

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

In the Matter of the Application of	:	Case Nos. EL19-58-000
PJM Interconnection, LLC.	:	ER19-1486-000

**COMMENTS AND LIMITED PROTEST
SUBMITTED ON BEHALF OF THE STAFF OF
THE PUBLIC UTILITIES COMMISSION OF OHIO**

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TABLE OF CONTENTS

	Page
I. BACKGROUND	2
II. EXECUTIVE SUMMARY	2
III. COMMENTS	3
A. Transition Mechanism.....	3
B. Consolidation of Tier 1 and Tier 2 Reserve Products	6
C. Changes to the Operating Reserve Demand Curve (ORDC) and Penalty Factor	7
D. Alignment of Day-Ahead and Real-Time Reserve Markets	10
IV. CONCLUSION	11
V. CERTIFICATE OF SERVICE.....	13

In the Matter of the Application of PJM Interconnection, LLC. : Case Nos. EL19-58-000
: ER19-1486-000

Pursuant to Rule 211 of the Federal Energy Regulatory Commission's (Commission) Rules of Practice and Procedure, 18 C.F.R. 385.211, the Public Utilities Commission of Ohio (PUCO) submits the following comments and limited protest in response to PJM Interconnection, L.L.C.'s (PJM)'s proposed revisions to its Open Access Transmission Tariff (Tariff) and Operating Agreement to address price formation in reserve markets. The PUCO intervened in this matter on April 25, 2019.

PJM asserts that flaws in its current reserve market design “no longer support efficient market outcomes nor provide the support for reliable operations.”¹ PJM calls its current market design unjust and unreasonable, leading to discriminatory and preferential treatment of market participants by, among other things, not appropriately or explicitly valuing reserves beyond the Minimum Reserve Requirement (MRR).

¹ PJM filing “Enhanced Price Formation in Reserve Markets of PJM Interconnection LLC,” EL19-58-000 and ER19-1486-000, March 29, 2019, (March 29 Filing), at 8.

I. BACKGROUND

PJM filed proposed changes over the objections of its stakeholders after the PJM Board of Managers directed the Energy Price Formation Senior Task Force to meet a January 31, 2019 deadline to reach consensus. Without stakeholder approval, PJM filed an application as a Federal Power (FPA) Section 206 proposal and a companion application for FPA Section 205 tariff approval.

In fact, PJM moved ahead with its declaration that its existing process is unjust and unreasonable despite a unanimous request from the Organization of PJM States Inc., (OPSI) to remove the PJM board's artificial deadline to allow for analysis of impacts of PJM's proposed changes. OPSI's board of directors stated, in a January 23, 2019 letter to PJM's board: "PJM's currently proposed changes to the energy and operating reserve markets will increase costs to ratepayers. PJM has not shown increases at these levels to be necessary or that they will be implemented in a manner that will maintain just and reasonable rates. The drive by PJM to adopt these immediate and costly changes, without sufficient justification, does not provide an opportunity for states and stakeholders to engage in productive dialog to attain a thorough and meaningful understanding of proposed reforms and optimal solutions."

II. EXECUTIVE SUMMARY

The PUCO shares PJM's objective for fair and transparent pricing of reserves through market-based mechanisms rather than out-of-market payments. The PUCO

objects, however, not only to the manner in which the proposed changes to the reserve market were filed but to the need for the requested changes. While certain aspects of PJM's filing may represent improvements over the existing market design, PJM has not adequately demonstrated that the existing overall market design is unjust and unreasonable.

Nor will PJM's new tariff proposal prove just and reasonable without the following recommendations:

- 1) Should FERC determine that reserve market reforms are warranted, the PUCO strongly advocates for a transition mechanism. A transition mechanism is necessary to phase in the impact of increased reserve market revenue on capacity market revenues.
- 2) PJM's Operating Reserve Demand Curve (ORDC) penalty factor should only be allowed to increase to \$2,000/MWh on those days when PJM has declared tariffed emergency procedures including, but not limited to, extreme weather events.
- 3) The ORDC should be reviewed by PJM and its stakeholders on a periodic basis, subject to FERC approval, to determine whether it is meeting its stated objectives or how it can be improved. This review should be similar to the review currently required of PJM's Variable Resource Requirement (VRR) curve.

