UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	)	Docket No. ER25-2002-000

ANSWER AND MOTION FOR LEAVE TO ANSWER OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rules 212 and 213 of the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C. ("PJM"),[2] submits this answer to the answer submitted by PJM on May 23, 2025 ("May 23rd Answer"), to the Market Monitor's comments in this proceeding filed, May 9, 2025 ("IMM Comments"). The IMM Comments criticized PJM's proposal submitted April 18, 2025 ("April 18th Filing") that was intended to "mitigate" the impact of PJM's own updated ELCC values on capacity resources with reduced ELCC derating factors. The IMM Comments point out that PJM's ELCC values are inherently volatile, that it is well known that PJM's ELCC values are volatile, and explains that the April 18th Filing would undermine the market incentives created by PJM's ELCC model. PJM's filing would impose costs on load. The May 23rd Answer fails to substantively address, let alone refute, the issues identified by the Market Monitor. The May 23rd Answer does not support approval of the April 18th Filing as just and reasonable, and it should be rejected.

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1 18 CFR §§ 385.212 & 385.213 (2024).

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") or the PJM Reliability Assurance Agreement ("RAA").

I. INTRODUCTION

PJM's proposal is an ad hoc response to complaints from PJM generators that ELCC values are volatile and that volatility results in lower ELCC values for some technology classes between the BRA and IA, exposing them to the need to buy replacement capacity in an incremental auction to make up the difference. It is a fact that ELCCs are volatile. It is a fact that reductions in ELCC values require some resources to buy replacement capacity or pay the associated penalties. It is also a fact that PJM's ELCC calculations are opaque and a cause of frustration for many PJM market participants. None of these facts are a reason to change the rules as proposed in the April 18th Filing and to entirely eliminate the daily deficiency charge penalty. PJM has cited no precedent for such a change. The fact that PJM modified the Daily Deficiency Rate for unrelated reasons 16 years ago is irrelevant.

PJM's proposal will impose costs on load in two ways. Load receives the penalty payments that PJM proposes to eliminate. Load would also have to pay for any additional capacity that PJM would have to purchase in the Third Incremental Auction to cover any shortfall in PJM's reliability metric that results from a change in system Accredited UCAP ("AUCAP"). PJM simply ignores the potential impacts on the reliability calculations for the Third Incremental Auction.

PJM's two assertions (at 4) in support of PJM's proposed reduction of the Daily Deficiency Rate ("DDR") are that PJM's proposal "maintains the incentive structure inherent to the RPM" and mitigates the "additional impact that changes in Accredited UCAP driven by updates to ELCC values can have." PJM's assertion about incentives is not correct. PJM's second assertion is a statement of the obvious, that PJM's proposal reduces the obligations of capacity resources with reduced ELCCs, but provides no support for PJM's proposal.

Under the status quo if the DDR is 120 percent of the capacity market clearing price, the resource is paid 100 percent of the clearing price for its cleared capacity at the same time that the resource must pay the 120 percent. Thus the actual penalty is the 20 percent of the clearing price. By reducing the DDR penalty to 100 percent of the clearing price, PJM in fact

proposes to eliminate the penalty entirely. This is clearly not consistent with the incentive structure that currently exists in the RPM rules.

PJM states that ELCC changes are the result of "system wide changes" and have nothing to do with "imprudent operation of resources." PJM's statement appears to undermine PJM's entire approach to ELCC in which the ELCC values are a result of both the operation of the unit and PJM's assessment of its contribution to the reliability of the system based on that operation and the characteristics of the units.[3] PJM's ELCC standards have nothing to do with the old cost of service prudence standard. In a market, it is the investors who appropriately bear exactly these risks based on the actual operation of units and PJM's definition of units' contributions to reliability. Yet, contrary to the logic of the PJM ELCC approach, PJM states (at 6): "Accordingly, application of the 120% Deficiency Charge is unnecessary for such shortfalls."

PJM's definitive statement of its position (at 7) is: "This proposal merely mitigates the potential financial impact of a resource facing changes to its Accredited UCAP between the Base Residual Auction and subsequent RPM Auctions for that Delivery Year that may be due to factors beyond changes in the resource's performance." The Market Monitor agrees with this statement except for the inclusion of "merely." PJM appears to believe that it is a small matter to change the rules arbitrarily to protect participants from the effects of a proposal conceived of and proposed in detail by PJM and operating exactly as conceived and intended.

