UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

	)	
PJM Interconnection, L.L.C.	)	Docket Nos. ER19-1486-000
	)	EL19-58-000
	)	
	)	Not Consolidated

MOTION FOR LEAVE TO ANSWER AND ANSWER
OF THE PJM POWER PROVIDERS GROUP

Pursuant to Rules 212 and 213 of the Federal Energy Regulatory Commission's ("FERC" or "Commission") Rules of Practice and Procedure,[1] the PJM Power Providers Group ("P3")[2] respectfully submits this Motion for Leave to Answer and Answer ("Answer") in response to the Protest of the Independent Market Monitor for PJM ("IMM Protest") filed on May 15, 2019,[3] and the Protest of PJM Load/Customer Coalition ("Customer Coalition Protest") filed on May

[1] 18 C.F.R. §§ 385.212; 385.213 (2019).

[2] P3 is a non-profit organization dedicated to advancing federal, state and regional policies that promote properly designed and well-functioning electricity markets in the PJM Interconnection, L.L.C. ("PJM") region. Combined, P3 members own over 84,000 MWs of generation assets, produce enough power to supply over 20 million homes and employ over 40,000 people in the PJM region covering 13 states and the District of Columbia. For more information on P3, visit www.p3powergroup.com. The comments contained in this filing represent the position of P3 as an organization, but not necessarily the views of any particular member with respect to any issue.

[3] *Protest of the Independent Market Monitor for PJM*, L.L.C., Docket Nos. ER19-1486-000, EL19-58-000, May 15, 2019 ("IMM Protest").

15, 2019,[4] as well as other protests and answers in response to the PJM Interconnection L.L.C. ("PJM") proposed reserve market pricing enhancements filed in the above dockets.

I. Motion for Leave to Answer

Pursuant to 18 C.F.R. § 385.212 and 18 C.F.R. § 385.213, P3 respectfully submits this Motion for Leave to Answer and Answer to the IMM Protest and Customer Coalition Protest.[5] On May 7, 2019, P3 filed doc-less Motions to Intervene in Docket No. ER19-1486, and on May 15, 2019 in Docket No. EL19-58. On May 15, 2019, P3 filed Comments in both dockets. P3 respectfully submits this Answer to explain that arguments raised both by the IMM Protest and Customer Coalition Protest do not provide a sufficient basis to reject PJM's proposal. P3 respectfully requests that the Commission accept this Motion for Leave to Answer and Answer in order to help contribute to a fuller record and assist the Commission in its decision-making process.

II. Answer

As indicated in P3's initial comments and confirmed by the multiple other comments filed in this proceeding, PJM's proposed reserve market pricing enhancements are just and reasonable as filed and the Commission should adopt them. Despite the urgings of several protestors, the Commission should find PJM's current rules to be unjust, unreasonable and unduly discriminatory for failing to enforce in its day-ahead market the reserve constraints that

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[4] *Protest of PJM Load/Customer Coalition*, Docket Nos. ER19-1486-000, EL19-58-000, May 15, 2019 ("Customer Coalition Protest").

[5] Although the Commission's procedural rules do not provide for answers to comments as a matter of right, the Commission has allowed answers where, as here, the answer provides further explanation or otherwise helps ensure a full and complete record. See, e.g., Empire Pipeline, Inc., 164 FERC ¶ 61,076 P 9 (2018), PJM Interconnection, L.L.C., 104 FERC ¶ 61,154, at P 14 (2003), on reh'g, 109 FERC ¶ 61,236 (2004); Williams Energy Mktg. & Trading Co. v. Southern Co. Servs., Inc., 104 FERC ¶61,141, at P 10 (2003); Ameren Servs. Co., 100 FERC ¶ 61,135, at P 15 (2002), on reh'g, 103 FERC ¶ 61,178 (2003).

are necessary to produce efficient resource scheduling and to reflect in prices the costs incurred when PJM operators bias load and take other actions to ensure reliability that distort the energy and reserves prices paid to resources for the services they provide to the grid. If left unaddressed, particularly as the likelihood that additional reserves are needed to avoid reliability violations grows with the proliferation of intermittent resources in the PJM footprint, PJM will continue to rely on biasing and out of market actions and the resultant inefficient market prices will not signal the value of reserves to PJM's market participants.

PJM candidly concedes that PJM's operators are frequently forced to rely on load biasing-and other out of market actions that are inefficient and detrimental to the market. These PJM actions are necessary because the current market design is flawed. Several protestors gloss over this reality while citing the occurrence of uplift payments as proof that these reforms are not necessary and can be delayed until there is a more pronounced problem. The Commission knows better. The magnitude of uplift payments or lack of an immediate crisis does not correlate to the need for reform. Reforms are necessary because the current rules are not just and reasonable. The Commission should not hesitate to arrive at this conclusion and adopt the necessary reforms.

