UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

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PJM Interconnection, L.L.C., et al.

Docket No. EL25-49-000

COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rule 211 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 these comments responding to the responses submitted on March 24, 2025, by PJM and others in compliance with the show cause order issued February 20, 2025 ("Show Cause Order").³

The Show Cause Order found (at P 2) that: "As discussed below, based on the combined records of the technical conference and the Constellation complaint proceeding, we find that PJM's Tariff appears to be unjust, unreasonable, unduly discriminatory or preferential." That finding was based on the lack of clear rules addressing the ways in which large loads can and cannot be added to the PJM system.

In the Show Cause Order, the Commission adopted (at P 3) PJM's definition of colocated load: "PJM defined co-located load as a configuration through which end-use customer load is physically connected to the facilities of an existing or planned generation

¹ 18 CFR § 385.211 (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").

³ *PJM Interconnection, L.L.C.,* 190 FERC ¶ 61,115.

unit on the interconnection customer's side of the point of interconnection to the PJM transmission system."

The Commission stated (at P 65):

As the foregoing discussion indicates, the surge of interest in colocation arrangements in PJM has put before the Commission several significant and novel issues. To address those issues on a comprehensive basis, we are instituting a show cause proceeding under section 206 of the FPA, and we consolidate it with Docket Nos. AD24-11-000 (the co-location technical conference) and EL25-20-000 (the Constellation Complaint) because they raise common issues of law and fact, and considering the proceedings together will result in greater administrative efficiency.

I. COMMENTS

The Market Monitor appreciates the opportunity to comment on the questions raised by the Commission about how to most effectively, efficiently and competitively address the questions related to the addition of large loads to the PJM markets. The Market Monitor agrees that clear rules governing all aspects of the addition of large loads are required. The Market Monitor agrees that the current rules are not clear. The issues are more general than addressing what has been termed the co-located load model. The Market Monitor uses the term co-located in the narrow sense defined by PJM and adopted by the Commission of a load that is connected to the grid through a generating unit. Large load additions have already had a significant impact and will have additional significant impacts on the grid and on other customers regardless of the details of interconnection. The PJM Capacity Market is extremely short largely as a result of the prior addition of large loads and the expected addition of more large loads, almost all of which, to date, are connected to the grid as transmission customers. The details of how to add large loads addressed by the Show Cause Orderr matter because it is those details that determine whether the process for the addition of large loads will be effective, efficient and competitive.

The questions about co-located load need to be put in context in order to understand the proposed role for the co-location model but more importantly to understand the alternatives to the co-located model.

The basic facts in PJM at present are that the capacity market is very tight, meaning that supply is approximately equal to forecast demand plus a reserve margin. Even if the issues, other than the fundamental ELCC issues, identified by the Market Monitor were resolved, the market would still be tight and prices correspondingly high.⁴ The addition of large loads over recent years and the expected addition of large loads in the forecast are the primary reasons that the market is tight. Although large loads are discussed, the extreme impacts that the addition of those loads has already had on capacity market clearing prices does not seem to be generally appreciated in discussions of the capacity market.

PJM has proposed an extremely high maximum price in the capacity market and proposes even higher maximum prices.⁵ These prices are relevant when the market is clearing at the maximum price. The market is likely to clear at the maximum price as a direct result of the prior and planned addition of large loads in PJM. The discussions in the PJM stakeholder process have largely ignored this impact.

There are two broad policy options for addressing current market conditions in PJM. The first path would rely on PJM to more comprehensively and transparently plan for the addition of large loads by ensuring that large loads are not added unless there is new generation to match them. This has been the primary path in PJM to date, although the

⁴ See Market Monitor reports analyzing the 2025/2026 RPM Base Residual Auction: "Analysis of the 2025/2026 RPM Base Residual Auction–Parts A–F (September 20, 2024, etc.), which can be accessed at <<u>https://www.monitoringanalytics.com/reports/Reports/2024.shtml</u>> and <<u>https://www.monitoringanalytics.com/reports/Reports/2025.shtml</u>>.

