

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

Independent Market Monitor for PJM	)	Docket No. EL24-126-000
	)	
v.	)	
	)	
PJM Interconnection, L.L.C.	)	
	)	

**ANSWER AND MOTION FOR LEAVE TO ANSWER,  
AND MOTION FOR SUMMARY DISPOSITION  
OF THE INDEPENDENT MARKET MONITOR FOR PJM**

Pursuant to Rules 212 and 213 of the Commission’s Rules and Regulations,<sup>1</sup> Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor (“Market Monitor”) for PJM Interconnection, L.L.C. (“PJM”),<sup>2</sup> submits this answer to the answer submitted by PJM on July 31, 2024 (“PJM Answer”), to the complaint filed by the Market Monitor initiating this proceeding on July 10, 2024 (“Complaint”). The Complaint states that PJM’s implementation of rules that require customers to pay EE resources the capacity market clearing price when EE is no longer a capacity resource violate the tariff and the Federal Power Act. Payments to EE are not authorized under Section 205 of the Federal Power Act and contradict the rules in the filed tariff that define Energy Efficiency (“EE”).<sup>3</sup>

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<sup>1</sup> 18 CFR §§ 385.212 & 385.213 (2024).

<sup>2</sup> Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff (“OATT”), the PJM Operating Agreement (“OA”) or the PJM Reliability Assurance Agreement (“RAA”).

<sup>3</sup> For convenience, the terms “Energy Efficiency” or “EE” are used in this pleading to refer generally to the resources that have been paid for EE without regard to whether the “Energy Efficiency” or “EE” meets the definitions in the OATT Attachment DD-1 § L.1 and RAA Schedule 6 § L.1.

PJM's implementation of rules that require customers to pay EE resources when EE is no longer a capacity resource violated and continues to violate the tariff and the Federal Power Act. PJM should be directed to discontinue such payments immediately. PJM should also be directed to recoup unlawful payments. Because EE is by definition removed from the capacity market, continued references to EE are confusing and should be removed from the PJM Market Rules.

## **I. ANSWER**

### **A. PJM Misunderstands EE and the Addback in Manual 18.**

PJM, in its recounting of the history of EE, correctly recognizes that once EE was incorporated in PJM's load forecast for the capacity market, EE is no longer a capacity resource. But PJM continues to make statements that reveal its failure to fully understand that EE is no longer a capacity resource. For example, PJM states that EE "participates in the capacity auctions." However, based on the explicit language of the PJM tariff and PJM's actual implementation of the tariff, EE is not a capacity resource, cannot substitute for actual capacity resources and does not contribute to reliability. EE does not participate in capacity auctions. EE does make offers and EE is paid the capacity market clearing price despite the fact that EE is not a capacity resource. Therein lies the problem.

PJM, in its opening paragraph, misstates the nature of the addback. PJM asserts that the addback is a "methodology for adjusting the load forecast." A reading of the definition of the addback, contained in its entirety in the two paragraphs of Section 2.4.5 of Manual 18, shows that the addback has nothing to do with the load forecast.<sup>4</sup> Section 2.4.5 is included as Attachment A. Section 2.4.5 recognizes that EE is included in the PJM load forecast and is therefore not a capacity resource. Section 2.4.5 does not say that the PJM load forecast is

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<sup>4</sup> PJM. Manual 18: PJM Capacity Market, § 2.4.5 (June 27, 2024).

adjusted in any way. The addback is simply an unnecessarily complicated way of paying EE a subsidy outside of the capacity market.

PJM also states: “The addback is a load forecast mechanism found in the PJM Manuals that reconstitutes the quantity of Energy Efficiency (“EE”) Resources that clear in RPM Auctions into the PJM load forecast.” This statement is completely inaccurate. The addback is not a load forecast mechanism. The addback does not “reconstitute” (whatever that means) EE into the load forecast. The addback does not change the load forecast used in the capacity market. EE does not clear in RPM Auctions because it is not a capacity resource. PJM does not include EE in the clearing process for capacity market auctions.

The Market Monitor provided a detailed explanation of the addback in the stakeholder process.<sup>5</sup> The explanation is provide as Attachment B. The purpose of the addback is to provide payments to EE while not affecting the capacity market auction in any way.

A more straightforward way to have paid EE that is fully consistent with the results of the addback would have been to simply pay the capacity market clearing price to all EE with an offer less than or equal to the capacity market clearing price. The fact that the straightforward method would produce exactly the same results as the convoluted addback, which PJM implemented incorrectly for a number of years, demonstrates the point. The addback is simply a way to pay EE the capacity market price as an out of market subsidy despite the fact that EE is not a capacity resource as defined in the PJM tariff.

PJM’s response to the Market Monitor’s Complaint is largely based on these misunderstandings and misstatements about EE and the addback and should be rejected for that reason alone.

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<sup>5</sup> See PJM, Market Implementation Committee, EE Addback Education <<https://www.pjm.com/-/media/committees-groups/committees/mic/2024/20240403/20240403-item-09b---ee-addback-education---imm.ashx>> (April 3, 2024).

## **B. PJM Misunderstands the Complaint.**

PJM states (at 2–3) that “the Market Monitor’s claim that the addback violates the ‘rule of reason’ has no merit.” The Complaint contains no such claim. The Market Monitor’s Complaint is not based on any assertions about the rule of reason. PJM’s assertions about the applicability of the rule of reason here are incorrect.

PJM asserts that “The addback is an implementation detail designed to enable EE Resources to participate in the RPM Auctions based on the Tariff’s definition of “Energy Efficiency Resource,” and it is therefore appropriately implemented through the PJM Manuals under the Commission’s “rule of reason” analysis.”

