resources to clear in incremental auctions, is not supportable. There are tradeoffs in using a one year forward or a three year forward design, but the design should be implemented on a consistent basis. Removing a portion of demand affects prices at the margin, which is where the critical signal to the market is determined.

## C. The Failure of RPM to Perform Is Undermining Support for the Organized Markets.

On January 28, 2011, New Jersey enacted the Long Term Capacity Agreement Pilot Program Law, which sought to procure new local generation capacity outside of RPM markets. Also on January 28, 2011, the Maryland Public Service Commission issued a draft Request for Proposals with the same objective. The Market Monitor was concerned about the compatibility of these approaches with competitive markets, and worked with PJM and its stakeholders to reform the Minimum Offer Price Rule ("MOPR").[11] The proceeding was controversial, and a number of parties, including New Jersey and Maryland regulators raised serious concerns about the performance of RPM in incenting new generation in their

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[10] *See*, *e.g.*, Comments of the Independent Market Monitor for PJM in Docket No. ER11-2875-000, et al. (March 4, 2011) at 23; Market Monitor, "Analysis of the 2013/2014 RPM Base Residual Auction Revised and Updated" at 19–20 (September 20, 2010), which can be accessed at: <*http://www.monitoringanalytics.com/reports/Reports/2010/Analysis_of_2013_2014_RPM_Base_Residual_Auction_20090920.pdf*>.

[11] *PJM Interconnection, L.L.C.*, 135 FERC ¶61,022 (2011), *order on reh'g*, 137 FERC ¶61,145 (2011).

states despite what they viewed as the relatively high prices for capacity charged to their ratepayers.

The Commission correctly accepted PJM's proposed improvements to the MOPR, and, in doing so, took an important and decisive stand on behalf of competitive wholesale electricity markets. This does not mean, as the Market Monitor observed in a number of pleadings and in testimony to the state regulators and legislators on this issue, that state regulators and their supporters do not have valid concerns.[12]

Those concerns remain unaddressed. Price suppression in RPM poses a significant obstacle to the long run ability of the organized wholesale markets to succeed. Critics have faulted RPM for failing to incent new entry after conducting Base Residual Auctions for eight Delivery Years. While there are a number of factors that affect the level of new entry, including the need for new capacity, the price suppressing holdback rule subject to this Commission's jurisdiction, has had a negative impact on entry. Additional impacts in future auctions could be eliminated by the Commission in this proceeding.

The price suppressing effects of the 2.5 Percent Holdback Rule helps incumbent generators, who receive substantial RPM revenue but avoid a market signal that could attract competition from economic new entry. Ratepayers do not benefit from such price suppression, particularly in locations such as Maryland and New Jersey, where they pay millions of dollars for capacity, but not quite enough to secure the efficient new entry that could significantly lower those charges over the long run.

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[12] *See, e.g.*, Comments of the Market Monitor re *In the Matter of the Board's Investigation of Capacity Procurement and Transmission Planning*, New Jersey Board of Public Utilities Docket No. EO 11050309 (June 17, 2011).

## II. COMMENTS

### A. The 2.5 Percent Holdback Rule Constitutes a Barrier to New Entry That Should Be Eliminated Before the Next BRA.

The December 1st Filing proposes (at 3) to retain the 2.5 percent holdback rule, but to modify its operation to ensure that some Limited DR is not purchased in the BRA so that it can be offered in subsequent IAs.

The decision to retain the 2.5 Holdback Rule appears to be based entirely upon the endorsement of a Brattle assertion that this rule "does not distort capacity prices because more than 2.5% of total resources offered are unmitigated, allowing suppliers to freely adjust their offers or their decisions to participate in BRAs versus incremental auctions."[13] The Brattle assertion appears to be that price suppressing impacts are overcome by the ability of DR providers to shift their offers among auctions.

The Brattle assertion ignores the evidence provided by the Market Monitor and PJM that the Rule does suppress prices and cleared quantities in the BRAs. The Brattle assertion does not support the retention of the Rule and in fact supports the elimination of the Rule. The Brattle assertion is essentially that DR suppliers (DR is not mitigated) should be free to adjust their offers and to make decisions about which auction to participate in. The Market Monitor agrees. But Brattle's arguments do not support the continued distortion of prices in RPM BRAs. The only logical way to proceed is to permit the economic fundamentals, both supply and demand, to be reflected in capacity market prices. The providers of DR and

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13 December 1st Filing at 27, citing The Brattle Group, Second Performance Assessment of the PJM's Reliability Pricing Model: Market Results 2007/2008 through 2014/15 (August 26, 2011), which is included in the December 1st Filing as "Attachment E" ("Second RPM Performance Assessment").

generating capacity can then be free to react to such prices. That is the only path to an efficient and competitive outcome.

### 1. Arguments in Support of the Revision to the 2.5 Percent Holdback Rule Proposed in the December 1st Filing Reveal That the Rule Itself Serves No Useful Purpose.