See Brattle Group, PJM Markets Implementation Committee (MIC), Sixth Review of PJM's RPM VRR Curve Parameters: Final Recommendations (April 11, 2025), which can be accessed at: <<u>item-01-1-</u> <u>cone-and-vrr-curve-final-recommendations.pdf</u>>. PJM indicated its support for some of the Brattle Report recommendations at the next special MIC meeting, April 16, 2025.

planning process is not adequate. The second path, co-location, would rely on private bilateral transactions to remove capacity from the PJM markets and dedicate it to specific large loads. This approach would ignore the impacts on the PJM Capacity Market and on the cost of transmission. This approach would bypass PJM planning processes.

There is currently only very limited co-located load in PJM. The recently added and currently forecasted large load additions are almost entirely directly interconnected and not co-located. The loads are located on the grid and take transmission service and buy energy and capacity like other customers. However, the amount of potential co-located load in PJM is very large. There are currently multiple applications to PJM for co-located load NSAs. Applications for co-located load would be expected to increase substantially if the Commission were to allow co-located load.

The problem that has increasingly faced potential new large loads is that there are delays in getting added to the grid as a direct result of constraints on the transmission system and the lack of capacity to serve those loads.

The solution to these grid reliability issues proposed by some large loads is to colocate. Co-location means identifying an existing generating resource as the source of energy, dedicating the output of the generating resource to the co-located load and removing that generating resource from the capacity market and the energy market. The co-located load would enter into a bilateral contract with the generating resource, but pay no transmission, distribution or ancillary services charges. The generating resource would give up its CIRs, although some generation owners propose ways in which they keep their CIRs and effectively sell the capacity twice, consistent with initial proposal in the PJM stakeholder process by Constellation and Brookfield.

The attractions of the co-located model to the large loads and to the generators are clear. The large loads avoid all the difficulties with interconnecting to the grid and avoid paying transmission, distribution and ancillary services charges. The large loads can be added quickly. The generators lock in a long term stable source of revenue that does not depend on the PJM energy or capacity markets.

- 4 -

The problem for everyone else taking wholesale power service from PJM is that the co-location approach not only fails to address the underlying grid issues, it makes them worse. The co-located approach would pretend that the large loads exist in a separate privately defined vacuum unrelated to the real issues on the grid. The co-located approach would actually accelerate the PJM reliability issues. The co-located approach would allow the generator and the load to bypass the PJM planning processes. Rather than having to wait for adequate generation to serve additional large loads or bringing their own generation, the colocated approach would immediately remove large amounts of capacity from the PJM markets. The result would be scarcity conditions in the PJM Capacity Market and calls for dramatic price increases for other customers. That could drive additional, existing large customers to seek co-located arrangements with a resultant acceleration of market dysfunction. The co-located approach is not a solution to the transmission and capacity issues facing PJM. The co-location approach is the opposite of a solution; the co-location makes the existing issues worse. The goal of the Commission and PJM and all market participants should be to address those issues directly, for the benefit of grid reliability and all grid customers.

The immediate problem facing the PJM system is how to add large loads in a rational way while serving all loads reliably and at least cost. The discussion to date has largely ignored the fact that the addition and expected addition of large loads has already had a very large impact on PJM markets and on the costs of transmission and capacity to other PJM customers. The broader question is whether it is reasonable to impose billions of dollars of additional costs on other customers in order to serve large loads. PJM's Option 6 would help address this issue for new large load additions by requiring new large loads to bring their own generation. The co-located approach would substantially worsen these impacts.

As has been pointed out by those on both sides of the co-location debate, the addition of large loads will have a significant impact on PJM markets and customers whether colocated or not.⁶ The impact is less transparent with the co-located approach because the colocated load is not included in PJM load, the generation is not included in the capacity and energy markets, and the transmission costs avoided by the co-located loads are never calculated. The impact is transparent if large loads are simply treated as customers and pay for energy, capacity and transmission as has been the case for almost all large load additions in PJM to date.

There are basic, straightforward principles that the process for the addition of large loads should follow. The Market Monitor's recommendations about how to address the issues that result from the addition of large loads are based on these principles.

All loads should be served. All loads should be served reliably. The process for adding large loads should be transparent. All loads should benefit from competitive markets. All loads should have equal access to the transmission system. All loads should be treated as full transmission customers. All loads and generation are on the grid and the grid is highly interconnected.

