UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Joint Consumer Advocates,	)	
	)	
v.	)	**Docket No. EL24-118-000**
	)	
PJM Interconnection, L.L.C.	)	

ANSWER OF PJM INTERCONNECTION, L.L.C.

In accordance with Rules 213 and 217 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("Commission"),[1] and the Commission's Notice issued in this proceeding on June 21, 2024, PJM Interconnection, L.L.C. ("PJM") submits this Answer to the Complaint filed by a group of Consumer Advocates ("Complainants") challenging an adjustment to the PJM load forecast known as the "addback," which PJM has made in connection with capacity auctions under the Reliability Pricing Model[2] ("RPM") since 2015. The addback is a 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 addback is manifested by shifting the administratively determined demand curve to the right by an amount that matches the cleared quantity of EE Resources in a given auction. According to the Complainants, PJM improperly implemented the addback through modification of its manuals in 2015. In their view, the addback represented a "fundamental change" to the treatment of EE Resources that should have been included in the PJM Tariff under the "rule of reason" and filed with the Commission

[1] 18 C.F.R. §§ 385.213 & .217 (2023).

[2] 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"), the PJM Reliability Assurance Agreement ("RAA"), or the PJM Manuals.

under FPA section 205.[3] Complainants also contend that the use of the addback results in unjust and unreasonable rates and treats EE Resources in an unduly discriminatory manner.[4]

Contrary to the Complainants' claim, the EE addback does not undermine the participation of EE Resources in capacity auctions. Rather, the addback is illustrative of PJM's efforts to support the participation of EE Resources in capacity auctions. The addback was designed to address changes in the methodology for determining the PJM load forecast to *preserve* the ability of EE Resources to qualify for capacity payments as they had under the previous load forecast methodology. Thus, far from being a "fundamental change" that undermined the participation of EE Resources in RPM Auctions, as Complainants argue, the introduction of the addback preserved the *status quo* for EE Resources seeking to receive capacity commitments. The addback is an implementation detail designed to enable EE Resources to satisfy 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. Moreover, the addback's inclusion in the PJM Manuals is explicitly authorized by the PJM Tariff.[5]

The Complainants also fail to sustain their contentions that the addback results in unjust and unreasonable rates and undue discrimination. Complainants reason that EE Resources should be allowed to reduce the quantity of capacity procured by PJM for reliability and also *simultaneously* count as Capacity Resources PJM has paid to procure. They claim that if this is not permitted, load will make a "double payment" for EE Resources that clear in capacity auctions.

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[3] *Joint Consumer Advocates v. PJM Interconnection, L.L.C.*, Docket No. EL24-118-000, Complaint of the Joint Consumer Advocates at 8 (June 20, 2024). ("Complaint").

[4] *See id.* at 17-18.

[5] *See* Tariff, Attachment DD, § 5.10(a) ("f]or any auction, the Updated Forecast Peak Load . . . shall be reflected in the derivation of the [VRR] Curves, *in accordance with the methodology specified in the PJM Manuals*.").

However, this contention is meritless. If the impact of the EE Resources cleared as capacity was *not* added back into the load forecast, the administrative demand curve used in RPM would *understate* the target procurement levels by the amount of cleared EE MW. This would be inconsistent with the RPM Auction's operational design and would have a significant negative impact on reliability. Simply stated, an EE Resource that clears as a Capacity Resource cannot be counted as a reduction to load in the load forecast for the same Delivery Year. In fact, if the addback were to be eliminated, participation of EE Resources in capacity auctions would cease entirely in order to enable the capacity auction to perform its function of assuring resource adequacy.[6]

For each of the foregoing reasons, and others detailed below, the Commission should summarily dispose of the Complaint as a matter of law and, to the extent any portion of the Complaint survives summary disposition, the Commission should deny the Complaint on the merits without convening a technical conference or evidentiary hearing.

I. BACKGROUND

A. EE Resources Originally Qualified as Capacity Resources Because of a Lag in Recognizing Their Impact in the RPM Load Forecast

The RPM Auction is designed to procure resource adequacy at just and reasonable rates through a market-driven mechanism. The basic elements of the RPM Auction consist of an administratively determined demand curve, called the Variable Resource Requirement ("VRR") Curve and a supply curve consisting of offers for Capacity Resources that are submitted by

[6] Absent the addback, the only way EE could continue to participate in the capacity market and displace other Capacity Resources in the RPM Auctions would be to demonstrate that any EE offered into the auction is not somehow already included in the PJM load forecast. That is not possible because anticipated EE efforts are included in the load forecast. *See* PJM, Ex. A, Aff. of Andrew Gledhill at PP 14-15.

Capacity Market Sellers. The quantity of capacity procured and the price paid for capacity are generally determined based on the intersection of the two curves. Setting the VRR Curve correctly is critical for RPM to operate as designed. As the Commission has explained:

> In designing the VRR Curve, PJM seeks to ensure that the amount of capacity it procures satisfies a loss of load expectation of one event in 10 years. The price axis of the VRR Curve contains multiples of the Net CONE value, and the megawatt quantity axis contains the target reliability requirement. Higher prices (above Net CONE) are associated with capacity shortage conditions and lower prices are associated with excess capacity conditions.[7]

Using a VRR Curve that procures insufficient capacity would have adverse reliability impacts and, over time, would result in PJM failing to achieve the one-day-in-ten-years reliability standard.[8]

As originally proposed, EE Resources did not qualify as Capacity Resources in PJM's RPM Auctions. Nonetheless, based on a June 30, 2008 Brattle Group report ("Brattle Report") filed with the Commission, PJM was directed to convene the PJM stakeholder process in order to consider potential modifications to RPM.[9] Consequently, the potential inclusion of EE projects in RPM Auctions was a potential modification that the stakeholders considered.[10] Specifically, the Brattle Report "recommend[ed] that PJM consider incorporating the value of EE . . . initiatives either through updated and proactive adjustments to its load forecasts or by allowing direct participation as a capacity resource in RPM Auctions."[11] PJM eventually adopted the proposal to

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[7] *PJM Interconnection, L.L.C.*, 153 FERC ¶ 61,035, at P 3 (2015).

[8] *See id.* P 29 ("Evaluating an administrative demand curve requires a reasonable balancing of objective factors, including the projected impact on reliability and cost."); *PJM Interconnection, L.L.C.*, 149 FERC ¶ 61,183, at P 55 (2014) ("[I]t would be an unacceptable outcome for the base residual auction to fall short of reasonable reliability objectives.").

[9] *See PJM Interconnection, L.L.C.*, 124 FERC ¶ 61,272, at P 52 (2008).

[10] *Id*. P 16.

[11] Johannes Pfeifenberger, *et al.*, *Review of PJM's Reliability Pricing Model (RPM)* at 115 (June 30, 2008), https://www.brattle.com/insights-events/publications/review-of-pjms-reliability-pricing-model-rpm/.

allow EE Resources to participate in RPM Auctions until the load forecast reflected the load reductions associated with their installation.