PJM argues against components of its ELCC model, pointing out that ELCC is not the same as EFORd and that PJM proposed and the Commission accepted the application of the must offer rule to intermittent and storage resources.

As a separate matter, while PJM's defense of using an untimely load forecast is technically correct, PJM used the wrong load forecast as a result of the way in which PJM wrote and implemented its own rules. This was not a necessary result and the Commission

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[3] May 23rd Answer at 2–3, citing *PJM Interconnection, L.L.C.*, 126 FERC ¶ 61,275, at P 172 (2009).

should direct PJM to solve this problem so that PJM does not again use the wrong forecast to determine ELCC values.

II. ANSWER

A. PJM's Proposal Removes Replacement Capacity Incentives.

There are two basic incentives to buy replacement capacity when a resource owner is short capacity, regardless of the reason. The first incentive is the requirement to pay the daily deficiency charge equal to the greater of 1.2 times the weighted average capacity market clearing price times the shortfall in UCAP MW. The second incentive is the existence of performance penalties, also known as PAI penalties, equal to (Net CONE in ICAP MW for the RTO in $/MW-day) x 365 days ÷ 30 ÷ 12 intervals in an hour. See PJM OATT, Attachment DD, Section 10A(e), where Net CONE is per MW of ICAP.

PJM's proposal would eliminate the first incentive. The second incentive is so attenuated as to be effectively meaningless as a routine incentive to buy replacement capacity.

The April 18th Filing would change the basic structure of the capacity market by eliminating the existing clear and uniform incentive for generators to cover a short capacity position caused by an updated ELCC capacity accreditation. The current incentive provided by the daily deficiency charge is clear and uniform. The April 18th Filing's proposal would eliminate the incentive of Market Sellers to cover their short position based on the daily deficiency charge. Under the status quo if the DDR is 120 percent of the capacity market clearing price, the resource is paid the clearing price for its cleared capacity at the same time that the resource must pay the 120 percent. Thus the actual penalty is the 20 percent of the clearing price. By reducing the daily deficiency charge penalty to 100 percent of the clearing price, PJM in fact proposes to eliminate the penalty entirely. This is clearly not consistent with the incentive structure that currently exists in the RPM rules.

PJM also asserts that the performance incentive based on the PAI penalties would provide an incentive to replace shortfalls in capacity. Capacity auctions for the 2026/2027 and

2027/2028 Delivery Years will be subject to a minimum price of $138.25 per MW-day ICAP and a maximum price of $256.75 per MW-day ICAP.[4] [5] [6] For the 2026/2027 Base Residual Auction, the minimum price is $175.00 per MW-day UCAP and the maximum price is $325.00 per MW-day UCAP.[7] If the minimum price and maximum price remain the same for the Third Incremental Auction, the cost to purchase replacement capacity would range from $63,875 per MW-year to $118,625 per MW-year.[8] (See Table 1 for details of calculations.)

Under the current rules, a capacity market seller that is short due to a change in the ELCC accreditation would be assessed a deficiency charge equal to the price at which the capacity cleared plus an additional penalty equal to the greater of 20 percent of the clearing price and $20. For the 2026/2027 Delivery Year under the current rules, the net penalty that would be charged in addition to the capacity clearing price, would range from $12,775 per MW-year to $23,725 per MW-year or 20 percent of the range for the capacity clearing price

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4 The minimum and maximum prices were established in a recent agreement to settle a complaint filed by the Governor of Pennsylvania. *See* Stipulation of Satisfaction and Joint Motion to Dismiss Complaint of PJM Interconnection, L.L.C., Governor Josh Shapiro, and the Commonwealth of Pennsylvania, Docket Number EL25-46-000 (February 14, 2025).

5 FERC approved the corresponding tariff revisions on April 21, 2025. *See PJM Interconnection, L.L.C.*, 191 FERC ¶ 61,066.

6 *See* OATT Attachment DD § 5.10.

7 The minimum and maximum prices are converted to $ per MW-day UCAP using the ELCC rating for the PJM reference technology (combustion turbine with dual fuel capability). The ELCC rating for the reference technology is 0.79 for the upcoming 2026/2027 Base Residual Auction. The corresponding minimum price is $175.00 per MW-day UCAP ($138.25 ÷ 0.79) and the maximum price is $325.00 per MW-day UCAP ($256.75 ÷ 0.79).