On the demand side, the tight capacity market conditions highlight the significance for future capacity market auctions of the ongoing efforts to pursue the co-location model and thus remove that capacity from the capacity market. Removal of even a relatively small amount of capacity from the market would have a significant impact on reliability and capacity market prices. This highlights the point that there should be no artificial incentives or changes to fundamental capacity market rules in order to allow large loads to be given preferential treatment and to bypass the PJM planning process and regulatory policy. Yet that is exactly what the proponents of the co-located load approach are proposing. The gains

⁶ See the Market Monitors "Comments to the Maryland PSC Senate Bill 1 Co-location Study Administrative Docket PC 61," <<u>https://www.monitoringanalytics.com/filings/2024/</u> <u>IMM Comments MDPSC PC61 20240924.pdf</u>> (September 24, 2024); and the "Supplemental Comments to the Maryland PSC Senate Bill 1 Co-location Study Administrative Docket PC 61," <<u>https://www.monitoringanalytics.com/filings/2024/IMM Supplemental Comments re MDPSC PC61 C</u> <u>o Located Load 20241213.pdf</u>> (December 13, 2024).

for the generators from the proposed co-location model would come at the expense of other customers in the PJM markets. The core feature of the co-located load approach is increasing the level and certainty of revenues to specific generating units, avoiding the transmission and distribution costs associated with both state and federal regulation and avoiding the PJM planning process. Contrary to the co-location proponents, the impacts of the proposed co-located load arrangements on reliability do matter and must be considered when defining the appropriate rules for large load additions.

New load must be served in wholesale power markets. New data center load must be served in PJM and elsewhere. Any national security issues are about serving data center load and not about the co-located model. Serving existing industrial, commercial and residential load is also a national security issue. The only question is how to serve the potentially very large increases in load in a way that does not threaten reliability or the ability of PJM markets to reliably serve all load at the lowest possible cost. The co-located load model is clearly not the answer. The co-located model would solve the issue for individual large loads while exacerbating the issue and shifting the associated costs to other market participants. The primary proponents of the co-located load model are owners of existing generation although some data center operators also support co-location. PJM's preference is to have new load explicitly connected to the grid as transmission customers.⁷

The addition of large amounts of load is not a private decision that should be addressed via private negotiations about the terms of ISAs or studied only narrowly via NSAs. The large impacts on PJM capacity and energy prices that would result from implementation of the co-located load model are evidence of that fact as are the potential impacts on reliability. PJM must have the authority to plan for meeting large load additions in the same way that PJM plans for generation additions. The impact of the addition of large data centers would be minimized if the data centers brought new generation matching the

⁷ See PJM at 38–39.

parameters of their demand to the market in addition to new load. Some data center owners have proposed exactly that. If there is a policy decision that large data centers must be brought online more quickly, that timing issue can be handled through the PJM planning process in a transparent manner without threatening reliability and without requiring subsidies from other customers. The timeline for bringing load online does not depend on avoiding regulatory and planning requirements via the co-located model. The timing issue would also be addressed via a requirement that large load additions bring their own generation.

Adding large amounts of data center load would have impacts on PJM markets regardless of whether the load is co-located or explicitly interconnected to the grid. If the load is interconnected to the grid it will go through the PJM planning process to ensure that the load can be met reliably through a combination of generation and transmission and that the load will pay an appropriate share of system costs, including a full share of transmission costs as a network customer and the costs of adding matching generation. The correct market signals would be created for the location of data centers if that process were followed.

Power grids were built to permit all participants to take advantage of the diverse characteristics of loads and of generation. When a generator is on an outage, other generators are available on the grid to replace the output. The co-located model would directly remove significant capacity from the market but the co-located load would continue to rely on the grid for backup. The co-located proposals illustrate the basic fact that the co-located load cannot and will not be isolated from the grid. The co-located load model would rely on the grid for backup while asserting that it is isolated from the grid.