PJM is confused about the role of EE in the capacity market. EE Resources do not participate in RPM Auctions. EE is not a capacity resource, as the tariff makes clear. These are facts recognized by PJM. Therefore the addback is not an implementation detail. The addback is the sole mechanism for paying EE the capacity market clearing price despite the fact that it is not a capacity resource. The Complaint is based on the fact that when PJM included EE in its load forecast, EE was no longer a capacity resource under the tariff, but PJM nonetheless created a mechanism to pay EE outside the capacity market. It is these payments that are the substantive issue. Presumably PJM recognizes that the total payments to EE to date of \$904 million that have resulted from the addback are more than just an implementation detail.

The Complaint does not seek to move the “mere implementation details” from the manuals into the filed tariff.<sup>6</sup> The Complaint does not request that anything be moved to the tariff. The Complaint requests recognition of the fact that EE should not be paid the capacity market price under the tariff and that a manual provision is not an adequate basis for this significant rate issue. The issue in the Complaint is that payments created under the addback

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<sup>6</sup> See PJM at 11, citing *Hecate Energy Greene Cty. 3 LLC v. FERC*, 72 F.4th 1307, 1312 (D.C. Cir. 2023); *PJM Interconnection, L.L.C.*, 186 FERC ¶ 61,080 at P 53 (2024).

are a subsidy that is not defined in the filed tariff, even inadequately. The subsidy payments contradict the filed tariff rules that define EE. The Complaint requests, inter alia, that Section 2.4.5 of Manual 18 be removed.

**C. PJM's Misplaced Rule of Reason Argument Is Rooted in Misunderstanding of the Addback.**

PJM cites to the rule of reason as a basis for rejecting the Complaint. PJM's misunderstanding of the addback leads to PJM's mistaken conclusion about the relevance of the rule of reason to the Complaint.

PJM states: "Under the rule of reason, utilities only need file those practices "that affect rates and service *significantly*, that are realistically susceptible of specification, and that are not so generally understood in any contractual arrangement as to render recitation superfluous."

Apparently PJM does not believe that adding \$904 million to customers' bills is significant. The addback is the sole basis for the payments to EE. Without the addback EE would not be paid in the capacity construct because it is not capacity. As a result, the addback created a significant rate impact that was realistically susceptible of specification as made clear in Section 2.4.5 of Manual 18. This is not a mere implementation detail. It does not implement any part of the tariff whatsoever. It is a standalone provision in Manual 18 that requires payments to EE. Reaching this conclusion does not require parsing of complex tariff or manual provisions.

PJM's assertion (at 12) that the addback reflects tariff provisions is incorrect and unsupported. PJM references the fact that the tariff language stating that EE is not a capacity resource when it is included in the forecast is also repeated in Section 2.4.5. That is true but not relevant to the point. RAA Schedule 6 makes it clear that when EE is included in the forecast, which PJM agrees that it is, it is not a capacity resource. As a result, PJM does not treat EE as a capacity resource. PJM's logical leap is the assertion that the addback is required to provide the detailed method by which double counting of EE would be prevented. That is a fundamental mistake in PJM's reasoning. In fact, had PJM not added Section 2.4.5 to Manual

18, there would have been no double counting. The only result of Section 2.4.5 was to pay EE the capacity price when PJM recognized that EE was not capacity. This was not an implementation detail. It was a significant increase in rates.

PJM also states that shifts in the VRR curve are contemplated in the tariff when “in accordance with the methodology specified in the PJM Manuals.” There is no EE related shift in the VRR curve applied in the actual capacity auction. Section 2.4.5 does not result in a shift in the VRR curve as used in the auction. The addback is logically equivalent to simply paying EE the clearing price and nothing more.

The complete quote from Attachment DD, Section 5.10(a) demonstrates that PJM’s partial quote is misleading and that PJM’s conclusion is therefore inaccurate. The tariff language cited by PJM does not create broad authorization to shift the VRR curve based on EE or anything else. The language is specific and targeted and does not support the implication that PJM attempts to draw from the misleading partial quote.

For any auction, the Updated Forecast Peak Load, and Short-Term Resource Procurement Target applicable to such auction, shall be used, and Price Responsive Demand from any applicable approved PRD Plan, including any associated PRD Reservation Prices, shall be reflected in the derivation of the Variable Resource Requirement Curves, in accordance with the methodology specified in the PJM Manuals.

Regardless, the shift in the VRR curve referenced in Manual 18, Section 2.4.5, fn 9, is not a shift in the VRR curve used in clearing the capacity market auction. This shift in the VRR curve in the addback is simply a way to clarify that the quantity of EE with offers less than or equal to the capacity market clearing price will be paid the clearing price despite the fact that they are not capacity resources. PJM’s intent in this shift in the VRR curve in the addback is to have no impact on cleared quantities or prices in the capacity auctions.

The Market Monitor does not request that the addback be put in the tariff. The Market Monitor requests that the addback be removed from Manual 18, period.

PJM (at 15) states: “Market Participants know before the auction starts that the load forecast amount prepared by the PJM Load Forecasting group will not be the load forecast

used in the auction. Rather, the load forecast “prepared for the Delivery Year for which the EE Resource is proposed” is the load forecast that will result *after* the addback adjustment is made. [fn omitted]”

PJM’s assertion is not correct. The PJM load forecast is used in the auction with no adjustment for EE. As PJM has made clear, EE is actually included in the load forecast.<sup>7</sup> No adjustment is required. Notably, PJM’s quoted material from Section 2.4.5 does not actually include the key words in PJM’s statement in the PJM Answer. Section 2.4.5 does not state that the load forecast used for the capacity auction is adjusted for the addback. It is not.

PJM also asserts as part of the PJM rule of reason argument that the addback is somehow already in the tariff: “The Tariff and RAA provide PJM with significant discretion to modify EE participation rules through modifications of the PJM Manuals,” citing to the tariff definition of EE.<sup>8</sup> PJM’s argument fails because the addback does not modify EE participation rules. The addback has nothing to do with EE participation rules.