8 Since PJM switched to the marginal ELCC, ELCC rating for a combustion turbine with dual fuel capability has varied between 0.78 and 0.79. The latest report available projects the ELCC rating remaining at 0.79 through the 2027/2028 Delivery Year. See Preliminary ELCC Class Ratings for Period Delivery Year 2026/27 – Delivery Year 2034/35, PJM Interconnection, L.L.C. (April 24, 2024) <*https://www.pjm.com/-/media/DotCom/planning/res-adeq/elcc/preliminary-elcc-class-ratings-for-period-2026-2027-through-2034-2035.pdf*>.

for 2026/2027 (20 percent of the replacement cost stated in Table 1, row B). The incentive to replace the capacity under the current rules is clear, uniform and significant.

The nonperformance charge rate (PAI penalty) for the 2026/2027 Delivery Year is $2,013 per MW for an hour.[9] [10] In order for purchasing replacement capacity to be the economic choice, a Capacity Market Seller would have to expect more than 31 performance assessment hours during the 2026/2027 Delivery Year. PJM's own analysis concludes that the expected number of performance assessment hours for the 2026/2027 Delivery Year is less than one hour (0.54 hours).[11] PJM analysis reported that in 99 percent of the scenarios, the number of performance assessment hours was less or equal to 12 hours and therefore, the total charges for nonperformance, under the 2026/2027 nonperformance charge rate of $2,013 per MWh, would be less than $24,156 per MW-year. The maximum number of performance assessment hours in PJM's scenario analysis is 50 hours. Even at this one extreme observation of 50 performance assessment hours in a single year, the cost of purchasing replacement capacity at the maximum price of $325.00 per MW-day would exceed the total nonperformance charges.[12] Winter Storm Elliott resulted in 23.08 performance assessment hours (277 performance assessment intervals) in December 2022.[13] Under the 2026/2027 nonperformance charge rate of $2,013 per MWh, the total charges for 24 hours of nonperformance would be $48,312 per MW-year. Table 1 summarizes these observations.

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9 The Non-Performance Charge Rate on an hourly basis is equal to (Net CONE for the RTO) x 365 ÷ 30. See PJM OATT, Attachment DD, Section 10A(e), where Net CONE is per MW of ICAP.

10 Net CONE (per MW ICAP) for the RTO LDA is $165.47 per MW-Year.

11 2026/27 BRA – Estimated Hours of Simulated PAIs in Resource Adequacy Risk Analysis, PJM Interconnection, L.L.C. (March 4, 2025) <*https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2026-2027/2026-2027-estimated-hours-of-simulated-pais-in-risk-analysis.pdf*>.

12 Replacement capacity cost at $325.00 per MW-day would be $118,625 per MW-year. Total charges for not performing in 50 performance assessment hours would be $100,650 per MW-year.

13 *Winter Storm Elliott Event Analysis and Recommendation Report*, PJM Interconnection, L.L.C. (July 17, 2023) at 98.

Table 1 Replacement Capacity Cost Compared to Non Performance Charges

		Low	High	
A.	2026/2027 Capacity Price Range ($ per MW-day)	$175.00	$325.00	
B.	Capacity Replacement Cost ($ per MW-year)	$63,875	$118,625	[A x 365]
C.	Net CONE for RTO LDA ($ per MW-day ICAP)	$165.47	$165.47	
D.	2026/2027 Non-Performance Charge Rate ($ per MWh)	$2,013	$2,013	[C x 365 ÷ 30]
E.	Number of performance assessment hours that equates non-performance charges to capacity replacement cost	31.7	58.9	[B ÷ D]
F.	Total charges for non-performance during 12 performance assessment hours ($ per MW-year)	$24,156	$24,156	[D x 12]
G.	Total charges for non-performance during 24 performance assessment hours ($ per MW-year)	$48,312	$48,312	[D x 24]
H.	Total charges for non-performance during 50 performance assessment hours ($ per MW-year)	$100,650	$100,650	[D x 50]
I.	Non-Performance Charge Limit ($ per MW-year)	$95,813	$177,938	[A x 1.5 x 365]
J.	Number of performance assessment hours necessary to reach the non-performance charge limit	47.6	88.4	[I ÷ D]