On December 12, 2008, after engaging on this matter through the stakeholder process, PJM filed a suite of proposed enhancements to the RPM Auction design, including revisions to permit EE Resources to qualify as Capacity Resources provided that they properly verified their operation and installation. A Commission settlement process subsequently resulted in modifications to the December 12, 2008 filing but not to the provisions proposed by PJM allowing EE Resources to participate in RPM Auctions. PJM's December 12, 2008 filing explained the participation of EE Resources in capacity auctions as follows:

> [T]he reliability value of non-dispatchable resources such as energy efficiency (''EE'') initiatives is recognized within RPM [as originally adopted] only after the impact of EE programs 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. As a result, there is a "gap" between when the EE resource is online, but not recognized in the load forecast used in the RPM auctions, and when the EE resource is recognized in the load forecast.[12]

PJM thus proposed to fill this "gap" by allowing an EE Resource that demonstrates its capability to qualify as a Capacity Resource for four consecutive Delivery Years. "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 [the December 12, 2008 filing]."[13]

The Commission accepted PJM's rationale for allowing EE Resources to participate in RPM.[14] Further, the Commission found that "[a]s a result of not including the EE in the load

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[12] *PJM Interconnection, L.L.C.*, Docket No. ER09-412-000, Transmittal Letter at 29 (Dec. 12, 2008) ("Transmittal Letter") (footnote omitted).

[13] *Id*. at 32.

[14] *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,275, at P 131 (2009).

forecast, the VRR curve fails to move to the left, increasing the price paid and capacity acquired compared with a load forecast that correctly included EE."[15]

PJM memorialized the interplay between the participation of EE Resources in RPM Auctions and the inclusion of EE Resources in the load forecast for a given Delivery Year in the definition of "EE Resource" proposed in the December 12, 2008 filing and accepted by the Commission:

> "Energy Efficiency Resource" shall mean a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of RAA, Schedule 6 and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the periods described in Reliability Assurance Agreement, Schedule 6 and the PJM Manuals) *reduction in electric energy consumption 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.[16]

This definition expressly provides that to be eligible for participation in an RPM Auction, the load reductions associated with the EE Resource should not also be reflected in the load forecast for the same Delivery Year. In fact, Complainants concede this point noting that "the FERC-approved tariff rules were also designed to avoid double-counting EERs on both the supply side (through their participation in RPM Auctions) and on the demand side (through inclusion of energy efficiency demand reductions in PJM's load forecast."[17]

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[15] *Id.*

[16] RAA, Definitions, "Energy Efficiency Resource" (emphasis added); *see* OATT, Attach. DD-1, § L.1; RAA Sched. 6, § L.1 (emphasis added).

[17] Complaint at 15-16.

B. Upon Stakeholder Engagement and Stakeholder Endorsement, PJM Modified the PJM Manuals in 2015 to Include the Addback to Preserve the Ability of EE Resources to Participate in RPM Auctions

In 2015, PJM modified its procedures for conducting the peak load forecast used for RPM Auctions. At that time, as explained in the accompanying affidavit of Mr. Gledhill, PJM incorporated statistical analysis of end-use intensity trends predictive of the expected impact of EE enhancements in future Delivery Years.[18] Prior to this enhancement, EE impacts were captured through lower observed load.[19] As explained above, under the old methodology, because the impact of the installation of an EE Resource would not be observed in the peak load forecast used for RPM Auctions until four years after the project became operational, there would be a four-year lag between the time the EE Resource was built and the time the load reduction would be recognized in RPM. The 2015 enhancements to the load forecast methodology eliminated this lag.

PJM recognized that the change in the peak load forecast methodology, unless addressed, would result in double-counting of EE Resources contrary to (1) the Commission's rationale for directing PJM to consider allowing EE Resources to participate in RPM markets and (2) the definition of EE Resources found in the RAA and OATT. As a result, PJM publicly and transparently reviewed this matter through the stakeholder process in 2015.

In the stakeholder proceedings, PJM made abundantly clear in the presentations at the November 19, 2015 and December 17, 2015 Markets and Reliability Committee ("MRC") meetings that the addback's purpose was to "accommodate continued EE Resource participation in the capacity market."[20] For example, PJM stated in its November 2015 presentation:

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[18] Gledhill Aff. P 10.

[19] *Id.* P 12.

[20] PJM, *M18 and M18B Revisions to Accommodate EE Resource Participation in RPM When EE is Reflected in the Peak Load Forecast* at 6 (Nov. 19, 2015), https://www.pjm.com/-/media/committees-groups/committees/mrc/20151119/20151119-item-03b-draft-manual-18-and-

- [L]anguage of EE Resource definition [specifying that eligible projects must "not [be] reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed"] prevents adverse reliability impact of double counting energy efficiency measures as a resource in an RPM auction . . . and again as a load forecast reduction

- Unlike current model, new peak load forecast model does reflect energy efficiency measures in the peak load forecast

- To prevent double counting, an add-back mechanism is necessary in order to accommodate continued EE Resource participation in the capacity market when new peak load forecast model is adopted[21]

The PJM Manual revisions further demonstrate the addback's purpose. As explained in the revisions to PJM Manual 18B approved at the December 17, 2015 MRC:

> 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 is Section 2.4.5 of Manual 18, for the EE Resource(s) that are proposed for that auction in order to avoid double-counting of the energy efficiency measures.[22]

And, as explained in the revisions to PJM Manual 18 approved at the December 17, 2015 meeting:

> Because energy efficiency measures are reflected in the peak load forecast [beginning in 2015] for a Delivery Year for which an auction is being conducted, the auction parameters must be adjusted . . . for the EE Resource(s) that are proposed for that auction in order to avoid double-counting of the energy efficiency measures."[23]

18b-revisions-presentation.ashx ("November 2015 Presentation"); *see* PJM, *M18 and M18B Revisions to Accommodate EE Resource Participation in RPM When EE is Reflected in the Peak Load Forecast* at 3 (Dec. 17, 2015), https://www.pjm.com/-/media/committees-groups/committees/mrc/20151217/20151217-item-04-draft-manual-18-and-18b-revisions-presentation.ashx ("December 2015 Presentation").

[21] November 2015 Presentation at 6; *see* December 2015 Presentation at 3.

[22] PJM Manual 18B: Energy Efficiency Measurement & Verification, § 1.1 (Overview of Energy Efficiency).

[23] PJM Manual 18: PJM Capacity Market, § 2.4.5 (Adjustments to RPM Auction Parameters for EE Resources).

The addback thus *enabled* EE Resources to continue participating in RPM Auctions as they had since 2009. In short, PJM's stakeholders, including consumer advocates and the Independent Market Monitor for PJM, fully understood the rationale for reconstituting cleared EE Resources back into the PJM load forecast when these enhancements were endorsed by acclamation at the MRC on December 17, 2015 through an open and transparent stakeholder forum.