The December 1st Filing explains (at 20) that the purpose of the 2.5 Percent Holdback Rule was "to ensure that capacity sellers that are not able to commit their resources three years in advance have an opportunity to commit to PJM closer the to the Delivery Year." This stated purpose is inconsistent with the problem that December 1st Filing seeks to correct.

PJM has recently disaggregated its Demand Resource product into three products of varying quality: Annual DR, Extended Summer Limited DR and Limited DR.[14] The rules treat each of these products as market substitutes for capacity provided by generators, and they all receive the market clearing price, although the less limited products may receive a price adder.[15] The Limited DR product is clearly not a replacement for generating capacity. In order to avoid compromising PJM's standards for resource adequacy, PJM proposed and implemented rules that limit the amount of Limited DR that can be procured for any

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14 *PJM Interconnection, L.L.C.*, 134 FERC ¶61,066 (2011), *order on reh'g*, 135 FERC ¶61,102 (2011).

15 *See* Protest of the Independent Market Monitor for PJM in Docket No. ER11-2288-000 (December 20, 2010) at 6–7.

Delivery Year.[16] PJM is currently proposing to further limit the purchase of the Limited DR product for reliability reasons.[17]

In the BRA for the 2014/2015 Delivery Year, PJM procured Limited DR up to the limit for this product. As a result, no additional Limited DR could be procured as part of the quantity held back for the Incremental Auctions for procurement under the 2.5 Percent Holdback Rule. The December 1st Filing explains (at 23):

> Under the current rules, Limited Demand Resources cannot be selected in the Incremental Auctions to satisfy the deferred holdback quantity in the very first year these rules have been applied.

One approach to solving the identified problem with 2.5 Holdback Rule is to add an additional layer of complicated rules on top of the existing complicated rules. Rules such as those proposed by PJM can correct "the current rule's skewing of the hold-back's deferral toward the Annual Resource category" by further limiting the purchase of Limited DR in the BRA. PJM's approach is consistent with its stated intent. But this does not prevent the price suppressing impact of the holdback rule on all generating resources because it still results in a shift of the entire demand curve to the left. In addition, it is not clear why it is helpful to Limited DR to limit its participation in the BRA.

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16 *See* 134 FERC ¶61,066 at PP 3–4.

17 *See* PJM, RPM Minimum Resource Requirement Determination (revised 12/16/11), Markets and Reliability Committee (December 21, 2011), which can be accessed at :<*http://www.pjm.com/~/media/committees-groups/committees/mrc/20111221/20111221-item-07-dr-target-changes.ashx*>.

A preferable approach is to eliminate the 2.5 Holdback Rule. The 2.5 Percent Holdback Rule is not needed in order to facilitate participation from the resources that participate as Limited DR.

Removing the 2.5 Percent Holdback Rule eliminates the price suppressing effect of arbitrarily shifting the demand curve. This would remove a barrier to new entry. The resulting BRA market design would be simple.

### 2. The 2.5 Percent Holdback Rule Should Be Eliminated Immediately Without Further Consideration by Stakeholders.

The December 1st Filing puts a serious issue before the Commission, the most serious defect in the RPM market design, that is unlikely to be resolved through further stakeholder process, and certainly not in time remove this barrier before the next BRA.

In order to protect competitive energy markets, the Commission took decisive and immediate action on the Minimum Pricing Offer Rule ("MOPR"). This proceeding presents an opportunity to address the legitimate concerns motivating New Jersey and Maryland regulators concerned about the failure of RPM to incent new entry. MOPR protects incumbents from unfair competition. It is equally important that new entrants are protected from unfair barriers to entry. The 2.5 Percent Holdback is unjust, unreasonable and unduly discriminatory, and should be eliminated.

## B. The Assumption of Four Hour Block Output in Calculating Peak-Hour Dispatch Should Be Eliminated.

PJM proposes to modify the calculation of the Energy and Ancillary Services ("EAS") offset in order to reflect prices in both the Day-Ahead and Real-Time Energy Markets. This is appropriate because it is designed to more accurately reflect the way in which units are actually dispatched in PJM markets and therefore to more accurately reflect the actual EAS offset revenues earned by units in PJM.

The Market Monitor recommends that PJM also take a related step to more accurately reflect the way in which units are actually dispatched by eliminating the artificial limits on the assumed dispatch of units in the EAS offset calculation.

The definition of "Peak-Hour Dispatch," in the tariff is used to calculate the EAS Offset:[18]

> "Peak-Hour Dispatch" shall mean, for purposes of calculating the Energy and Ancillary Services Revenue Offset under section 5 of this Attachment, an assumption, as more fully set forth in the PJM Manuals, that the Reference Resource is committed in the Day-Ahead Energy Market in four distinct blocks of four hours of continuous output for each block from the peak-hour period beginning with the hour ending 0800 EPT through to the hour ending 2300 EPT for any day when the average day-ahead LMP for the area for which the Net Cost of New Entry is being determined is greater than, or equal to, the cost to generate (including the cost for a complete start and shutdown cycle) for at least two hours during each four-hour block, where such blocks shall be assumed to be committed independently; provided that, if there are not at least two economic hours in any given four-hour block, then the Reference Resource shall be assumed not to be committed for such block; and to the extent not committed in any such block in the Day-Ahead Energy Market under the above conditions based on Day-Ahead LMPs, is dispatched in the Real-Time Energy Market for such block if the Real-Time LMP is greater than or equal to the cost to generate under the same conditions as described above for the Day-Ahead Energy Market.