The incentive to purchase replacement capacity is capped by the nonperformance charge limit. The nonperformance charge limit is 1.5 times 365 times the base residual auction clearing price in $/MW-day.[14] Given the minimum and maximum prices for the 2026/2027 Base Residual Auction, the nonperformance charge limit will be between $95,813 and $177,938 per MW-year. Insurance quotes and contracts, submitted to the Market Monitor in support of Capacity Performance Quantifiable Risk (CPQR), typically use the nonperformance charge limit as the loss amount in insurance premium calculations. PJM's analysis shows that 99 percent of the scenario years have 12 or fewer hours of performance assessment and therefore the probability of there being more than 37 hours of nonperformance in a delivery year is less than one percent and in fact likely very close to zero. But even at a one percent probability, the expected loss is less than $1,800 per MW-year, only 1.52 percent of the cost of replacement capacity. A rational Capacity Market Seller with

[14] *See* OATT Attachment DD § 10A(f-1).

a short capacity position due to an updated ELCC accreditation would not choose to purchase replacement capacity under PJM's proposed revision to the rules.

B. PJM's Reliability Requirement Calculations Need Further Review

It is reasonable to expect that Capacity Market Sellers will not purchase replacement capacity and this failure will not incorporated in parameters for the Third Incremental Auction. PJM ignores this potential impact. PJM should review PJM's buy bid rules as a result of this potential impact.

Table 2 shows the reliability requirement calculation for the 2025/2026 Base Residual Auction and the 2025/2026 Third Incremental Auction.

Table 2 Reliability Requirement and PJM Buy Bid Calculations.[15] [16] [17] [18]

		2025/2026 Base Residual Auction	2025/2026 Third Incremental Auction	
A.	ICAP	191,693.0	188,920.0	
B.	Solved Load	160,624.0	158,357.0	
C.	Capacity Benefit of Ties	1.5%	1.5%	
D.	Installed Reserve Margin	17.800%	17.800%	[A ÷ B - 1 - C]
E.	Accredited UCAP	152,765.0	150,438.0	
F.	Pool Wide Accredited UCAP Factor	0.7969	0.7963	[E ÷ A]
G.	Forecast Pool Requirement	0.9387	0.9380	[(1 + D) x F]
H.	Preliminary Forecast Peak Load	153,883.0	154,534.1	
I.	Reliability Requirement	144,450.0	144,953.0	[G x H]
J.	Fixed Resource Requirement (FRR)	10,886.4	10,993.7	
K.	Reliability Requirement Adjusted for FRR	133,563.6	133,959.3	[I - J]
L.	PJM Buy Bids for the Third IA		395.7	Increase in K

The reliability requirement (adjusted for FRR) (row K in Table 2) is a defining parameter of the downward sloping Variable Resource Requirement (VRR) Curve for the base residual auction. Prior to a third incremental auction, PJM repeats the calculation with updated parameters. PJM submits buy bids into the third incremental auction when the

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15 Items I through L are unforced capacity (UCAP) MW.

16 For base residual auction parameters A through F, see the Item 5 meeting materials for the PJM Markets and Reliability Committee meeting held on March 20, 2024, *Installed Reserve Margin (IRM)* at 15, *Forecast Pool Requirement (FPR) and Effective Load Carrying Capability (ELCC) for 2025/2026*, <*https://www.pjm.com/-/media/DotCom/committees-groups/committees/mrc/2024/20240320/20240320-item-05---irm-fpr-and-elcc-for-25-26-bra---presentation.pdf*>.

17 For third residual auction parameters A through F, see the Item 5 meeting materials for the PJM Markets and Reliability Committee meeting held on January 23, 2025, *Installed Reserve Margin (IRM), Forecast Pool Requirement (FPR) and Effective Load Carrying Capability (ELCC) for 2025/202* at 7 <*https://www.pjm.com/-/media/DotCom/committees-groups/committees/mrc/2025/20250123/20250123-item-05---1-irm-fpr-and-elcc-for-25-26-3ia---presentation.pdf*>.

18 For parameters H through L see the 2025/2026 Third Incremental Auction parameter spreadsheet, <*https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2025-2026/2025-2026-3ia-planning-parameters.xlsx*>

updated reliability requirement increases between auctions and submits sell offers when the reliability requirement decreases. For the 2025/2026 Third Incremental Auction, the incremental difference in the reliability requirement was 395.7 MW and PJM submitted buy bids into the 2025/2026 Third Incremental Auction in this amount. The basis for this calculation is to achieve the stated installed reserve margin.

PJM fails to address the impact on this calculation of the failure of resource owners to purchase replacement capacity.

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.[19] 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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[19] *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).

Respectfully submitted,

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Dated: June 9, 2025

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 9th day of June, 2025.

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