Consistent with the goal of enabling EE Resources to continue participating in RPM, the addback amount is commensurate with the levels of EE Resources that participate in RPM. In fact, the level of the addback is equal to the amount of EE Resources that clear in the auction.[24] Mechanically, because the addback is a quantity adjustment affecting capacity procurement targets in RPM, it shifts the VRR Curve to the right by the addback amount. PJM Manual 18 explicitly authorizes this shift, stating that "[t]he Variable Resource Requirement Curve will be shifted rightward along the horizontal axis by a quantity equal to the EE addback MW quantity as explained in Section 2.4.5 [of PJM Manual 18.]."[25]

In sum, as explained above, the Commission's 2009 order authorized EE Resources to participate as Capacity Resources to cover the time "gap" between when they were placed into service and when their reductions would be reflected in the RPM peak load forecast. However, a

[24] *See id.* Under the current method, the addback matches the cleared EE Resource MW quantity in the auction across the RTO and each LDA. This methodology was approved at the October 20, 2021 MRC for the RPM Auctions beginning with the 2023/2024 Delivery Year. *See* PJM Markets and Reliability Committee, *Consent Agenda E, Executive Summary Manual Changes* at 1 (Oct. 20, 2021), https://www.pjm.com/-/media/committees-groups/committees/mrc/2021/20211020/20211020-consent-agenda-e-2-manual-18-revisions-executive-summary.ashx. Prior to this revision, the amount of the cleared EE MW could also be adjusted based on a ratio that took account of the clearing levels of EE Resources in previous Delivery Years.

[25] PJM Manual 18, § 3.4.1 (Plotting the Variable Resource Requirement Curves); *see id.* § 2.4.5, n.9 ("The increase in Reliability Requirement [associated with the EE addback] 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.").

fundamental premise of the Commission's approval of EE Resource participation in RPM was that an EE Resource should not simultaneously qualify as a load reducer and source of supply, i.e., be "double counted." Accordingly, in 2015, when PJM modified the load forecast method to include anticipated EE load reductions, PJM had to adjust the load forecast upward to protect system reliability and avoid the double-counting prohibited by the Tariff. PJM and its stakeholders decided to retain the *status quo* by adding Energy Efficiency Resources back into the load forecast in 2015, thereby allowing EE Resources to participate in RPM as they had done prior to the overall load forecast enhancements.

II. ARGUMENT

A. PJM Properly Included the Addback in the PJM Manuals

1. The Addback is an Implementation Detail Properly Included in the PJM Manuals

The Complainants contend that PJM erred by failing to file Tariff revisions that incorporate the addback.[26] They maintain that under the "rule of reason," the addback cannot be contained only in PJM Manuals. However, the Complainants' rule of reason argument has no merit. There was no need to modify the Tariff to create the addback. Its inclusion in the PJM Manuals is fully justified under the rule of reason.

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 rend recitation superfluous."[27] The Commission and the courts have repeatedly emphasized the impossibility of setting forth every practice

[26] *See, e.g.*, Complaint at 12.

[27] *Keyspan Ravenswood, LLC v. FERC*, 474 F.3d 804, 811 (D.C. Cir. 2007) (quoting *City of Cleveland v. FERC*, 773 F.2d 1368, 1376 (D.C. Cir. 1985) (emphasis in original).

affecting rates.[28] Hence, since the rule's inception, it has been understood that "there is an infinitude of practices affecting rates and service," and attempting to define them all in a tariff is neither practical nor optimal.[29] For this reason, "mere implementation details" may be included in business practice manuals without Commission approval.[30] "[E]ven specifiable practices that significantly affect rates need not be included if they are clearly implied by the tariff's express terms."[31] When applying the rule, the Commission does not follow "some absolute prescribed standard literally set forth in the statute and regulations, but . . . the minimum specificity that the Commission could reasonably require."[32]

Despite the Complainants' focus on the contents of the PJM Manuals, the rule of reason is not itself concerned with what information is contained in an RTO's manuals, but rather what information is contained in an RTO's tariff.[33] Thus, the question is not whether the addback

[28] *See, e.g.*, *Hecate Energy Greene Cty. 3 LLC v. FERC*, 72 F.4th 1307, 1312 (D.C. Cir. 2023) (quoting *City of Cleveland*, 773 F.2d at 1370 ("[I]t is no more possible to set forth all of the practices affecting rates . . . than it is to set forth all of the terms and conditions of a contract, leaving nothing whatever to be implied."); *Midcontinent Indep. Sys. Operator, Inc.*, 158 FERC ¶ 61,003, at P 69 (2017).

[29] *City of Cleveland*, 773 F.2d at 1376.

[30] *Hecate*, 72 F.4th at 1312; *PJM Interconnection, L.L.C.*, 186 FERC ¶ 61,080, at P 53 (2024).

[31] *Hecate*, 72 F.4th at 1314 (citing *City of Cleveland*, 773 F.2d at 1376).

[32] *City of Cleveland*, 773 F.2d at 1376.

[33] *See, e.g.*, *N.Y. Indep. Sys. Operator, Inc.*, 170 FERC ¶ 61,051, at P 12 (2020) ("[T]he Commission found that the Services Tariff contains sufficient information regarding the determination of LCRs to satisfy the requirement that practices significantly affecting rates and services be filed with the Commission and that the 'rule of reason' does not require NYISO to make further revisions to the Services Tariff."); *Hecate*, 72 F.4th at 1313 ("Because the tariff gave Hecate fair notice that nonjurisdictional projects would be used in the base case, the tariff included all 'practices … affecting … rates,' as required by the Federal Power Act.").

provisions contained in the PJM Manuals are important but whether the Tariff is "detailed enough" to provide sufficient notice that an addback for EE Resources could or must be applied.[34]

PJM's Tariff satisfies the level of necessary specificity. First, the RAA states that an EE Resource is a project "that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed."[35] The addback provision replicates this language.[36] When considering an amendment adding this same language to the RAA's definition of "Energy Efficiency Resource," PJM explained that the purpose of that specific language was to "prevent[] adverse reliability impact[s] of double-counting energy efficiency measures as a resource in an RPM auction (or FRR Capacity Plan) and again as a load forecast reduction."[37] By virtue of this provision, Complainants were aware that the defined rate would not permit a situation in which EE Resources would simultaneously be reflected both in the peak load forecasts used for RPM Auctions and as a Capacity Resource. Complainants concede as much, yet bemoan the fact that PJM must take measures to prevent such double-counting.[38]

Once the Tariff makes clear that it will not permit double-counting, RAA Schedule 6, section L then outlines in great detail the procedures and methodologies governing the offering of EE Resources as Capacity Resources. Thus, the Tariff clearly outlines the terms significantly affecting the ultimate rate, i.e., the prohibition against EE Resources being double-counted.

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[34] *Hecate*, 72 F.4th at 1312.

[35] RAA, Sched. 6 § L.1; OATT, Attach. DD-1 § L.1.

[36] *See* PJM Manual 18 § 2.4.5.

[37] November 2015 Presentation at 6.

[38] *See* Complaint at 15-16 ("[T]he FERC-approved tariff rules were also designed to avoid double-counting EERs on both the supply side (through their participation in RPM Auctions) and on the demand side (through inclusion of energy efficiency demand reductions in PJM's load forecast.").

Complainants are simply wrong to contend that the details for implementing the bar against double-counting—namely, the addback—must also be included in the Tariff.