In support of this position, P3 is pleased to offer the attached affidavit from Mr. Joseph Cavicchi that responds to many, but not all of, the issues that were raised in the various protests to the PJM proposal. Mr. Cavicchi offers specific responses to the arguments offered by the Customer Coalition in its Protest and the IMM in the IMM Protest that seek to undermine PJM's proposal and prevent efficient market reforms from being enacted.

In addition to Mr. Cavicchi's affidavit, P3 offers the following reply comments in response to specific concerns raised by multiple protestors.

A. **The Alleged Financial Impacts of the PJM Proposal are Grossly Overstated by Several Protestors.**

Several protestors selectively interpret PJM's proposal to suggest that the cost impacts of the reforms will be greater than those projected by PJM. They allege that there will be billions of dollars of increased costs to consumers without considering the many benefits that will accrue to consumers as a result of these changes.[6] As a result, Mr. Cavicchi concludes that the claims of the financial impact from the IMM and the Customer Coalition are "unreliable and vastly overstated."[7] Even the PJM's projections, which are lower than the IMM's, are likely overstated, as simulations that do not capture market response are apt to do.

These protests generally ignore that fact that, "PJM's proposal will incentivize a more cost-effective mixture of resources that will better serve its consumers' needs and put downward pressure on market prices over the longer-term."[8] The current inefficient market design does not result in the least cost mixture of resources and consumers ultimately are forced to pay for a resource mixture that is not optimal. Inappropriately priced reserves fail to produce market signals that will allow the market to respond efficiently which reduces social welfare and comes at a cost to both consumers and producers. The PJM proposal seeks to remedy these inefficiencies.

That is not to argue that the adoption of PJM's proposal may not lead to consumers paying more for energy and reserves than they would otherwise. However, consumers will benefit from the improved market efficiency and appropriately valued reserves. Moreover, the extent to which consumer costs may increase certainly cannot reach the levels suggested by the IMM and

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[6] *See e.g.,* IMM Protest at p. 6, Customer Coalition Protest at p. 9.
[7] Cavicchi Affidavit at P 11.
[8] Cavicchi Affidavit at P 4.

Customer Coalition as they ignore the benefits associated with PJM's proposal. Consumers benefit from improved market pricing over both the short-term and the long-term. Moreover, as the Commission noted in Order No. 719, "with better price signals, more buyers would find it worthwhile to invest in technologies that allow them to respond to prices. Also, while some customers may not be able to respond to hourly prices, they will see monthly bills and have an incentive to reduce use of power in general…."[9]

In addition, these protests assume a capacity market windfall for generators that cannot be substantiated. As Mr. Cavicchi explains, protestors ignore the realities of the capacity market design and simply assert that generators will be paid twice for capacity under PJM's proposal. Protestors ignore the impact of PJM's proposal as capacity resources will not sit still in the face of a market signal and will respond competitively and drive costs down for consumers.

Similarly, PJM's proposal will result in improved day ahead and real time pricing which the IMM and the Customer Coalition largely ignore. Improved interchange pricing will likely lead to more optimal system interchange further driving down costs to consumers.[10] Additional consumer benefits are likely to occur from reduce uplift as a result of better pricing that can be expected to reduce the need for resource uplift payments. Finally, as the Clean Energy Entities offer, over time consumer prices are likely to be lower as energy and ancillary services revenues, which are more granular in nature, displace the need for capacity market revenues.[11]

The bottom line is that it is very difficult to precisely predict the impact of the PJM proposal until the market is given a chance to respond. There are clearly flaws in both the IMM's and

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[9] Order No. 719 at P 203.
[10] Cavicchi Affidavit at P 18.
[11] *Comments of the Clean Energy Entities*, Docket Nos. ER19-1486-000, EL19-58-000, May 15, 2019 ("Clean Energy Entities Comments") at pp. 12-13.

Customer Coalition's analysis that Mr. Cavicchi identifies. Instead of trying to distill the exact financial impact of the PJM proposal, the Commission should focus on the market design and the just and reasonableness of it. P3 respectfully submits that PJM has set forth a just and reasonable proposal that is not likely to produce the inflated financial impacts offered by some parties, but instead motivates both consumers and suppliers to appropriately respond to the uncertainty represented by PJM's enhanced reserves requirements and the efficient pricing of energy and reserves. As the American Wind Energy Association (AWEA), the Solar Industries Association and the Solar Council explained to the Commission in their Comments, the PJM proposal, "…represents a positive step towards achieving a more operationally flexible grid, a modern wholesale power market design, and corrects many aspects of PJM's current market design that are unjust and unreasonable."[12] P3 agrees.