PJM's planning on the load side should include complete transparency from beginning to end about the addition of new load in utility (Electric Distribution Company or EDC) service territories, unrestricted by secret agreements and associated NDAs and ensure that there is enough generation to meet the new and existing load, including through a requirement to bring new generation to the market. PJM's planning process should be modified to integrate transmission planning with markets planning in order to eliminate the significant gaps in the current process. NSAs are not adequate planning tools and miss most of the fundamental issues associated with large load additions and with co-location proposals.

On the supply side, competition starts with open access to the transmission grid. The fundamental purpose of the queue process is to provide open access to the grid and to ensure that the energy from capacity resources is deliverable so that capacity resources can meet their must offer obligations in the energy market and provide reliable energy supply during all conditions. The ideal solution to the issues created by the addition of large loads is for the loads to bring their own generation. That can take a variety of forms but would entail the large loads taking responsibility for adding new generation to the grid that has characteristics reasonably matched to their load profile.

On the basis of this overall approach to the issues associated with the addition of large loads, the Market Monitor will address each of PJM's eight options rather than address each of the specific questions addressed to PJM by the Commission. PJM appears to have covered the full range of options that have been discussed to date. While that serves a useful informational function, PJM's options cover a wide range of arrangements, many of which are not effective, efficient and competitive. The Market Monitor attempts to apply a consistent overall approach to each of the eight options and to reach a conclusion about each one based on that approach.

The temptation is to focus on fine points of regulatory design rather than the broader issues and context. The broader issue is how to add large loads to the competitive markets in an effective, efficient and competitive manner. The fine points of regulatory design follow naturally from that choice.

A. Option 1: Load with a separate Point of Interconnection that is Network Load

The Market Monitor supports this option as part of Option 6 for the reasons detailed in this filing. This option treats large loads like other loads. The issue with Option 1 is that it does not address the need for large load additions to bring their own generation. See Option 6.

B. Option 2: Co-located load that is at the same Point of Interconnection but separately metered that is Network Load

The Market Monitor supports this option as part of Option 6 for the reasons detailed in this filing. This option treats large loads like other loads. The issue with Option 2 is that it does not address the need for large load additions to bring their own generation. See Option 6.

C. Option 3: Existing Behind the Meter Generation where the load is the customer

The Market Monitor opposes the use of this option for large loads. The existing behind the meter option is limited under PJM rules and those limitations should remain.

D. Option 4: Co-located load with connection to the grid with protections to avoid delivery of system energy to serve the load

The Market Monitor opposes this option for the reasons detailed in this filing. This option is based on the pretense that the load is not on the grid. This option permits the load to avoid paying a share of transmission costs. This option permits the accelerated removal of capacity from the grid without consideration of the impact on the markets and other customers. This option ignores the other side of the issue which is that the energy delivered to the grid from the associated generation will fluctuate as the load fluctuates. No load is actually perfectly flat.

E. Option 5: Co-located load with connection to the grid with protections to avoid delivery of system energy to load, but with back-up service from PJM with permission

The Market Monitor opposes this option for the reasons detailed in this filing. This option is based on the pretense that the load is not on the grid. This option permits the load to avoid paying a share of transmission costs. This option permits the accelerated removal of capacity from the grid without consideration of the impact on the markets and other customers. This option ignores the other side of the issue which is that the energy delivered

to the grid from the associated generation will fluctuate as the load fluctuates. No load is actually perfectly flat. In addition, this option would permit the load to avoid all the costs of the grid while still leaning on the grid as needed. PJM permission is not well defined and should not be the basis for allowing loads to lean on the grid.

F. Option 6: Co-located load that elects to be Network Load and bring its own generation

The Market Monitor supports this option with the proviso that the load is connected to the grid directly rather than in the narrow sense of co-location as defined, for the reasons detailed in this filing. The Market Monitor supports an expedited interconnection process for load and matching new generation that is consistent with the PJM queue processes. The Market Monitor's support assumes that this option means that new generation resources are brought to the market as capacity resources. As the Market Monitor understands the options, Option 6 combines Option 1 and Option 2 with the requirement to bring new generation capacity resources to the market. With that understanding the Market Monitor supports Option 6 as the preferred option.