Second, Tariff, Attachment DD, section 5.10 specifies that the Office of the Interconnection "shall determine [VRR] Curves for the PJM Region" and that "[f]or any auction, the Updated Forecast Peak Load . . . shall be reflected in the derivation of the [VRR] Curves, *in accordance with the methodology specified in the PJM Manuals*."[39] The Tariff reiterates this point in section 5.10(a)(i).[40] The Commission has accepted similar provisions in the Tariff without concern for the rule of reason.[41] Complainants' argument that details regarding how the load forecast should be reflected in the placement of the VRR Curve thus run directly counter to the Commission's decision not to require that VRR Curve adjustments related to the load forecast be included in the Tariff.

Complainants unpersuasively rely on the Commission's decision in *Energy Storage Association v. PJM Interconnection, L.L.C.*[42] to bolster their arguments.[43] In contrast to the PJM Tariff, which outlines the methodologies for EE Resource participation in capacity auctions as well as adjustments to the VRR Curve in detail, the provision at issue in *Energy Storage Association* relied entirely on the PJM Manuals to explain its operations, and it was that issue that

[39] OATT, Attach. DD § 5.10(a) (emphasis added).

[40] *Id.* § 5.10(a)(i) ("Prior to the Base Residual Auction, in accordance with the schedule in the PJM Manuals, the Office of the Interconnection shall establish the Variable Resource Requirement Curve for the PJM Region. . . .").

[41] *See Big Sandy Peaker Plant, LLC*, 154 FERC ¶ 61,216, at P 49 (2016) (noting that the Commission accepted "specified in the PJM Manuals" language "without requiring further specificity" under the "rule of reason").

[42] 162 FERC ¶ 61,296 (2018).

[43] *See* Complaint at 13-14.

drove the Commission's decision.[44] The Tariff provision that the Commission deemed insufficiently detailed states:

> Each resource shall be assigned a unit-specific benefits factor based on their order in the merit order stack for the applicable Regulation signal. The unit-specific benefits factor is the point on the benefits factor curve that aligns with the last megawatt, adjusted by historical performance, that resource will add to the dynamic resource stack.[45]

In that case, the only provision that discussed the benefits factor curve, lacked any explanation of the methodology used to determine that curve. Notably, the Commission initially approved this level of detail, despite it not addressing the benefits factor curve calculation methodology, and only disapproved of the inclusion of that methodology in the PJM Manuals after it was shown to significantly affect rates.[46] The Commission also specifically noted that the PJM Manuals implemented "an entirely different curve" from that described in the Tariff, seemingly adopting the complainant's position that the cap on the level of RegD resources contradicted the Tariff's language.[47]

The situation here is radically different. Because the concept underlying the addback is memorialized in the Tariff, and because it responds to a Commission directive, affected stakeholders were on notice that EE Resources would not be permitted to be both a load reducer and a capacity supplier in the same Delivery Year. The addback merely effectuates this concept and implements the rate design that the Tariff contemplates. Complainants have not alleged a

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[44] *Energy Storage Ass'n*, 162 FERC ¶ 61,296 at P 104 ("The PJM Tariff notes the use of the benefits factor for these purposes, but does not specifically address how the benefits factor is curved.") (internal citations omitted).

[45] OATT, Attach. K-Appendix, § 3.2.2(j); OA, Sched. 1, § 3.2.2(j).

[46] *See Energy Storage Ass'n*, 162 FERC ¶ 61,296 at P 104.

[47] *Id.* P 105; *see id.* P 15 ("According to ESA, the cap on RegD resources contradicts the plain language of the PJM Tariff, which ESA claims requires PJM to apply the benefits factor to the offers of *each resource* in clearing the Regulation market.") (emphasis in original).

contradiction between the PJM Manuals and Tariff here, nor have they shown that the addback causes the RPM mechanism to operate in a manner different from that contemplated by the Tariff.

The other precedents the Complainants cite are likewise readily distinguishable. Again, Complainants fail to recognize the difference between a situation where the Tariff spells out its methodology for determining rates, while leaving certain implementation details to the PJM Manuals—as is the case here—from situations where critical methodologies are excluded from the Tariff and left to the PJM Manuals.[48]

2. The Addback Did Not Cause a "Fundamental Change" in the Treatment of EE Resources but Instead Preserved the Status Quo Ante

Complainants repeatedly assert that the addback constitutes a "fundamental change" to how EE Resources participate in PJM's capacity market as support for their claim that the addback should have been subject to Commission review.[49] But this contention shows a misunderstanding regarding how the addback operates and why it was implemented in the first place. Far from effectuating a "fundamental change," the implementation of the addback preserved the *status quo* embodied in the 2009 Tariff revisions enabling the participation of EE Resources in RPM by ensuring that the 2015 enhancements to the load forecast that projected EE Resource load reductions did not result in double-counting of EE MW in the RPM clearing mechanism.

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[48] *See, e.g.*, *PJM Interconnection, L.L.C.*, 175 FERC ¶ 61,084, at P 66 (2021) (requiring PJM to define ELCC Classes in the Tariff because the ELCC Classes were critical to calculating Accredited UCAP in the RPM Auction); *PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,049, at P 140 (2019) (requiring PJM to file its minimum run-time requirements because the tariff included none of the methodologies needed to determine minimum run-times and only specified that the manual needed to allow resources to de-rate their capacity); *PJM Interconnection, L.L.C.*, 134 FERC ¶ 61,066, at P 69 (2011) (addressing a situation where the Commission required a filing because the Tariff "merely refer[red] to a methodology in the manuals" but did not detail that methodology, and stating that "many of the details of the calculations" could be placed in the manual).

[49] *See* Complaint at 8, 17.

In short, the Complainants misunderstand the effect of the addback. EE Resources that cleared the RPM Auctions would be used to meet the reliability requirement prior to the 2015 load forecast enhancements because EE Resources were not included the load forecast prior to 2015. After 2015, EE Resources were already accounted for in PJM's load forecast so it was necessary to add any cleared EE Resources back into the load forecast. The effect of this addback did not result in a "fundamental change" to how EE Resources participate in and contribute to the RPM Auctions. To illustrate with a simple example, prior to 2015, if the load forecast without EE Resources was 105 MW and 5 MW of EE Resources cleared an RPM Auction, the 5 MW would be used to meet the reliability requirement and effectively result in a 100 MW reliability requirement. After 2015, because EE Resources are already included in the load forecast, if the reliability requirement is 100 MW and 5 MW of EE Resources clear an RPM Auction, PJM would simply addback the 5 MW of EE Resources into the load forecast, offsetting the 5 MW of cleared EE and thereby retaining the 100 MW reliability requirement. Thus, there was simply no "fundamental change" when the addback was introduced in 2015 because the reliability requirement (i.e., 100 MW) ultimately remained the same to account for the cleared EE Resources.

By contrast, PJM would have had to double-count EE Resources had the 2015 load forecast updates occurred without the addition of the addback. Given that the Tariff specified a prohibition against double-counting and outlined the methodology for offering EE Resources as Capacity Resources, PJM transparently and collaboratively developed the addback with stakeholders and documented this load forecast approach in its PJM Manuals to preserve the already-existing Tariff framework for the participation of EE Resources in RPM Auctions. Thus, contrary to the Complainants' claim that "PJM has effectively removed energy efficiency as a capacity resource," the addback exists to preserve the ability of EE Resources to participate in the RPM Auctions.