B. **PJM's Current EAS Methodology Will Appropriately Account for Energy Market Revenues in the Capacity Market.**

Several protesters seek to egregiously expand this proceeding to include an "on-the-fly" and fundamental redesign of the Energy and Ancillary Services ("EAS") offset to the capacity market or to introduce an unprecedented "claw back" of capacity revenues for auctions that have already cleared. This proceeding is not the appropriate forum to debate whether PJM's EAS offset should be forward looking or historical as these protestors suggest.[13] For very sound reasons, the Commission and PJM have settled on a historical calculation to arrive at the appropriate offset to capacity revenues. Despite the long-standing protests of some, this policy is settled in PJM and should not be undone in a tangential proceeding such as this one.

[12] Clean Energy Entities Comments at p. 3.
[13] *See e.g.,* IMM Protest at pp. 68, 71, and Customers Coalition Protest at pp. 66-67.

PJM calculates the EAS Offset as the average annual net-revenues the reference resource would have received during the three previous calendar years prior to the time of the calculation based on the characteristics of the reference resource, actual PJM LMPs over those years, actual fuel prices, inclusive of any delivery adders, over the previous three calendar years, and a variable O&M cost.[14] Such a formula was developed after significant PJM stakeholder deliberations and multiple FERC proceedings. While some may not be content with the way this calculation is derived, it is nonetheless PJM's policy and should not be altered without appropriate consideration of the many consequences of moving away from this construct.

By its nature, the historical calculation will not yield perfect results, but it does yield sound results that over time offer a fair approximation of EAS net-revenues.[15] Stakeholders voted for and approved use of the historic approach in all prior Quadrennial and Triennial reviews where many recognized that a forward-looking approach is probably less accurate than a historic approach due to the limited number of run hours, which happen to occur during volatile gas price periods.[16] Some years the EAS offset will be higher than actual net-revenues received during the relevant delivery year, some years it will be lower, however, over time, this approach will yield the fairest results for both consumer and suppliers as it will not be biased with extreme volatility from highly unpredictable numbers in a high or low direction. Adding to the appropriateness of

[14] https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2012-2013-imm-cone-eas-revised.ashx?la=en

[15] It is worthy to note, on January 17, 2019, the IMM presented findings at PJM stakeholder task force discussions that demonstrated that load has benefitted from the historical EAS. See Slide 14 at https://pjm.com/-/media/committees-groups/task-forces/epfstf/20190117/20190117-item-05a-imm-scarcity-revenue-true-up-updated.ashx As the IMM shows, based on West Hub historical prices, the EAS was significantly higher than what was actually experienced in the relevant Delivery Year. Generators received lower capacity prices than they should have been given what actual energy prices were.

[16] See http://files.brattle.com/files/13894_20180420-pjm-2018-variable-resource-requirement-curve-study.pdf, The Brattle Report, "Fourth Review of PJM's Variable Resource Requirement Curve," April 19, 2018, commissioned by PJM for the last Quadrennial Review in 2018 at p. 25. The report states "…. this [forward looking] approach does not work well for CTs, because their dispatch does not closely match any observable forward-traded product. We did not identify an alternative for CTs that is superior to the historical approach."

the current approach, any changes in energy and ancillary service net-revenues are certain to be captured in future Net CONE calculations providing further assurance to consumers. Not only are they captured over time, they are extremely accurately captured and avoid forecasting error.

Changing the EAS offset to anticipate the results of energy market rule changes as some protestors suggest is opening a Pandora's box that the Commission should avoid. Predicting the magnitude for any price impact is a tall task as the market response to any rule change can be difficult to gauge. If the Commission decides to change the EAS offset, it will need to address why this proposal warrants a change and other changes in circumstance do not. The Commission will also need to address what other changes in market fundamentals, like the increase in the number of zero marginal cost resources due to out-of-market support, it will account for in modifying the EAS offset. Meanwhile, by averaging revenues from the three years prior to the auctions, PJM can put forth an EAS offset that is predictable to market participants and a fair reflection of what net-revenues are likely to be based on past performance.

In short, the Commission should reject any suggestions to either undertaking significant EAS reforms in this proceeding or instituting some sort of 'claw back' or transition mechanism based on a projection of the impact of the PJM proposal. As Mr Cavicchi concludes, "Given the difficulty and uncertainty of even putting a positive or negative sign on what the impact might be on the capacity market outcomes, instituting a claw back mechanism would be subject to significant errors and likely do more harm than good."[17] The Commission should avoid such a path and continue with the current process that provides a proven means of reflecting energy and ancillary service net-revenues in capacity prices.