#### **D. PJM Misunderstands the History of the Addback.**

PJM recounts the history of EE and the capacity market reasonably accurately until PJM mischaracterizes the meaning of the changes to the treatment of EE beginning with auctions conducted in 2016.<sup>9</sup> PJM incorrectly states (at 8) that: “The addback thus enabled EE Resources to continue participating in RPM Auctions as they had since 2009.” The statement is simply incorrect. Effective for auctions conducted after January 2016, it was recognized by PJM that EE was no longer a capacity resource. The first auction in which the addback was used was the Third Incremental Auction for the 2016/2017 Delivery Year. This was a dramatic

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<sup>7</sup> For example see PJM Answer at Exhibit A, Affidavit of Andrew Gledhill at para. 14, and PJM Answer at Exhibit B, Supplemental Affidavit of Andrew Gledhill at paras. 6-8.

<sup>8</sup> PJM at 2, citing RAA, Sched. 6 § L.1; Tariff, Attach. DD-1 § L.1.

<sup>9</sup> The addback was incorporated into 2016/2017 Third Incremental Auction, 2017/2018 Second and Third Incremental Auctions, 2018/2019 First, Second and Third Incremental Auctions and all auctions for delivery year 2019/2020 and forward.

change in the treatment of EE. It meant that EE could not and would not continue participating in the RPM Auctions as they had since 2009. That was the point. PJM even states (at 9) that if EE remained a capacity resource it would result in double counting. Nonetheless, PJM simply misunderstands and misstates the history and its significance.

**E. The Addback Creates an Out of Market Subsidy.**

As a result of the fact that energy efficiency measures were, starting in 2016, reflected in the peak load forecast for the delivery year for which an auction was conducted, the impact of EE on the clearing prices and quantities had to be eliminated in order to avoid double counting of the energy efficiency measures. PJM took two steps. PJM removed EE from the capacity market. PJM created the addback. There was no market reason to take the second step.

When done correctly and as intended, the result of the EE addback is that there is no impact on the capacity market clearing price or quantity. The addback results in customers paying for the EE that offered at or below the clearing price as an uplift payment or subsidy to EE sellers and not through the capacity market. As an example, the inclusion of sell offers for EE using the EE addback, had a significant impact on subsidy payments by customers for EE for the 2024/2025 Delivery Year, but no impact on the auction clearing prices or quantities. As a direct result of the addback, PJM customers were obligated to pay EE subsidies of \$119,541,421, a 5.8 percent increase over capacity auction revenues for the 2024/2025 RPM Base Residual Auction.<sup>10</sup>

**F. The Addback Has No Basis in the Filed Tariff.**

PJM asserts that granting the Market Monitor's Complaint would violate the filed rate doctrine. The point of the Complaint is that the payments to EE are not based on a filed rate.

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<sup>10</sup> See Monitoring Analytics, *Analysis of the 2024/2025 RPM Base Residual Auction*, <[https://www.monitoringanalytics.com/reports/Reports/2023/IMM\\_Analysis\\_of\\_the\\_20242025\\_RPM\\_Base\\_Residual\\_Auction\\_20231030.pdf](https://www.monitoringanalytics.com/reports/Reports/2023/IMM_Analysis_of_the_20242025_RPM_Base_Residual_Auction_20231030.pdf)> (Oct. 30, 2023).



The Manual language does not constitute a filed rate. The Manual language does not implement a filed tariff rate. There is no filed rate that provides for payments to EE.<sup>11</sup>

PJM does not and cannot cite to any filed tariff provision that requires or permits the inclusion of the addback in its manuals. On the contrary, the filed tariff plainly states that the energy efficiency included in the PJM forecast are not EE, are not capacity resources, are not part of the capacity market and are not eligible for payment under the capacity market rules. The addback contradicts the filed tariff rules.

**G. The Description of the Addback in an Order Is Not an Order Finding the Addback Just and Reasonable.**

PJM argues that the Commission has, in prior orders, recognized that the addback is “provided in the PJM Manuals.”<sup>12</sup> PJM also argues that some orders recognize “that the addback was designed to address changes in the methodology for determining the PJM load

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<sup>11</sup> The violation of Section 205 of the Federal Power Act alleged in this Complaint can also be characterized as a violation of the filed rate doctrine. Although the filed rate doctrine is usually applied in a context where there is a proposed retroactive change to a rate on file, the doctrine also applies where there is no rate on file during any portion of the relevant period. *See, e.g., Old Dominion Elec. Coop. v. FERC*, 892 F.3d 1223, 1226–1227 (2018) (“Those rules mandating the open and transparent filing of rates and broadly proscribing their retroactive adjustment are known collectively as the ‘filed rate doctrine.’ At bottom, that doctrine means that ‘a regulated seller of [power]’ is prohibited ‘from collecting a rate other than the one filed with the Commission,’ and ‘the Commission itself’ cannot retroactively ‘impos[e] a rate increase for [power] already sold.’”), citing *Arkansas Louisiana Gas Co. v. Hall*, 453 U.S. 571, 578 (1981).