3. The Addback Has Been Used For Nine Years Without any Party Objecting to Its Inclusion in the PJM Manuals, and the Commission has Acknowledged Its Operation as a PJM Manual Requirement

Notwithstanding the Complainants' assertion that the 2015 PJM Manual changes made a "fundamental change" in the treatment of EE Resources, they do not contend that PJM should have sought approval of these changes at the Commission at the time of the addback's creation. Thus, after nine years of waiting, their meritless claims that there is a need for urgent action ring particularly hollow. Complainants should not be permitted to disrupt well-established procedures by claiming at this late date that a different process should have been used nine years ago.

Further, the Commission has been aware, at least since 2017, of the role played by the addback in the RPM Auctions and that the addback was a feature of the PJM Manuals. *Advanced Energy Economy*,[50] a declaratory order proceeding involving PJM and Midcontinent Independent System Operator, Inc., addressed whether the Commission had exclusive jurisdiction over the participation of EE Resources in wholesale markets and whether relevant electric retail regulatory authorities had the authority to bar or restrict the sale into the wholesale electricity markets of EE Resources originating in their state or local area. One of the issues presented concerned the impact of PJM's EE addback on retail rates.[51] The orders in that proceeding clearly show that the Commission was aware of how the addback operated and that it was located in the PJM Manuals, stating:

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[50] *Advanced Energy Econ.*, 161 FERC ¶ 61,245 (2017), *reh'g denied & clarification granted in part*, 163 FERC ¶ 61,030 (2018).

[51] *See id.* P 41 ("AEE states that concerns regarding the potential for third-party EERs to impact load forecasting and resource adequacy planning appear to stem from PJM's decision in 2015 to include an 'add back' in its load forecast."); *id.* P 43 ("PJM Utilities respond that the compensation to third-party EER providers is funded directly by LSEs who have to pay for the grossed-up (i.e., mathematically derived 'load' that is added back in solely to generate revenues to compensate EER providers) load represented by EERs.").

> In December 2015, PJM implemented changes to its manuals, approved by stakeholders, to include an energy efficiency add-back mechanism. 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.[52]

The use of an addback has not changed since 2017, and the Commission did not voice any concern over including the addback in the PJM Manuals at that time.

B. Complainants Have Failed to Demonstrate that the Addback is Unjust, Unreasonable, Unduly Discriminatory, or Arbitrary

1. The Addback is Not Unjust or Unreasonable

The Complainants' contentions that the addback results in unjust and reasonable costs, and that the addback unduly discriminates against EE Resources, are completely unfounded. Complainants first contend that the addback "precludes energy efficiency from displacing higher-cost capacity," supposedly causing RPM Auctions to "procure higher-cost resources" and "to procure more generation capacity than it needs."[53] At bottom, Complainants are contending that using the load forecast in RPM that includes projected EE reductions *without* any addback will yield just and reasonable rates. The opposite is true. Unless the addback is included as an element of the RPM clearing mechanism, RPM Auction results will be unjust and unreasonable.

As explained above, the VRR Curve used in the RPM Auction is designed so that "the megawatt quantity axis contains the target reliability requirement."[54] If the target reliability requirement is too low, the curve will shift too far to the left and RPM Auctions will not procure

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[52] *Id.* P 7 n.15. The Commission acknowledged the approval by the PJM stakeholders of the PJM Manual 18 and 18B revisions implementing the addback at the December 17, 2015 Markets and Reliability Committee Meeting.

[53] Complaint at 17.

[54] *PJM Interconnection*, 153 FERC ¶ 61,035 at P 3.

sufficient Capacity Resources to satisfy the one-day-in-ten years resource adequacy standard over time. Further, relatively small differences in the target quantity can be expected to have meaningful reliability impacts. For example, the Commission found PJM's proposal for a one percent rightward shift in the VRR Curve, estimated to cost $173 million more than a VRR Curve without the one percent shift, was "reasonable, on balance, given the increase in reliability."[55]

Accepting Complainants' proposal to eliminate the addback would create serious reliability concerns. Mr. Gledhill's affidavit illustrates this point with empirical evidence. As shown there, the RPM Auction for the 2024/2025 Delivery Year used the 2022 Load Forecast of 150,640 MW which took account of the projected impact of EE Resources.[56] This load forecast issued in January 2022 and covered 2022 to 2037.[57] The BRA for the 2024/2025 Delivery Year cleared 7,667 MW of EE Resources.[58] Under the Complainants' proposed methodology, the target reliability quantity used for determining the x-axis position of the VRR Curve effectively would have been 142,973 MW (the 150,640 MW original forecast amount less 7,667 MW in cleared EE Resources).[59] In other words, accepting the EE Resource amounts without making any adjustment in the target reliability level would have been the pre-auction equivalent of locating the VRR Curve on the x-axis with a target reliability requirement of 142,973 MW.

Moving the VRR Curve 7,667 MW to the left on the x-axis would constitute a 5.1 percent shift compared to the VRR Curve actually used in the BRA. Undoubtedly, a shift of this magnitude

[55] *PJM Interconnection*, 149 FERC ¶ 61,183 at P 55.

[56] Gledhill Aff. P 16.

[57] *Id.*

[58] *Id.*

[59] *Id.*

would have had significant reliability and price impacts given that even a one percent shift in the VRR Curve is meaningful.[60]

Further, developments since the auction for the 2024/2025 Delivery Year confirm that the 151,631 MW value used for the target reliability requirement in the 2024/2025 Delivery Year auction was reasonable and certainly not excessive. PJM recently prepared a load forecast for Delivery Year 2024/2025, which covered 2024 to 2039, for application in the 2024/2025 Third Incremental Auction that was rerun in May of 2024.[61] This revised load forecast estimated a peak Summer load requirement of 151,631 MW for PJM.[62] While this value shows that the target reliability requirement of 150,640 MW used in the 2024/2025 Base Residual Auction was about 1,000 MW too low based on the more current data, it also shows that an 8,658 MW deficit results from using the 142,973 MW value associated with eliminating the addback.[63] In sum, the most up-to-date load forecast available, prepared shortly before the 2024/2025 Delivery Year, confirms that eliminating the addback from the 2024/2025 BRA would have resulted in a reliability target more than 8,500 MW below the best estimate of PJM's actual requirements—a leftward VRR Curve shift of 5.7 percent. As Mr. Gledhill explains, "the addback is necessary to avoid double counting and creating a reliability issue."[64]

2. The Addback is Not Unduly Discriminatory or Preferential

The Complainants' second contention is that "the addback unduly discriminates against energy efficiency by preventing energy efficiency from meeting the reliability requirement or

[60] *See supra* note 55 and accompanying text.

[61] Gledhill Aff. P 16.