[17] Cavicchi Affidavit at P 7.

C. **Moving the Penalty Factor to $1,000/MWh, as Suggested by the Customer Coalition and the IMM, Will Create Unjust and Unreasonable Market Outcomes.**

Both the IMM and the Customer Coalition advocate for a penalty factor of $1000/MWh instead of PJM's proposed $2000/MWh. Specifically, the IMM offers that, "…the penalty factor should exceed the largest possible lost opportunity cost for a resource providing reserves instead of energy, which cannot exceed the highest short run marginal cost of any resource available for energy. That amount cannot be offered higher than $1,000 per MWh, but rarely reaches even the $1,000 per MWh level."[18] The Customer Coalition offers similar arguments.[19]

PJM proposes a $2000/MWh penalty factor for a relatively straight forward reason – there is a link between the level that prices could reach in the energy market and the prices that should be assigned to a reserve shortage. Although it is rare when PJM prices rise above $1000/MWh, they have done so and usually under conditions of grid stress. It is at precisely these moments – when prices are high and the grid is stressed – that reserve prices have to be allowed to reflect the market price of those services. As Mr. Cavicchi further explains,

> First, the alignment of the penalty factor with the energy offer cap is most crucial during those rare real-time intervals when the system is up against its capacity limit. It is not a valid argument to assert that because this outcome may be rare, it should be ignored. It is at precisely these times when PJM is concerned about being able to maintain reserves. Second, the time at when the system presses up against its capacity limits will be in the real-time market. In these intervals generation resources are not "offering" their capacity into the synchronized reserve market; they are already on-line, operating and have no option but to make this reserve capacity available.[20]

For the reasons stated above and consistent with P3's prior comments, a $2000/MWh penalty factor is just and reasonable. Given the role that the penalty factor plays and the possibility that energy prices could rise to that level during critical periods, a $2000/MWh penalty factor is a

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[18] IMM Protest at p. 65.
[19] Customer Coalition Protest at p. 65.
[20] Cavicchi Affidavit at 45.

reasonable level to set. The Commission should confidently approve such a penalty factor as part of the broader effort to improve reserve pricing in PJM.

D. A Vertical ORDC is Inconsistent with Commission Policy and Would Produce Unjust and Unreasonable Market Outcomes.

The IMM and the Customer Coalition suggest that a vertical demand curve that stops at or minimally past the minimum reserve requirement is a just and reasonable means to value reserves.[21] The arguments in support of this construct are essentially arguments for the status quo that systematically under-procures and mis-prices reserves and forces out of market actions to maintain reliability.

PJM has clearly stated that the current, vertical, ORDC, prohibits, "…PJM from explicitly scheduling the flexibility that is needed to accommodate legitimate forecasting uncertainties beyond the requirement expressed in Step 2A of the demand curve."[22] Such a market paradigm not only handcuffs PJM's ability to maintain reliability, it does not allow the market to signal the value that flexible resources offer to consumers. As Dr. Hogan and Dr. Pope noted, the current paradigm, "…does not recognize the true value of reserves along a continuum derived from the probabilistic representation of the expected need for additional reserves in real-time."[23] Yet, the solution of maintaining the existing construct that is anchored by a vertical ORDC, fails to recognize that the value of reserves changes as reliability tightens or improves. Reserves are not an all or nothing proposition and sloped demand curves that value reserves after the MRR is an effective means of valuing those reserves.

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[21] IMM Protest at p. 22.
[22] *PJM Interconnection, L.L.C*. Enhanced Price Formation In Reserve Markets of PJM Interconnection, L.L,C., Docket Nos. ER19-1486-000, EL19-58-000 ("PJM Filing"), at p. 37.
[23] PJM Filing, Attachment C, Affidavit of Drs. William W. Hogan and Susan L. Pope on Behalf of PJM Interconnection, L.L.C. at p. 4.

Similarly, the Customer Coalition point to PJM's existing "2B" process that allows PJM to administratively extend the vertical demand curve past the minimum reserve requirement. In supporting the 2B process the Customer Coalition concedes that reserves beyond the MRR have value; however, that value under the current 2B process is set only during certain conservative operating conditions. PJM has demonstrated, through its filing, that reserves beyond the MRR have value, not just during conservative operating conditions, but during normal system operations, as well. PJM's load forecast, solar forecast, and wind forecast errors, as well as the performance of generators, can vary on low demand days that are not threatened by weather conditions (normal operations), just as much as on high load days that are impacted by weather conditions (conservative operations). PJM has indicated as much in its filing - its operators are taking out of market actions and biasing the forecasts that drive IT SCED commitments on a regular basis, not just during conservative operating periods. PJM's sloped ORDC properly recognizes the value of excess reserves using a quantitative approach to assessing the impact of operational uncertainties on the accuracy of its resource scheduling tools, and the effectiveness of those tools at maintaining reserve levels, at various times of the year and day, and applies that value appropriately to those periods.