III. COMMENTS

A. Transition Mechanism

PJM states that its markets are designed to work in tandem to provide competitive resources with the opportunity to earn sufficient revenues to cover their costs through a

combination of revenue streams. These individual revenue streams are not intended to provide duplicative recovery for resources. Instead, PJM provides for an “offset” to capacity revenues by calculating the anticipated and potential revenues in its energy and ancillary services (E&AS) markets for a representative gas turbine unit. PJM uses the E&AS offset in the calculation of Net Cost of New Entry (Net CONE) to establish the appropriate demand curve to set clearing prices to be used in capacity auctions. PJM states that a higher E&AS offset will reduce Net CONE.

The PUCO observes that while there is debate as to the actual revenue increases that will result from PJM’s proposal,² there should be no debate regarding the need for a transition mechanism to reflect changes in the E&AS offset and, ultimately, Net CONE. The PUCO strongly believes that without a transition, PJM’s current proposal is not just or reasonable because it does not account for the over-recovery of capacity market revenue by generators. This over-recovery will occur until the increased incremental revenues from reserves can be fully reflected in the E&AS offset calculation.

The PUCO recommends that FERC require PJM to develop and adopt a transition mechanism that reflects the additional revenues associated with the proposed tariff revisions in the E&AS offset for all capacity auctions held after FERC approval is

² PJM states, based on its own simulation modeling analysis, that the increase in energy and reserve market billing is approximately \$556 million. March 29 Filing at 114. PJMs Independent Market Monitor after review of PJM’s models claims, “The simulated market results will underestimate the real world cost of meeting the energy and reserve requirements in the simulation cases.” See, *ORDC Simulation Results*, www.monitoringanalytics.com/reports/Reports/2019/ORDC_Simulation_Results_20190426.pdf at 12.

received. Assuming *arguendo* that the changes are implemented as proposed on June 1, 2020, the E&AS offset will not fully reflect these incremental revenues until the 2027/2028 delivery year, given the historical three-year design of the offset.

The PUCO observes that PJM introduced a transition mechanism during its stakeholder process. The PJM Board of Managers made a request, in December 2018, to include a transition component as part of a comprehensive package of reforms.³ As a result, PJM proposed a transition and appeared to be able to use simulation data to model the additional revenues for delivery years after the proposed effective date for base residual auctions not yet held by PJM.⁴ Yet, PJM did not include the transition mechanism in this filing. The PUCO generally supports the transition mechanism as introduced by PJM in the stakeholder process but makes no specific recommendation on how the anticipated revenues are to be estimated.

The PUCO notes that FERC deemed a transition mechanism appropriate when PJM adopted its Capacity Performance initiatives a few years ago. Indeed, Capacity Performance was adopted after a demonstrated need; alarmingly high unforced outage rates during the Polar Vortex of 2014. FERC decided that a transition was necessary to allow market sellers the time to comply with the new performance requirements and to reflect those investments and compliance costs in capacity market offers. We believe that

³ See, PJM Board of Managers Letter to PJM Stakeholders, December 5, 2018.

⁴ See, <https://www.pjm.com/-/media/committees-groups/task-forces/epfstf/20181214/20181214-item-04-price-formation-proposal-overview.ashx> December 14, 2018 at 60.

the transition period for Capacity Performance reforms was a key component of FERC finding that the proposal was just and reasonable. If a transition was appropriate to usher in those market changes, it is just as appropriate for reserve market changes.

B. Consolidation of Tier 1 and Tier 2 Reserve Products

PJM maintains two types of synchronized reserve products, Tier 1 and Tier 2. Tier 1 resources are online and generating but not fully loaded while Tier 2 resources must be dispatched away from their energy maximizing point to maintain reserve capability. Another significant difference is that Tier 1 resources are not obligated to respond and are paid for response to a specific event while Tier 2 resources are obligated to respond and are paid the market clearing price. PJM proposes to consolidate the products under the synchronized reserve umbrella and implement a must-offer requirement on the single product.