[62] *See id.*

[63] *See id.*

[64] *Id.*

showing that the energy efficiency offered is not already captured in the load forecast prepared for the Delivery Year."[65] According to the Complainants, they should be treated "like generation."[66] However, any MW that clears in an RPM Auction—including a MW from an EE Resource—"meets the reliability requirement" to the same extent as a MW from any other resource.[67] Similarly, an EE Resource MW that clears in an RPM Auction will displace a higher cost MW from another resource that does not clear. The addback in no way impairs the ability of EE Resources to clear in RPM and thereby take on obligations as Capacity Resources. The discrimination claimed by the Complainants in the reliability value accorded to EE Resources as compared to other resource types does not exist. As noted, *supra*, while EE Resources that cleared the RPM Auctions were used to meet the reliability requirement prior to the 2015 load forecast enhancements, after EE Resources were accounted for in PJM's load forecast in 2015, it was necessary to add any cleared EE Resources back into the load forecast. The effect of this addback did not result in "fundamental change" to how EE Resources participate in and contribute to the RPM Auctions because the reliability requirement ultimately remained the same to account for the cleared EE Resources before and after the 2015 load forecast enhancements.

The Complainants' claims regarding discrimination also fail because the addback is needed to address unique characteristics of EE Resources that other resources do not possess. EE Resources are the only Capacity Resources that are both not dispatchable and that have a direct impact on the peak load. An addback is not necessary for Generation Capacity Resources because, solely as supply sources, they cannot affect the load forecast. Further, the only other types of

[65] Complaint at 18.

[66] *Id.*

[67] RPM recognizes annual and seasonal resources. To be precise, all MW annual resources are equivalent to each other, and all MW of seasonable resources are equivalent to each other.

Capacity Resource that could affect the load forecast, i.e. Demand Resources and Price Responsive Demand ("PRD"), are also subject to measures to prevent double-counting.[68] Applying the adder to EE Resources thus is not unduly discriminatory because no Capacity Resources are allowed to be both a load reducer of demand and a capacity supply source in the same Delivery Year. In fact, the addback is what makes EE Resources comparable to other Capacity Resources. If there were no addback, the treatment of EE Resources would be preferential, assuming they were allowed to continue participating in RPM at all. Similarly, EE Resources are not discriminated against with respect to whether they are "already captured" in the load forecast. As noted above, Generation Capacity Resources are never "captured" in the load forecast and Demand Resources that could be "captured" are subject to requirements similar to EE Resources to prevent double counting.

3. The Addback is Not Arbitrary

The Complainants third claim is that the "addback [amount] is arbitrary."[69] However, this is demonstrably untrue. The addback amount is equal to the amount of cleared EE Resources. To participate in RPM, EE Resource owners must provide detailed Measurement and Verification Plans[70] and Post-Installation Measurement and Verification Reports[71] to demonstrate that claimed levels of load reductions can be achieved. In addition, PJM has the ability to conduct audits to

[68] As noted by Mr. Gledhill, the principles underlying the treatment of Demand Resources as potential load reducers affecting the load forecasts are similar to the principles supporting the addback. In both instances, PJM takes steps to avoid double-counting of the same resources in a given Delivery Year. *See* Gledhill Aff. PP 15-16. Accordingly, there is no undue discrimination between EE Resources and Demand Resources. In fact, PJM's use of procedures to ensure that Demand Resources are not double-counted demonstrates that EE Resources have not been singled out for this treatment.

[69] Complaint at 18.

[70] *See* PJM Manual 18B § 3 (M&V Plan Components).

[71] *See id.* § 4 (Post-Installation M&V Report Components).

determine that EE Resources have met all applicable requirements.[72] It is thus entirely reasonable for PJM to consider cleared MW from EE Resources that have satisfied these requirements as the amount of EE reductions present in the target reliability requirement. Finally, the Complainants have failed to provide any evidence that PJM's load forecast methodology does not reasonably estimate the projected impact of EE in the load forecast.[73] Indeed, as shown in Mr. Gledhill's affidavit, PJM's load forecast process is rigorous and uses the best available data.[74]

C. Contrary to Complainants' Contentions, PJM Never Agreed That EE Resources Could Both Reduce the Load Forecast and Qualify as Capacity Resources in the Same Delivery Year

Complainants attempt to justify double-counting of EE Resources by claiming that PJM supported it in the past. Complainants state that "PJM originally expected and intended that the participation of EE Resources in RPM Auctions could reduce both the need to procure other resources and the auction clearing prices."[75] This is patently false. PJM never "expected or envisioned" that EE Resources could simultaneously be both load reducers and sources of supply.

The only authority cited for the Complainants' claim regarding PJM's supposed intention is the sentence "EE and PRD programs . . . reduce the amount of capacity that is needed to satisfy

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[72] *See id.* § 6 (M&V Process).

[73] *See RENEW Ne., Inc. & Am. Clean Power Ass'n v. ISO New Eng., Inc.*, 182 FERC ¶ 61,085, at P 48 n.117 (2023) (citing *San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Servs. Into Mkts. Operated by Cal. Indep. Sys. Operator Corp. & Cal. Power Exch.*, 149 FERC ¶ 61,116, at PP 45-49 (2014), *on reh'g*, 153 FERC ¶ 61,144 (2015), *aff'd sub nom. MPS Merchant Servs., Inc. v. FERC*, 863 F.3d 1155 (9th Cir. 2016) ("The party with the burden of proof bears the burden of production, or the need to provide sufficient evidence to establish a *prima facie* case.") (denying complaint for failing to meet burden of proof); *see also Nantahala Power & Light Co.*, 19 FERC ¶ 61,152, at 61,276 (1982) ("The test for *prima facie* evidence is whether there are facts in evidence which if unanswered would justify [persons] of ordinary reason and fairness in affirming the question which the plaintiff is bound to maintain.").

[74] *See* Gledhill Aff. at PP 4-9.

[75] Complaint at 15.

reliability targets; and . . . may also reduce RPM auction clearing prices," appearing in the June 30, 2008 Brattle Report referenced in PJM's December 12, 2008 transmittal letter ("Transmittal Letter") proposing the Tariff revisions needed for EE Resources to participate in RPM.[76] Understood in context, however, the quoted sentence simply references the fact that EE could be recognized *either* as a load reducer or as an RPM supply source in any given Delivery Year but not in the same Delivery Year. Neither the Brattle Group nor PJM ever stated that an EE Resource could *simultaneously* be a load reducer and a supply source in the same Delivery Year.

PJM's Transmittal Letter is equally clear that PJM never supported allowing EE Resources to be both load reducers and sources of capacity in the same Delivery Year. Rather, the description in the Transmittal Letter clearly specifies that periods where EE Resources could reduce the Load Forecast or participate in RPM are temporally distinct. The letter states that EE Resource participation in RPM "provid[es] a mechanism to fill the 'gap' between the time the EE Resource comes online, and the time its contribution to reducing loads is recognized in the load forecast used for the RPM Auctions."[77] And, the letter further specifies that the EE Resource can participate in RPM for the period "before that reduction can be reflected in the load forecast used for RPM's forward auctions."[78]

[76] *Id.* n.37.

[77] Transmittal Letter at 30.

[78] *Id.* at 32.