<sup>12</sup> PJM at 3, citing *Advanced Energy Econ.*, 161 FERC ¶ 61,245 at P 7 (2017), *reh’g denied & clarification granted in part*, 163 FERC ¶ 61,030 (2018) (“In PJM, EERs may aggregate and offer into the RPM for a maximum of four years.[footnote omitted] EER providers that clear in the market are assessed daily auction credits (revenues) during the delivery year and billed weekly. Starting with the Base Residual Auction for the 2019/2020 Delivery Year, PJM put into place a new load forecasting model that reflects EERs in the peak load forecast.[footnote omitted] In December 2015, PJM implemented changes to its manuals, approved by stakeholders, to include an energy efficiency add-back mechanism.[footnote omitted] The mechanism aims to prevent double-counting EERs as both a supply-side resource and a load forecast reduction. Under the mechanism, PJM reconstitutes (i.e., adds-back) load reductions resulting from supply-side EERs to its forecasted demand curve. According to PJM, this add-back of EER capacity is necessary to ensure that sufficient quantities of non-EERs are procured to meet PJM’s reliability standard.”).

forecast in order to preserve the ability of EE Resources to qualify for capacity payments as they had under the previous load forecast methodology.”<sup>13</sup> The cited orders’ description of manual provisions is not a substitute for failure to file a rule as required under Section 205 of the Federal Power Act. The portion of the cited order does not review or approve the addback.<sup>14</sup> The portion of the cited order on which PJM relies does not provide the Commission’s views of the addback; rather, it summarizes PJM’s description.<sup>15</sup> That PJM description mischaracterizes the addback.<sup>16</sup> The cited orders do not address the arguments raised in this Complaint. Nothing in the orders provide any defense against the arguments raised in the Complaint that the addback violates the filed rate doctrine.

#### **H. Stakeholder Review Is Not an Order Finding the Addback Just and Reasonable.**

PJM argues (at 2–3, 7–8): “[T]he addback was extensively reviewed by stakeholders in 2015, through a total of seven meetings wherein PJM even modified its initial proposal based on stakeholder feedback, before the stakeholders voted to endorse the inclusion of the addback in the PJM Manuals by acclamation with 12 objections and one abstention.” Stakeholder review of manual changes, however thorough, is not a substitute for review by the Commission. Stakeholder review and approval is not a substitute for Commission review and approval.

PJM’s implementation of the addback is unlawful and PJM has not shown otherwise in its answer.

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<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* The addback does not “prevent double-counting EERs as both a supply-side resource and a load forecast reduction.” EERs included in the load forecast are, by definition, not EER and includable as supply-side resources. Also, EERs do not supply capacity or any other service and do not require compensation. The addback creates a subsidy outside the capacity market.

## **I. References to EE Should Be Removed from the Tariff and Manuals.**

The definition of EE in the tariff excludes energy efficiency that is included in the PJM's peak load forecast.<sup>17</sup> Energy efficiency is included in PJM's forecast. EE is not capacity and is not part of the capacity market. Continuing to include EE provisions and references in the market rules when EE cannot participate in the capacity market under the tariff rules, serves no useful purpose and creates confusion. The appropriate solution is to direct PJM to remove all such EE provisions and references from the tariff and manuals.

## **II. MOTION FOR SUMMARY DISPOSITION**

In its Answer (at 19–20), PJM moves for summary disposition. PJM explains that a motion for summary disposition “should be granted when there is ‘no genuine issue’ of material fact left in dispute.”<sup>18</sup> The Market Monitor agrees with PJM's statement (at 19): “There is no meaningful factual dispute regarding how the addback operates or how it came to be included in the PJM Manuals.” The Market Monitor agrees that there is no disputed genuine issue of material fact in this case. PJM and the Market Monitor agree on the core fact that EE is not included in the PJM peak load forecast and therefore EE is not a capacity resource. The dispute is solely about the legal implications of not including EE in the PJM peak load forecast. There is no reason why the Commission cannot resolve the issues raised in the Complaint as a matter of law. Efficient resolution of the Complaint would serve the public interest and conserve the resources of the parties and the Commission.

PJM provides no relevant or valid legal reason to grant its motion for summary disposition. PJM has not argued as a matter of law that the EE receiving payment under the addback method meets the tariff definition of EE or that EE is a capacity resource. PJM has not made any valid argument that the addback has any basis in the tariff. On the contrary,

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<sup>17</sup> See OATT Attachment DD-1 § L.1 and RAA Schedule 6 § L.1.

<sup>18</sup> PJM at 19, citing 18 C.F.R. § 385.217(b).

the Market Monitor has shown that the addback contradicts the filed tariff. PJM's motion for summary disposition should be denied.

The Market Monitor here moves for summary disposition of its claim that, as a matter of law, EE is not a capacity resource, the payments to EE are not for any service specified in the tariff, and, therefore, the payments to EE violate Section 205 of the Federal Power Act. The Complaint should be granted on summary disposition as a matter of law. The relief requested in the Complaint should be provided, or such relief should be provided as the Commission determines is appropriate.

### **III. MOTION FOR LEAVE TO ANSWER**

The Commission's Rules of Practice and Procedure, 18 CFR § 385.213(a)(2), do not permit answers to protests, answers, or requests for rehearing unless otherwise ordered by the decisional authority. The Commission has made exceptions, however, where an answer clarifies the issues or assists in creating a complete record.<sup>19</sup> In this answer, the Market Monitor provides the Commission with information useful to the Commission's decision making process and which provides a more complete record. Accordingly, the Market Monitor respectfully requests that this answer be permitted.

### **IV. CONCLUSION**

The Market Monitor respectfully requests that the Commission afford due consideration to this answer as the Commission resolves the issues raised in this proceeding.

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<sup>19</sup> See, e.g., *PJM Interconnection, L.L.C.*, 119 FERC ¶61,318 at P 36 (2007) (accepted answer to answer that "provided information that assisted ... decision-making process"); *California Independent System Operator Corporation*, 110 FERC ¶ 61,007 (2005) (answer to answer permitted to assist Commission in decision-making process); *New Power Company v. PJM Interconnection, L.L.C.*, 98 FERC ¶ 61,208 (2002) (answer accepted to provide new factual and legal material to assist the Commission in decision-making process); *N.Y. Independent System Operator, Inc.*, 121 FERC ¶61,112 at P 4 (2007) (answer to protest accepted because it provided information that assisted the Commission in its decision-making process).