This approach was developed by the Market Monitor for calculations of net revenues but it is appropriate to revisit the method as part of the review of the calculation of the EAS offset in this matter.[19] The Market Monitor recommends that this language be

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18 *See* OATT Attachment DD § 2.46.

19 See the *2009 State of the Market Report for PJM,* Volume II, Energy Market Part 2, P 151

removed and be replaced with language requiring that the unit be dispatched based on economics and reflecting the actual flexibility of the reference technology including the appropriate physical offer parameters for the reference technology, including, for example, minimum run times and minimum down times.

The tariff requirements are unnecessarily inflexible. The tariff requirements would result, for example, in not including net revenues when a unit would be economic for a four hour block and one additional contiguous hour in the next four hour block. The requirement to be economic for at least two hours in each four hour block would cause this inaccurate result. This is an unintended and illogical result which would not occur under the approach recommended by the Market Monitor here. Similarly, the tariff requirements would prevent consideration of any revenues from dispatch during off peak hours. Again, this is an unintended and illogical result.

While reflecting dispatch in both Day-Ahead and Real-Time Markets will reduce the EAS offset and thus increase net CONE, the impact of reflecting the actual flexibility of units in dispatch will tend to increase the EAS offset and thus decrease net CONE. The combined net effect is still expected to be a reduction in the EAS offset.

## III. CONCLUSION

The Market Monitor respectfully requests that the Commission consider this protest as it resolves the issues raised in this proceeding.

Respectfully submitted,

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Dated: December 22, 2011

## 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 Eagleville, Pennsylvania,
This 22nd day of December, 2011.

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# Appendix

## Table 1 STRPT Sensitivity Analysis

| | | | Actual Auction Results | | Without Short-Term Resource Procurement Target Reduction | | Difference | |
|---|---|---|---|---|---|---|---|---|
| Auction | LDA | Product Type | Clearing Prices ($ per MW-day) | Cleared UCAP (MW) | Clearing Prices ($ per MW-day) | Cleared UCAP (MW) | Clearing Prices ($ per MW-day) | Cleared UCAP (MW) |
| 2012/2013 BRA | Rest of RTO | | $16.46 | 70,691.1 | $23.92 | 73,092.8 | $7.46 | 2,401.7 |
| | Rest of MAAC | | $133.37 | 34,372.2 | $175.00 | 34,759.0 | $41.63 | 386.8 |
| | Rest of EMAAC | | $139.73 | 26,316.8 | $185.00 | 26,771.3 | $45.27 | 454.5 |
| | PSEG North | | $185.00 | 3,521.9 | $185.00 | 3,558.2 | $0.00 | 36.3 |
| | DPL South | | $222.30 | 1,241.5 | $222.30 | 1,305.5 | $0.00 | 64.0 |
| 2013/2014 BRA | Rest of RTO | | $27.73 | 85,103.4 | $42.00 | 88,184.9 | $14.27 | 3,081.5 |
| | Rest of MAAC | | $226.15 | 30,012.8 | $272.34 | 30,041.7 | $46.19 | 28.9 |
| | EMAAC | | $245.00 | 32,835.4 | $324.01 | 32,977.5 | $79.01 | 142.1 |
| | Pepco | | $247.14 | 4,791.7 | $272.34 | 5,288.9 | $25.20 | 497.2 |
| 2014/2015 BRA | Rest of RTO | Limited | $125.47 | 6,245.2 | $142.65 | 6,460.4 | $17.18 | 215.2 |
| | | Extended Summer | $125.99 | 364.2 | $142.69 | 175.0 | $16.70 | (189.2) |
| | | Annual | $125.99 | 76,189.3 | $142.69 | 78,419.3 | $16.70 | 2,230.0 |
| | Rest of MAAC | Limited | $125.47 | 5,580.0 | $150.00 | 5,038.2 | $24.53 | (541.8) |
| | | Extended Summer | $136.50 | 979.7 | $160.00 | 1,681.1 | $23.50 | 701.4 |
| | | Annual | $136.50 | 56,798.8 | $160.00 | 57,636.4 | $23.50 | 837.6 |
| | PSEG North | Limited | $213.97 | 340.7 | $215.00 | 347.6 | $1.03 | 6.9 |
| | | Extended Summer | $225.00 | 97.1 | $225.00 | 115.5 | $0.00 | 18.4 |
| | | Annual | $225.00 | 3,379.7 | $225.00 | 3,489.6 | $0.00 | 109.9 |