III. THE COMMISSION SHOULD SUMMARILY REJECT COMPLAINANTS' CLAIMS WITHOUT CONVENING A TECHNICAL CONFERENCE OR AN EVIDENTIARY HEARING

A. Motion for Summary Disposition

The Complaint is fatally flawed for reasons that demand summary disposition under Rule 217 of the Commission's Rules of Practice and Procedure. A motion for summary disposition should be granted when, as here, there is "no genuine issue" of material fact left in dispute.[79]

There is no meaningful factual dispute regarding how the addback operates or how it came to be included in the PJM Manuals. The Complainants' claim that the PJM should have sought Commission approval of the addback through an FPA Section 205 filing can be fully addressed and summarily rejected based on a simple review of controlling tariff language and by the application of the Commission's "rule of reason" test to those undisputed facts. Further, there is no factual dispute that an important Commission-directed design element of RPM was to prevent "double-counting" of EE MW in calibrating the VRR Curve. Indeed, Complainants concede that "the FERC-approved tariff rules were also designed to avoid double-counting EERs on both the supply side (through their participation in RPM auctions) and on the demand side (through inclusion of energy efficiency demand reductions in PJM's load forecast."[80] Complainants' claim that the addback is unjust, unreasonable and unduly discriminatory thus may be summarily rejected because PJM has demonstrated how the addback was needed to prevent "double counting" of EE MW after PJM's adoption of load forecasting enhancements in 2015.

[79] 18 C.F.R. § 385.217(b).

[80] Complaint at 15-16.

B. There is No Justification for a Technical Conference or an Evidentiary Hearing

There is no basis for the Commission to host a technical conference focused on the participation of EE Resources in wholesale markets as requested by the Complainants or to order an evidentiary hearing before an Administrative Law Judge to address the claims made in the Complaint.[81] The Complainants have not raised any facts justifying such conference or hearing, nor have they shown that PJM has engaged in any conduct that threatens the participation of EE Resources in PJM's wholesale markets. The allegations in the Complaint can be resolved based entirely on the current record and it would be neither beneficial nor efficient to pursue a technical conference or evidentiary hearing in this matter.

C. Ongoing PJM Stakeholder Discussions Already Provide a Forum for Consideration of Prospective Changes to Rules Governing the Participation of EE Resources in RPM Auctions

Although Complainants' claims in this proceeding should be rejected, PJM acknowledges that the existing EE rules need to be updated as they have not been substantially revised since the Commission first allowed EE Resources to participate in PJM's capacity market in 2009. However, such enhancements to the EE rules should be made prospectively and outside of the context of this Complaint. To that end, PJM has been actively engaged with stakeholders on proposed enhancements to the existing EE rules since November 1, 2023.[82] While such stakeholder discussions have not yielded a consensus proposal at this time, PJM intends to file proposed EE enhancements with the Commission in the coming months. Such prospective

[81] *See id.* at 19.

[82] *See* Market Implementation Committee Draft Minutes for November 1, 2024, https://www.pjm.com/-/media/committees-groups/committees/mic/2023/20231206/20231206-draft-minutes---mic---11123.ashx.

enhancements to the existing EE rules through a filing under Section 205 of the Federal Power Act is the more appropriate procedural vehicle rather than the instant Section 206 complaint.

IV. STATEMENTS PURSUANT TO 18 C.F.R. § 385.213(C)(2)

A. Admissions and Denials

Pursuant to 18 C.F.R. § 385.213(C)(2)(i), PJM affirms that any allegation in the Complaint that is not specifically and expressly admitted above is denied.[83]

B. Affirmative Defenses

Pursuant to 18 C.F.R. § 385.213(C)(2)(ii), PJM's affirmative defenses are in this Answer.

V. COMMUNICATIONS

PJM requests that the Commission place the following individuals on the official service list for this proceeding:[84]

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VI. CONCLUSION

For the reasons set forth in this answer, the Commission should deny the Complaint and provide no relief.

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[83] 18 C.F.R. § 385.213(c)(2)(1).

[84] To the extent necessary, PJM requests a waiver of Commission Rule 203(b)(3), 18 C.F.R. § 385.203(b)(3) to permit more than two persons to be listed in the official service list for this proceeding.

Respectfully submitted,

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July 10, 2024

CERTIFICATE OF SERVICE

I hereby certify that I have on this day caused to be served a copy of the foregoing upon all parties on the service list in these proceedings in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010 (2023).

/s/ Blake Grow

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EXHIBIT A
AFFIDAVIT OF ANDREW GLEDHILL

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Joint Consumer Advocates,	)	
	)	
v.	)	**Docket No. EL24-118-000**
	)	
PJM Interconnection, L.L.C.	)	

AFFIDAVIT OF ANDREW GLEDHILL ON BEHALF OF PJM INTERCONNECTION, L.L.C.

1. My name is Andrew Gledhill. My business address is 2750 Monroe Blvd., Audubon, Pennsylvania, 19403. I am Manager of the Resource Adequacy Planning department in the System Planning division of PJM Interconnection, L.L.C. ("PJM"). I am submitting this affidavit on behalf of PJM to explain how PJM prepares the peak load forecast used in RPM auctions and to explain why the Energy Efficiency Resource addback is needed to enable the Reliability Pricing Model ("RPM") to operate as designed to support resource adequacy on the PJM system.

Qualifications

2. I joined PJM in 2011. As Manager of the Resource Adequacy Planning department, I am responsible for overseeing long-term resource adequacy studies and production of the long-term load forecast ("PJM Load Forecast"). Prior to this role, my primary responsibility was the development and production of the PJM Load Forecast.

3. I hold a Bachelor of Science degree in Mathematics from the Pennsylvania State University and a Masters degree in Economics from the North Carolina State University.

Load Forecast

Overview

4. The PJM Load Forecast is an independent work product that produces a range of hourly and expected peaks over the next fifteen years under a range of historical weather conditions. The purpose of the PJM Load Forecast is to provide an accurate signal of expected load conditions, taking into consideration such factors as economic growth, distributed generation, electric vehicles, and equipment/appliance usage trends. This ultimately supports PJM planning and market functions.

5. The PJM Load Forecast is produced on an annual basis and involves methodological enhancements and input assumption updates to reflect evolving trends. Methodology and results are discussed and reviewed at various stages of the PJM Stakeholder process, primarily through the Load Analysis Subcommittee and Planning Committee. The PJM

Load Forecast methodology utilizes estimating practices that are widely employed within the utility industry.

6. The PJM Load Forecast is produced using a series of statistical models.[1] The process starts with three sector models: Residential, Commercial, and Industrial. PJM uses Sector models to incorporate independent assumptions on economic trends and end-use adoption and efficiency. Each sector has its own set of models and inputs, and these sector models result in a set of three end-use indices: Heat, Cool, and Other. These are zonal-calibrated measures that serve as the basis for understanding historical and forecast trends in weather-sensitive and non-weather-sensitive electric use.

7. The next stage is a series of 24 hourly regression models for each PJM zone. Each regression model has the same specifications, with load modeled against certain input variables, including Weather Variables, Calendar effects, and the end-use indices from the sector model process.

8. Once models are estimated, forecasts for each PJM transmission zone are produced by solving the hourly zonal equations, moving through the year on a daily and hourly basis, applying adjustments for historical weather patterns (including conditions for distributed solar generation), as well as load forecast adjustments (e.g., data centers and peak shaving), and adjustments for behind-the-meter battery storage and electric vehicles. To enhance the simulation process, each yearly weather pattern is shifted by each day of the week moving forward six days and backwards six days, providing 13 different weather scenarios for each historical year. For instance, in the 2024 PJM Load Forecast, the end result is that for every hour, there are 377 forecast scenarios related to weather variation (29 historical years times 13 scenarios).