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Dated: August 15, 2024

Respectfully submitted,



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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 Eagleville, Pennsylvania,  
this 15<sup>th</sup> day of August, 2024.



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## **Attachment A**

necessary adjustment for PRD proposed in an approved PRD Plan or committed following an RPM Auction.

$$RTORelReq = (RTOPeakLoadForecast * FPR) - \sum PrelimUCapOblig_{FRR\ Entity} + Adj_{EE} - Adj_{PRD}$$

## 2.4.2 Reliability Requirement in Locational Deliverability Areas

The Locational Deliverability Area Reliability Requirement is the projected internal capacity<sup>7</sup> (in UCAP terms) in the LDA plus the Capacity Emergency Transfer Objective (CETO) for the Delivery Year, as determined by the RTEP process, less the minimum internal resources (in UCAP terms) required for the FRR Entities located in the LDA, plus any necessary adjustment for EE Resources per Section 2.4.5 of this manual, and less any necessary adjustment for PRD proposed in an approved PRD Plan or committed in any RPM Auction for PRD located in the LDA.

$$LDARelReq = (LDAInternalCapacity + LDACETO - MinInternalResources_{FRR\ Entity}) + Adj_{EE} - Adj_{PRD}$$

## 2.4.3 Deleted

## 2.4.3A Deleted

## 2.4.4 Adjustments to RPM Auction Parameters for PRD

After PRD Providers propose PRD commitments in their PRD Plans, and PJM reviews and accepts those commitments, PJM will use the resulting PRD values to reduce the reliability requirement to be satisfied for the region and for any affected Zones (or sub-Zonal LDAs). The reliability requirement will be reduced by the quantity of UCAP that would have been procured on behalf of the PRD load but that is now not needed due to the PRD loads' commitment to reduce consumption. The Reliability Requirement of the RTO and each affected LDA will be reduced by a quantity equal to the Nominal PRD Value multiplied by the FPR. These reliability requirement reductions will be considered in the development of the RTO/LDA Variable Resource Requirement Curves as explained in Section 3.4 of this manual.

## 2.4.5 Adjustments to RPM Auction Parameters for EE Resources

An Energy Efficiency (EE) Resource is a project that involves the installation of more efficient devices/equipment, or the implementation of more efficient processes/systems, exceeding then-

<sup>7</sup> See Manual 20: PJM Resource Adequacy Analysis and Manual 20A.



current building codes, appliance standards, or other relevant standards, designed to achieve a permanent, continuous reduction in electric energy consumption that is not reflected in the peak load forecast prepared for the Delivery Year for which the EE Resource is proposed. Because energy efficiency measures are reflected in the peak load forecast for a Delivery Year for which an auction is being conducted, the auction parameters must be adjusted as described below for the EE Resource(s) that are proposed for that auction in order to avoid double-counting of the energy efficiency measures.<sup>8</sup>

For each auction, the Reliability Requirement of the RTO and each affected LDA will be increased by the total UCAP Value of all EE Resource(s) for which PJM accepted an EE M&V Plan for that auction, and upon which PJM created an EE Resource to be offered into that upcoming auction.<sup>9</sup> If a first-pass auction solution clears fewer EE Resource MW than the amount by which the Reliability Requirement of the RTO and each affected LDA was increased, the Reliability Requirement increase of the RTO and each affected LDA will be reduced such that it is set equal to the cleared EE MW quantity of the first-pass auction solution and the auction will be solved again. This step is repeated until the cleared EE Resource MW across the RTO equals the total EE Addback MW quantity of the RTO or until the sum of squares of the differences across all LDAs increases relative to the previous iteration. The RTO/LDA reliability requirement increases will be considered in the development of the RTO/LDA VRR Curves as explained in Section 3.4 of this manual.

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<sup>8</sup> Effective for RPM Auctions conducted after January 2016.

<sup>9</sup> The increase in Reliability Requirement is accomplished in each BRA by shifting the VRR Curve of the RTO and each affected LDA to the right by the MW quantity of the increase. The increase in Reliability Requirement is accomplished in each IA by the submittal of a PJM Buy Bid in each affected LDA with the buy bid MW quantity set equal to the increase.

## **Attachment B**

# EE Addback Education

MIC

April 3, 2024

IMM



Monitoring Analytics

## EE Enters the PJM Capacity Market

- **On March 26, 2009, FERC approved Tariff and RAA changes to allow EE Resources to participate in PJM Capacity Markets beginning with the Base Residual Auction conducted in May 2009 which committed capacity for the 2012/2013 Delivery Year.**
- **FERC approved PJM's request to allow EE Resource participation beginning June 1, 2011, in the remaining 2011/2012 Incremental Auctions by letter order dated January 22, 2010 in Docket No. ER10-366-000.**

# EE Originally Not Included in the Load Forecast

- **The requirements for Energy Efficiency Resource participation in PJM Capacity Markets are in Tariff, Attachment DD-1 and RAA, Schedule 6, Section L.**
- **The only reason that EE was included in the capacity market in the first place was that EE was asserted to not be included in the PJM load forecast used in the capacity market.**
- **PJM stated that EE was not fully reflected in the load forecast for four years based on the method in place at the time.**

## PJM Filing to Include EE (ER09-412)

- **“An EE Resource is permitted to be offered as a Capacity Resource in the Base Residual or Incremental Auctions for four (4) consecutive Delivery Years. [fn omitted] As discussed above, this ensures that a party contemplating an energy efficiency investment realizes the benefit of the investment’s reduction in the PJM region’s capacity needs before that reduction can be reflected in the load forecast used for RPM’s forward auctions. After that reduction is reflected in the load forecast, the customer’s load obligation, and capacity requirements, are reduced even without the changes proposed in this docket.”**