The Customer Coalition's suggestion to utilize Step 2B assumes operational uncertainties do not exist in normal operating conditions. This assumption is simply not correct. This faulty and inefficient construction of the "2B process" likely explains why it has never been used by PJM. The Customer Coalition's suggestion would also force PJM to continue to operate without the benefit of an ORDC that appropriately recognizes that reserves past the MRR have values that can change as you get closer to or further away from the MRR.

Clearly, if the status quo vertical demand curve were to remain in place, the problems associated with the status quo will be amplified as the PJM fuel mix evolves. As Dr. Emma Nicholson offered as part of P3's initial comments in this proceeding, "…as the nature of net load and the generation fleet change over time with higher penetrations of intermittent resources and BTM investments, the standard reserve product – a static MW quantity that typically depends on losing the system's largest generator – may no longer suffice to maintain the minimum reserve requirement with a high degree of confidence because fast or unexpected net load ramps can cause the ISO/RTO system to fall short of its required reserves."[24] PJM's proposal solves this problem. The "solution" offered by the IMM and the Customer Coalition has not been vetted with PJM or any other stakeholders, has not otherwise been developed beyond the sketch of an idea, and does not solve the problem. The Commission should reject it.

E. **A Stop Loss and/or Circuit Breaker Provision is Not Necessary for PJM's Proposal to be Just and Reasonable.**

The Customer Coalition argues that the Commission should "precondition" its approval of the PJM proposal with a "stop loss" or "circuit breaker" provision.[25] The Coalition argues that very extreme circumstances such as a natural disasters or terrorist acts could lead to "enormous transfers of wealth"[26] and that rules need to be in place to protect consumers against these potentially onerous burdens. P3 respectfully disagrees.

Holding back necessary market reforms so that a "stop loss" or "circuit breaker" can be developed would unnecessarily delay the implementation of just and reasonable reserve pricing

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[24] *Comments of the PJM Power Providers Group*, Docket Nos. ER19-1486-000, EL19-58-000, May 15, 2019, Affidavit B, Dr. Emma Nicholson at p. 8.
[25] Customer Coalition Protest at pp. 70-72
[26] Customer Coalition Protest, Attachment D, Affidavit of James F. Wilson at P 35.

rules in PJM. The use of historic energy and ancillary service revenues to develop the EAS offset will ensure that any unexpected large increase in prices will be reflected in capacity market prices for at least three years. Moreover, both PJM and the Commission have tools available that can protect consumers in the event of unforeseen and extreme circumstances.[27] The Commission would need to appreciate what, if any, short comings exist in PJM's current procedures before considering additional market tools. The need for a stop loss and circuit breaker discussion is one for another day in PJM and should not stand in the way of the Commission moving forward to approve the PJM proposal.

F. Further Stakeholder Proceedings and/or Commission Hearings are Not Necessary as this Matter is Ripe for Decision.

The IMM suggests that the PJM proposal be rejected in its entirety and the issues raised in the filing be returned to the PJM stakeholder process for further deliberations.[28] Similarly, the Customer Coalition, "..recommends that the Commission wait until PJM and stakeholders adjust to the impact of FERC's recent Fast-Start Pricing and VOM Order." [29] P3 respectfully disagrees with these calls for delay. The PJM proposal is a product of extensive stakeholder deliberation that was well aware of these other Commission proceedings. PJM detailed the extensive process in its filing including the robust efforts on behalf of stakeholders to reach consensus. In the end, consensus was not to be found and, as a result, the Commission will have to assume its role as the arbiter of the dispute. P3 does not believe that any additional stakeholder process will be fruitful and will only serve to prolong the implementation of much needed reforms.

[27] See PJM Manual 13.
[28] IMM Protest at p. 62
[29] Customer Coalition Protest at p. 35.

III. Conclusion

For the foregoing reasons, P3 respectfully requests that the Commission consider this Motion for Leave to Answer and Answer, and accept PJM's proposed reserve market pricing enhancements as filed and urges the Commission to adopt it.

Respectfully submitted,

On behalf of the PJM Power Providers Group

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June 21, 2019

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 Washington, D.C., this 21st day of June, 2019.

Respectfully submitted,

On behalf of the PJM Power Providers Group

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