PJM explains that the current construct does not properly incentivize supply and response of synchronized reserves in PJM. PJM observes that while there is a large number of Tier 1 synchronized reserves on PJM's system, the response rate for Tier 1 resources is unacceptably low.⁵

The PUCO supports PJM's proposal to consolidate Tier 1 and Tier 2 reserve products. The consolidation of these products, coupled with a must-offer requirement under a single synchronized reserve product, will result in further transparency in the reserve market by providing improved market price signals to resources rather than out-

⁵ March 29 Filing, at 18-19.

of-market compensation. PJM operators will take fewer out-of-market actions with the elimination of the large number of Tier 1 resources without a performance obligation. We agree with PJM that the must-offer requirement for the newly constituted single synchronized reserve product will enhance PJM's ability to address shortage events with resources that have performance obligations and face associated penalties.

C. Changes to the Operating Reserve Demand Curve (ORDC) and Penalty Factor

PJM utilizes a stepwise function with an \$850/MWh penalty factor to price reserve shortages. In its filing, PJM proposes to implement a downward sloping ORDC and to increase the penalty factor used when reserve levels fall below the minimum reserve requirement (MRR) to \$2,000/MWh.

The PUCO agrees with PJM's assertion that "there is positive value to committing reserves in excess of the MRR,"⁶ and that the most appropriate shape for the ORDC is a downward sloping demand curve, which reflects the positive but diminishing value of incremental reserves on the system. The PUCO observes that the proposed ORDC design appears to be analogous to the variable resource requirement (VRR) curve that is currently utilized in PJM's capacity market construct, and likely represents an improvement to the existing market design.

In its filing, PJM relies upon probabilistic modeling to determine the proposed shape of the ORDC. The PUCO is concerned that the ORDC changes, as proposed, will

⁶ *Id.*, at 12.

both increase the price paid to resources providing reserves and increase the quantity of reserves being procured, costs which will ultimately be borne by Ohio ratepayers, without providing commensurate benefits. As noted by Commissioner Glick in his recent dissent, “By retaining too many resources, PJM dulls the price signals in markets for energy and ancillary services (E&AS), impairing their ability to incentivize the services we actually need to reliably operate the grid. A market is only as efficient as the price signals it sends.”⁷

The PUCO notes that PJM’s filing provides insufficient evidence to support either a dramatically higher penalty factor or the extended “tail” of the ORDC, whereby resources will be compensated far in excess of the MRR. PJM acknowledges in its filing “that there is no single right answer to the level of that increase.”⁸ The PUCO maintains that this “best guess” approach does not meet the standard of review that should apply to a 206 filing before the FERC. We believe a better approach would have been to allow the PJM stakeholder process to form a consensus around these types of details, where possible, rather than to unilaterally file these market design changes under Section 206.

The PUCO recognizes that PJM’s system operators, in pursuit of their primary objective to keep the system reliable, are sometimes required to provide resources with out-of-market compensation in the form of uplift payments. Minimizing the size and frequency of uplift payments and internalizing these operator actions within the market

⁷ See, Commissioner Richard Glick dissenting opinion in PJM Interconnection, LLC, FERC Docket Nos. ER19-105-001 and 002, April 15, 2019, at 1-2.

⁸ March 29 Filing, at 10.

construct are valuable objectives. However, we observe that such out-of-market operator actions generally only occur during very limited intervals when the system is stressed, such as extreme hot and cold weather events. PJM's proposed market reforms would affect the reserve markets not only in times of system stress, but to rise to the ORDC penalty factor cap of \$2,000 in all hours of the day.⁹ We are concerned that such changes may not provide benefits commensurate with costs outside of extreme weather events or system emergencies. Thus, the PUCO recommends that PJM's ORDC penalty factor should only be allowed to increase to \$2,000/MWh on those days and hours when PJM has declared tariffed emergency procedures including, but not limited to, extreme weather events.