## PJM Filing to Include EE (ER09-412)

- **“However, as explained above, by the fourth Delivery Year the measure is in place, PJM’s load forecast will fully incorporate the measure’s capacity reduction benefits. Continuing to make a capacity payment to the project sponsor under those circumstances would represent a double-payment for the measure’s benefits: once in the form of a foregone capacity payment by the sponsor, and then again the form of an affirmative payment to the sponsor.”**

## PJM Filing to Include EE (ER09-412)

- **“This double counting would also have an adverse impact on reliability because the installed reserves provided by energy efficiency would be counted as a resource in the RPM auction and again as a load forecast reduction. This would create the potential for a shortfall in procurement of installed reserves, which would violate reliability criteria.”**
- **PJM filed on 12.28.2008.**



# March 2009 FERC Order Approving EE in RPM

- **“PJM states that, while currently RPM permits participation by demand resources that are dispatchable by PJM, the reliability value of non-dispatchable resources, such as EE, is recognized within RPM only after the impact of the EE resources is reflected in the historic load data. RPM's Base Residual Auction is conducted three years before the Delivery Year, but it relies on forecasts based on peak loads from the summer before the auction, i.e., four years before the Delivery Year.” (Order at P120)**

# March 2009 FERC Order Approving EE in RPM

- **“In addition, PJM’s proposal corrects a mismatch between EE-related load reductions and capacity requirement levels. As PJM has explained, there is a four year lag after an EE resource is initially installed before its load-reducing effects are reflected in PJM’s load forecast and the associated installed reserve requirement for the Delivery Year.” (Order at P132)**

# March 2009 FERC Order Approving EE in RPM

- **“To address this gap, PJM has proposed tariff revisions in a new section M to schedule 6 of its Reliability Assurance Agreement, which otherwise deals with the participation of demand resources in RPM. PJM proposes to allow energy efficiency resources that clear in the RPM auction to receive RPM capacity payments for up to four consecutive Delivery Years.” (Order at P121)**
- **“After that reduction is reflected in the load forecast, the customer's load obligation and capacity requirements are reduced to reflect the reduction in the region's capacity needs.” (Order at P122, fn 56)**

# EE Incorporated in Load Forecast

- **Revisions to the PJM load forecast to incorporate energy efficiency were endorsed at the November 19, 2015, MRC.**
  - **These revisions included improvements to comprehensively capture energy efficiency impacts through incorporation of projections from the U.S. Energy Information Administration (EIA) Annual Energy Outlook (AEO).**
  - **The AEO forecast is based on a set of end use models for the residential, commercial, and industrial sectors.**
  - **EIA accounts for state and utility efficiency programs by mapping regional EE program expenditures to end uses and tracks the number of units sold and associated efficiency information on an ongoing basis.**

# OATT Attachment DD-1

**An Energy Efficiency Resource is a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during peak summer and winter periods as described herein) reduction in electric energy consumption at the End-Use Customer's retail site that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention. (Approved in March 26, 2009 Order.)**

# EE Should Have Been Removed at that Time

- **As soon as PJM explicitly included EE in the load forecast used in the capacity market, PJM should have followed its tariff language and logic and eliminated EE from the capacity market construct entirely.**

## **Rather than EE Removal – Addback Introduced**

- **PJM did not eliminate EE from the capacity market construct when EE included in PJM forecasts.**
- **PJM did eliminate EE from the capacity market.**
- **PJM removed EE from capacity resource status.**
- **PJM defined a way to continue to pay EE the capacity market clearing price while excluding EE from the capacity market.**
- **That calculation method (the addback method) was intended to allow payment to EE of the capacity market clearing price but eliminate any price impact of EE on the capacity auctions.**

# Addback

- **PJM documented the addback method in Manual 18 on December 17, 2015, but retained the tariff language that required the complete removal of EE from the capacity market.**
- **PJM implemented the addback method to reflect the inclusion of EE in the peak load forecast for the capacity market in 2016 for delivery years 2016/2017 and forward.**



## Corrected Addback Method

- The MMU pointed out that the addback method, as implemented, did affect capacity market prices and recommended a modification in the calculation method.
- The corrected EE addback method was adopted for the 2023/2024 Delivery Year.
- The method uses an iterative approach to ensure a match between the EE paid and the addback, and therefore no price impact.