9. For purposes of system planning or markets, these results will be processed to distill an expected median forecast (50th percentile) for a month, year, or season or an extreme value forecast (90th percentile). Some more recent developments in resource adequacy studies use the full forecast—all 8760 hours—and the full range of scenarios produced through weather simulation.

Model enhancements

10. Methodological enhancements need to be made frequently to acknowledge ongoing patterns and best align with actual load trends or anticipated factors. These enhancements have covered a range of different initiatives, including migration to an hourly model

[1] Details on the production of the PJM Load Forecast can be found in the Load Forecast Supplement. *See* PJM Resource Adequacy Planning Department, *2024 Load Forecast Supplement* (Jan. 2024), https://www.pjm.com/-/media/planning/res-adeq/load-forecast/load-forecast-supplement.ashx.

framework in 2022 and incorporation of end-use intensity trends in 2015. The latter was when PJM first made adjustments to explicitly account for energy efficiency trends in its PJM Load Forecast.

11. Prior to the 2015 enhancements that incorporated end-use intensity trends, PJM used a model in which the correlation of load with economic factors was the primary driver of movements in the forecast. Efficiency trends were captured implicitly, i.e., lower observed loads reflected the efficiency gains. This resulted in a lag for including energy efficiency impacts in the PJM Load Forecast. Because energy efficiency was only captured in the observed loads and the RPM auction was held three years prior to the Delivery Year, a four year lag would occur between when energy efficiency projects were installed and when they would appear in the load history used to produce the RPM load forecast for a given Delivery Year.

12. The current end-use intensity methodology does an effective job of accurately estimating energy efficiency impacts. An end-use intensity is the relative use over time of a technology considering its relative penetration or saturation and its relative efficiency. For example, all else held equal, the use or intensity of central air conditioning would increase if more people acquired central air conditioners and would decrease if those units were to become more efficient. Energy intensity values are derived from the EIA Annual Energy Outlook. These factors are captured in the above-described sector model evaluation.

13. Energy intensity values are used as variables in PJM's statistical models. These variables take into account growing efficiency, which is a further adjustment reflected in the model estimation and the final forecast.[2] This modeling technique has directly contributed to lower loads than would have otherwise been observed.

Addbacks

14. All demand-side resources, including Energy Efficiency Resources, have the potential to be counted either as reductions to load or as supply-side resources. Addbacks serve the purpose of avoiding a situation in which the Energy Efficiency Resource is counted *both* as a demand-side resource and as a supply side resource in the same Delivery Year, i.e., "double counting." The PJM Load Forecast serves as an input to the RPM. Since 2015, the PJM Load Forecast has been explicitly reduced by the enhancements for efficiency gains. But Energy Efficiency participates as a supply-side resource. Thus, an addback is

[2] In 2022, PJM engaged an outside consultant, Itron, to evaluate and provide consultation on load forecasting. Itron's report further explains the interaction of intensity variables and forecast modeling of efficiency impacts. *See* Itron Inc., *2022 PJM Model Review: Final Report* at 48-49, https://www.pjm.com/-/media/planning/res-adeq/load-forecast/pjm-model-review-final-report-from-itron.ashx (last visited July 9, 2024).

needed to assure that reliability will not be affected by counting the same Energy Efficiency Resources as both reducing demand and as supplying Capacity in the same Delivery Year.

15. Though computed in a different way, similar principles apply to active load management of Demand Resources. Under Manual 19, Attachment A,[3] there are established guidelines for calculation of estimated load drops for load curtailments. These load curtailments are re-constituted with our load history such that the loads being used to estimate our models are not already being reduced by resources seeking to participate as supply in RPM. This is consistent with the operation of the Energy Efficiency addback.

16. Having a resource both reduce demand and offer as supply, absent some form of addback, can create a potential reliability issue. This can be seen by considering recent auction results. The 2022 PJM Load Forecast issued January 2022 covered 2022 to 2037. That forecast was used as the basis for the 2024 RPM Base Residual Auction ("BRA") and planning parameters, projected a PJM summer peak load of 150,640 MW.[4] The cleared amount of Energy Efficiency in the 2024 BRA was 7,667 MW.[5] Absent an addback, the signal would have been that the market only needs to procure resources to serve 142,973 MW (150,640 MW original forecast less 7,667 MW cleared Energy Efficiency), effectively shifting the VRR Curve by 7,667 MW to the left on the x-axis. The most recent peak load forecast, which covered 2024 to 2039 and issued in connection with the Third Incremental Auction prepared for Delivery Year 2024/2025, was 151,631 MW.[6] This indicates that not applying the addback would have resulted in a reliability deficit of 8,658 MW (151,631 MW forecast less 142,973 MW implied reliability requirement if the addback was not used). In short, the addback is necessary to avoid double counting and creating a reliability issue.

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[3] *See* Manual 19: Load Forecasting & Analysis (Nov. 15, 2023), https://www.pjm.com/-/media/documents/manuals/m19.ashx.

[4] PJM, *2024-2025 RPM Base Residual Auction Planning Parameters* (May 8, 2024), https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2024-2025/2024-2025-rpm-bra-planning-parameters.ashx. The 2024-2025 RPM Base Residual Auction Planning Parameters used the 2022 Load Forecast covering 2022 to 2037. *See PJM Load Forecast Report: January 2022*, https://www.pjm.com/-/media/library/reports-notices/load-forecast/2022-load-report.ashx (last visited July 9, 2024).

[5] PJM, *2024/2025 RPM Base Residual Auction Results*, https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2024-2025/2024-2025-base-residual-auction-report.ashx (last visited July 9, 2024).

[6] PJM, *2024-2025 RPM Third Incremental Auction Planning Parameters* (last updated Feb. 1, 2024), https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2024-2025/2024-2025-3ia-planning-parameters.ashx. The 2024-2025 Third Incremental Auction Planning Parameters used the 2024 Load Forecast covering 2024 to 2039. *See PJM Load Forecast Report: January 2024*, https://www.pjm.com/-/media/library/reports-notices/load-forecast/2024-load-report.ashx (last visited July 9, 2024).

17. This concludes my affidavit.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Joint Consumer Advocates,	)	
	)	
v.	)	**Docket No. EL24-118-000**
	)	
PJM Interconnection, L.L.C.	)	

VERIFICATION OF ANDREW GLEDHILL

Andrew Gledhill, being first duly sworn, deposes and states that he is the Andrew Gledhill referred to in the foregoing document entitled "Affidavit of Andrew Gledhill," that he has read the same and is familiar with the contents thereof, and that the testimony set forth therein is true and correct to the best of his knowledge, information, and belief.

Signed and sworn to (or affirmed) before me on July 10, 2024 by [signature]

Commonwealth of Pennsylvania

County of Montgomery

[signature]

Commonwealth of Pennsylvania - Notary Seal
Jacqueline Cobb, Notary Public
Montgomery County
My commission expires December 20, 2027
Commission number 1291751
Member, Pennsylvania Association of Notaries