To address the uncertainty regarding the actual revenue and cost impact of the proposed ORDC, the PUCO recommends that, if adopted, the revised ORDC be subject to periodic review by PJM, its stakeholders, and FERC. We recognize that PJM has committed to updating its ORDCs on an annual basis with new data,¹⁰ however, we believe there should be a holistic review of the ORDC. This review should be conducted at regular intervals similar to the process for quadrennial review of PJM's VRR curve. The PUCO recommends that review of the ORDC should determine if it provided price incentives to meet the reliability standard without adding unnecessary costs; and whether

⁹ PJM proposes to remove the \$2,000/MWh ORDC cap during times of cascading shortages resulting in reserve prices as high as \$12,000/MWh. PJM provides little explanation as to the cause and duration of such events. *Id.*, at 12.

¹⁰ *Id.*, at 68.

it was successful in minimizing the use of out-of-market uplift payments. Utilizing actual experience and data, PJM should analyze whether the revised ORDC performed as expected, the actual cost impact to load; and, utilizing this experience and data, how to improve the ORDC.

D. Alignment of Day-Ahead and Real-Time Reserve Markets

According to PJM, its day-ahead and real-time procurements of reserves are not aligned and, therefore, are unjust and unreasonable. PJM states that its current market design schedules 30-minute reserves in the day-ahead market and maintains 10-minute reserves in the real-time market. According to PJM, there is no attempt to procure 10-minute reserves on a day-ahead basis despite the need for such resources in real-time. Further, PJM notes that because there is not a 30-minute reserve requirement in real-time, the 30-minute reserve resources procured in the day-ahead market are not viewed as reliable in the real-time market.

To resolve this misalignment, PJM proposes to procure both reserve products (30 and 10 minutes) in both the day-ahead and real-time markets. PJM states that this simple solution will allow for a forward procurement process that will result in efficient modeling and procurement of resources in reserve markets.

Similar to our recommendation regarding the consolidation of Tier 1 and Tier 2 reserves, the PUCO generally supports PJM's proposal to align the reserve products in the day-ahead and real-time markets for improved market efficiencies and resource dispatch. The PUCO does not have a position on every tariff provision proposed by PJM to implement this change. We do, however, support the explicit obligation of the PJM

proposal that all generation capacity resources capable of providing reserves must offer all available reserve capability at all times, regardless of whether the resource is online or offline.¹¹

IV. CONCLUSION

In summary, the PUCO reiterates that PJM has not demonstrated that its current reserve market is unjust and unreasonable, the burden imposed by a Section 206 filing before changes can be entertained. Further, the PUCO respectfully cautions FERC not only about elements of PJM's proposal but the timing of it as well. Pending before FERC is a proposal for significant changes to PJM's capacity market. Reforms in that market could be wide-reaching, and conventional wisdom dictates that the fate of that proposal be addressed before reserve market design be examined.

Nevertheless, should FERC determine that reserve market reforms are warranted now, the PUCO recommends that a transition mechanism be included, as FERC deemed appropriate when approving PJM's Capacity Performance initiatives a few years ago. The PUCO also believes that, should the substance of PJM's reserve market changes be approved, the ORDC should be reviewed by PJM and its stakeholders on a consistent basis, similar to the review currently required of PJM's Variable Resource Requirement (VRR) curve. Lastly, an increased ORDC penalty factor of \$2,000/MWh should apply only when PJM has declared tariffed emergency procedures.

¹¹ *Id.*, at 81-82.

The PUCO appreciates this opportunity to share its views on current and proposed operations within PJM. We support fair and transparent pricing via market-based mechanisms rather than out-of-market payments. We believe and appreciate that the FERC will ensure that all the constituents of PJM will be considered in these matters.

Respectfully submitted,

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V. CERTIFICATE OF SERVICE

I hereby certify that the foregoing has been served in accordance with 18 C.F.R. Section 385.2010 upon each person designated on the official service list compiled by the Secretary in this proceeding.

/s/ *Thomas W. McNamee*

Thomas W. McNamee
Assistant Attorney General

Dated at Columbus, Ohio, this May 15, 2019.

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Summary: Comments and Limited Protest filed with the FERC for Case Nos. EL19-58-000 and ER19-1486-000 electronically filed by Ms. Yvette L Yip on behalf of the Public Utilities Commission of Ohio