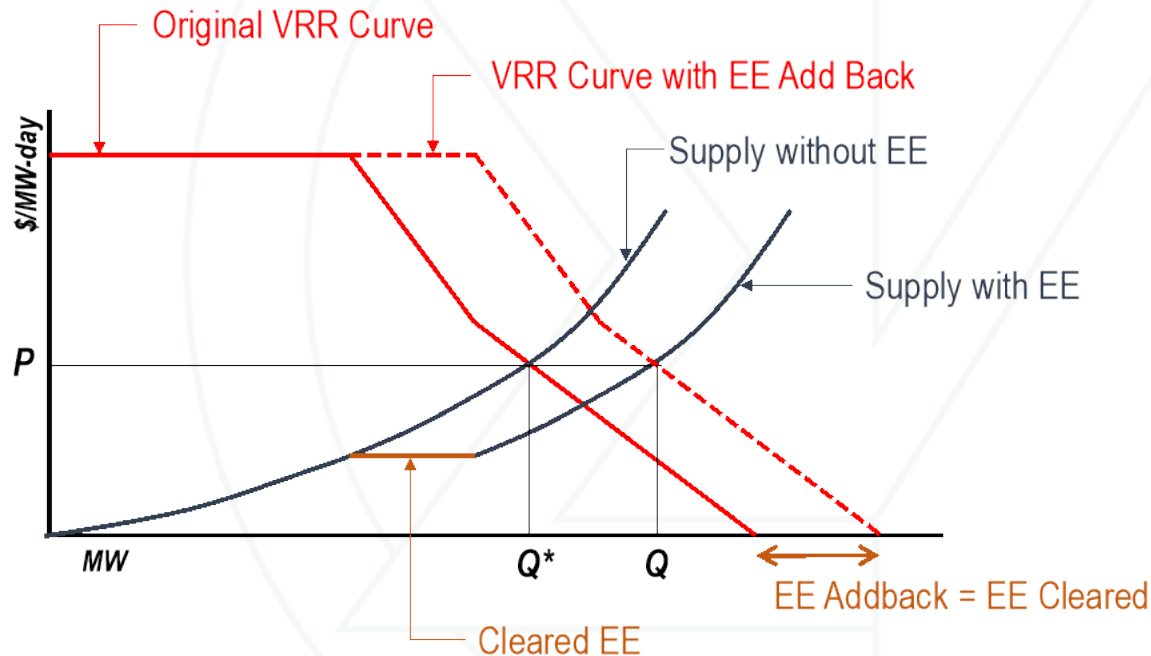
## Initial Addback Quantity

- **“For each auction, the Reliability Requirement of the RTO and each affected LDA will be increased by the total UCAP Value of all EE Resource(s) for which PJM accepted an EE M&V Plan for that auction, and upon which PJM created an EE Resource to be offered into that upcoming auction.”**
- **Manual 18, Section 2.4.5**

## Addback for BRAs and IAs

- **BRA: “The increase in the Reliability Requirement is accomplished in each BRA by shifting the VRR Curve of the RTO and each affected LDA to the right by the MW quantity of the increase.”**
- **IA: “The increase in the Reliability Requirement is accomplished in each IA by the submittal of a PJM Buy Bid in each affected LDA with the buy bid MW quantity set equal to the increase.”**
- **Manual 18, page 26, fn 9.**

# Illustration of BRA Clearing with EE Addback



***Q\*:*** Total Cleared without EE (UCAP MW)

***Q:*** Total Cleared with EE (UCAP MW)

***P:*** Clearing Price (\$/MW-day)

# Example: 2024/2025 BRA Planning Parameters

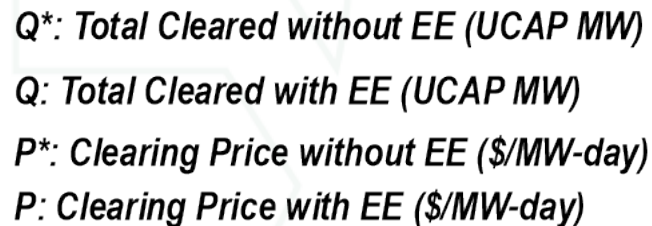
	Reliability Requirement adjusted for FRR	Gross CONE, \$/MW-Day (UCAP Price)	Net CONE, \$/MW-Day (UCAP Price)	EE Addback (UCAP)	Variable Resource Requirement Curve before EE Addback:						Variable Resource Requirement Curve after EE Addback:					
					Point (a) UCAP Price, \$/MW-Day	Point (b) UCAP Price, \$/MW-Day	Point (c) UCAP Price, \$/MW-Day	Point (a) UCAP Level, MW	Point (b) UCAP Level, MW	Point (c) UCAP Level, MW	Point (a) UCAP Price, \$/MW-Day	Point (b) UCAP Price, \$/MW-Day	Point (c) UCAP Price, \$/MW-Day	Point (a) UCAP Level, MW	Point (b) UCAP Level, MW	Point (c) UCAP Level, MW
RTO	132,055.7	\$348.94	\$293.19	7,668.7	\$439.79	\$219.89	\$0.00	130,674.1	134,243.2	141,035.9	\$439.79	\$219.89	\$0.00	138,342.8	141,911.9	148,704.6
MAAC	63,518.0	\$351.93	\$294.06	3,393.8	\$441.09	\$220.55	\$0.00	62,853.5	64,570.2	67,837.4	\$441.09	\$220.55	\$0.00	66,247.3	67,964.0	71,231.2
EMAAC	35,415.0	\$355.14	\$312.39	1,906.7	\$468.59	\$234.29	\$0.00	35,044.5	36,001.6	37,823.3	\$468.59	\$234.29	\$0.00	36,951.2	37,908.3	39,730.0
SWMAAC	14,299.0	\$357.45	\$261.07	766.2	\$391.61	\$195.80	\$0.00	14,149.4	14,535.9	15,271.4	\$391.61	\$195.80	\$0.00	14,915.6	15,302.1	16,037.6
PS	11,166.0	\$355.14	\$321.21	676.5	\$481.82	\$240.91	\$0.00	11,049.2	11,351.0	11,925.3	\$481.82	\$240.91	\$0.00	11,725.7	12,027.5	12,601.8
PS NORTH	5,715.0	\$355.14	\$321.21	329.5	\$481.82	\$240.91	\$0.00	5,655.2	5,809.7	6,103.6	\$481.82	\$240.91	\$0.00	5,984.7	6,139.2	6,433.1
DPL SOUTH	3,153.0	\$355.14	\$284.11	99.8	\$426.17	\$213.08	\$0.00	3,120.0	3,205.2	3,367.4	\$426.17	\$213.08	\$0.00	3,219.8	3,305.0	3,467.2
PEPCO	7,151.0	\$357.45	\$288.07	387.6	\$432.11	\$216.05	\$0.00	7,076.2	7,269.5	7,637.3	\$432.11	\$216.05	\$0.00	7,463.8	7,657.1	8,024.9
ATSI	14,434.0	\$341.33	\$279.35	579.6	\$419.03	\$209.51	\$0.00	14,283.0	14,673.1	15,415.6	\$419.03	\$209.51	\$0.00	14,862.6	15,252.7	15,995.2
TSI-Cleveland	5,374.0	\$341.33	\$279.35	54.9	\$419.03	\$209.51	\$0.00	5,317.8	5,463.0	5,739.5	\$419.03	\$209.51	\$0.00	5,372.7	5,517.9	5,794.4
COMED	23,859.0	\$341.33	\$302.76	1,063.3	\$454.14	\$227.07	\$0.00	23,609.4	24,254.2	25,481.5	\$454.14	\$227.07	\$0.00	24,672.7	25,317.5	26,544.8
BGE	7,514.0	\$357.45	\$234.07	378.6	\$357.45	\$175.55	\$0.00	7,435.4	7,638.5	8,025.0	\$357.45	\$175.55	\$0.00	7,814.0	8,017.1	8,403.6
PL	10,214.0	\$341.83	\$297.25	379.1	\$445.88	\$222.94	\$0.00	10,107.1	10,383.2	10,908.6	\$445.88	\$222.94	\$0.00	10,486.2	10,762.3	11,287.7
DAYTON	3,922.0	\$341.33	\$262.17	127.0	\$393.26	\$196.63	\$0.00	3,881.0	3,987.0	4,188.7	\$393.26	\$196.63	\$0.00	4,008.0	4,114.0	4,315.7
DEOK	6,589.1	\$341.33	\$268.26	183.9	\$402.39	\$201.20	\$0.00	6,520.2	6,698.3	7,037.2	\$402.39	\$201.20	\$0.00	6,704.1	6,882.2	7,221.1