G. Option 7: Potential new non-capacity backed service as a Transitional Service

The Market Monitor opposes this option for the reasons detailed in this filing. The notion of non-capacity backed service misunderstands the definition and role of capacity in wholesale power markets. Capacity resources serve load all 8,760 hours of the year. Capacity resources do not serve load for only a small number of hours per year as this approach assumes. The point is especially clear for data centers who have made clear their need for 8,760 power. That fact does not change if a data center installs backup diesels that can serve as backup when the grid is not available. If this arrangement were equivalent to not relying on capacity, it would be identical to the assertion that the backup diesels could serve as high capacity factor capacity resources in the PJM Capacity Market. The simple substitution of backup power for a small number of hours does not change anything significant about the addition of this load.

It is illusory to imagine in this or other scenarios that a promise that an arrangement is transitory changes anything fundamental about the arrangement. If it is a bad idea, it is still a bad idea for five years or for 20 years.

The recent filing of a Necessary Study Agreement (NSA) by PJM and Doswell Generation illustrates many of the issues with this approach.⁸ Most significantly, the NSA proposes that the generating unit retain its CIRs during the transition, which is of uncertain duration. The NSA invents a new concept of "temporarily" surrendered CIRs. The treatment of CIRs has been a central issue in the co-located load discussions. Yet the NSA would entirely reverse the tariff and the precedents. The entire point of returning the CIRs to the PJM market is to make them available for new generation to interconnect. By definition that cannot happen on temporary basis. Another key element of returning the CIRs is to make clear that there are long term consequences for removing capacity from the PJM market. Instead, the NSA proposes to create a new form of market power by permitting LS Power to give up the CIRs only temporarily and effectively hoard the CIRs for later use. This would prevent new generation in the interconnection queue from using the CIRs to add new capacity.

H. Option 8: Co-located load participating in Demand Response

The Market Monitor opposes this option for the reasons detailed in this filing and for the reasons in the response to Option 7. There is no necessary relationship between the colocation approach and participation as demand response. The large load could participate in the markets like any other customer and participate in existing demand response programs like any other customer. This option appears to assume that the agreement to participate as demand response would change the impact on the markets and the grid. Removing a capacity resource from the markets still reduces the capacity available to serve other loads. This option has all the flaws of the co-location approach with the added feature that while removing

⁸ See PJM Filing, Docket No. ER25-1623-000 (March 14, 2025); Answer and Motion for Leave to Answer of the Independent Market Monitor for PJM, Docket No. ER25-1623-000 (April 21, 2025).

capacity from the markets, the generation resource would also sell its capacity in the capacity market as a demand resource. This ignores the fact that the PJM demand response model relies on the incorrect assumption that promising to reduce load to a predefined level means that you are supplying capacity rather than using capacity.

I. Jurisdictional Issues

The Show Cause Order provides guidance on jurisdictional issues related to colocation and requests comment (at P 73). The Market Monitor largely agrees with PJM's discussion of transmission jurisdiction issues (at 29–30). Because the primary concern here is the proper assignment of the costs of the transmission system that is just, reasonable and not unduly discriminatory, the question of whether the sale of power is at wholesale or retail should be set aside. That the data center is interconnected to the transmission grid and receives jurisdictional service from jurisdictional transmission facilities is sufficient for the Commission to treat co-located loads like any other loads on the transmission system.

J. Process Issues

Some parties have proposed that the issues raised by the Commission be addressed through a settlement process. The Market Monitor does not agree that such a process is likely to lead to an effective, efficient and competitive solution.

Attempting to resolve this matter through settlement proceedings would be a significant mistake. Issues concerning the treatment of co-located load have major and far reaching policy implications. These issues must be resolved objectively, transparently and in the public interest. Relying on negotiations among private parties based on their narrow self interests is not likely to lead to a comprehensive and satisfactory policy on the addition of large new loads. The relative size, level of resources and influence of market participants should play no role in the ultimate policy decisions on this matter. The Market Monitor opposes subjecting these issues to any kind of settlement process. The Market Monitor supports the full consideration of the positions of all parties. These are issues that require a review process and decision by the Commission. The Market Monitor recommends that the

Commission decide the questions based on submissions by the parties and a hearing at the Commission's discretion.

II. CONCLUSION

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

Respectfully submitted,

Here Mayes

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Dated: April 23, 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 23rd day of April, 2025.

Afrey Marger

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