VRR Curve values are prior to adjustment for PRD

# Iterative Solution

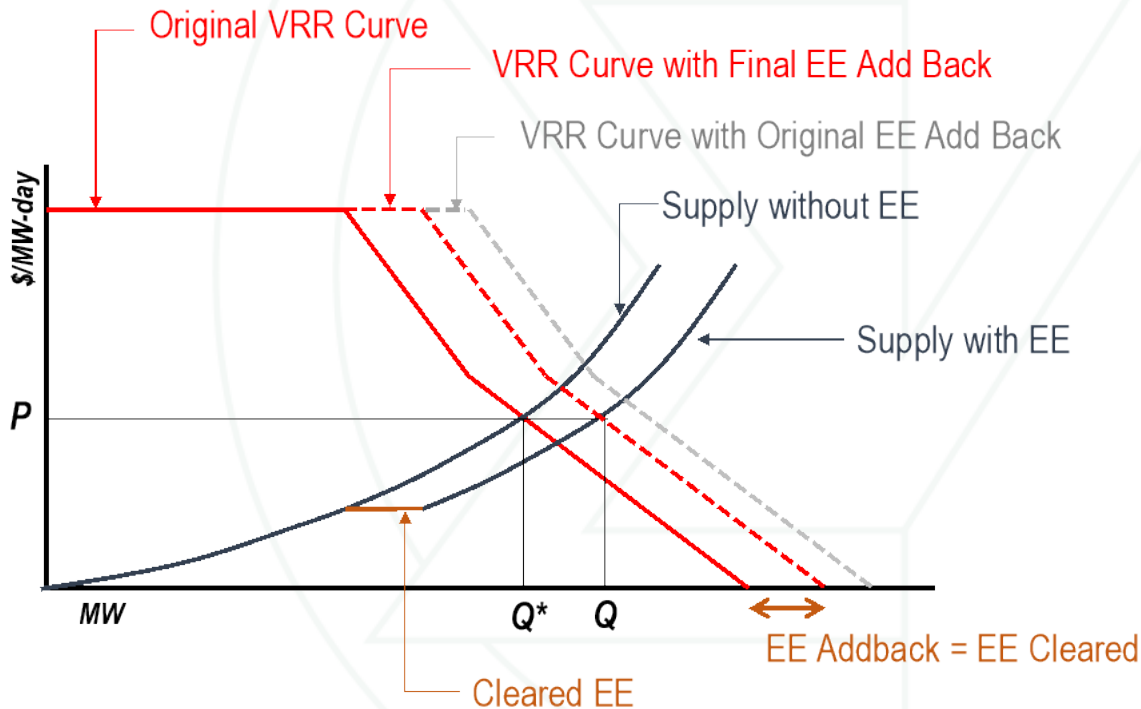
- If a first pass auction solution clears fewer EE Resource MW than the amount by which the Reliability Requirement of the RTO and each affected LDA was increased, the clearing price would increase.
- In the next iteration, the Reliability Requirement increase of the RTO and each affected LDA will be reduced such that it is set equal to the cleared EE MW quantity of the first pass auction solution and the auction is solved again.
- Iterations continue until the cleared EE MW match the shift in the Reliability Requirement (the addback quantity).

# First Pass



# Illustration of BRA Clearing with EE Addback

## Final Pass



***Q\*:*** Total Cleared without EE (UCAP MW)

***Q:*** Total Cleared with EE (UCAP MW)

***P:*** Clearing Price (\$/MW-day)



## Result is Subsidy Paid through Uplift

- **The result of the current EE addback method is that there is no impact on the capacity market clearing price.**
- **Customers do pay for the cleared quantity of EE at market clearing prices as an uplift payment that provides a subsidy to EE sellers.**

## Impact of EE

- The inclusion of sell offers for EE, with the EE addback mechanism, had a significant impact on the auction results, but not on the auction clearing prices.
- The total RPM market revenues for the 2024/2025 RPM Base Residual Auction were \$2,192,828,251.
- If there were no offers for EE and the EE addback MW were removed in the 2024/2025 RPM BRA and everything else had remained the same, total RPM market revenues for the 2024/2025 RPM BRA would have been \$2,073,286,830, a decrease of \$119,541,421, or 5.5 percent, compared to the actual results.

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