UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Meeting the Challenge of Resource Adequacy in Regional Transmission Organization and Independent System Operator Regions	Docket No. AD25-7-000

POST-TECHNICAL CONFERENCE COMMENTS OF THE MARYLAND OFFICE OF PEOPLE'S COUNSEL

Pursuant to Rule 211 of the Federal Energy Regulatory Commission ("Commission" or "FERC") Rules of Practice and Procedure, 18 C.F.R. § 385.211, and the Commission's June 5, 2025, Notice Requesting Post-Conference Comment (the "Notice"), the Maryland Office of People's Counsel ("MPC") respectfully submits these comments. These comments address the issue of data center load as it relates to resource adequacy and the consequent ratepayer impact in Maryland and the PJM Interconnection, LLC ("PJM") region.

MPC is the statutory representative of residential customers of electric utility services in Maryland. Pursuant to Maryland Public Utility Companies Code Annotated, Section 2-205(b), the People's Counsel "may appear before any federal or state entity as necessary to protect the interests of residential . . . users of [gas, electricity or other regulated services]."

INTRODUCTION

In the current context, the issue of resource adequacy in the PJM region is more accurately framed as an issue of data center proliferation. Data centers are the driving force of unprecedented, very large load growth in forecasting projections in the PJM region. The business decisions of data center developers, therefore, have massive ramifications in the PJM-administered energy and capacity markets and for transmission costs due to the plans for build-out of the regional transmission grid, which are driven by forecasts of data center load increases. PJM's existing capacity market rules, transmission planning, and cost allocation methodologies, which flow costs through to consumers in Maryland and the other jurisdictions served by PJM, result in higher costs for all customers when load forecasts increase because of data center development requests.

PJM's load forecasts predict that the extraordinary need for increased generation and transmission resources to meet anticipated data center demands will continue unabated until the end of the 2030's. PJM's 2025 Load Report projects the PJM summer 50/50 peak demand increasing from 154,144 MW (2025) to 183,833 GW (2030) and to 200,507 MW (2032), a cumulative increase of 46 GW (or 30%).[1] "Large load" increases forecasted by the individual transmission owners ("TOs") drive almost all of this increase in peak load.[2] These increases in load are projected to cause continuing major increases

[1] *See* PJM 2025 Load Report, Table B-1.
[2] *Id.*, Table B-9 (showing that cumulative "large load" additions to the forecast add approximately 33 GW in 2030 and 48.5 GW in 2032, relative to 2024. The "large load" additions, in turn, are almost entirely driven by data centers. See PJM Load Analysis Subcommittee meeting material. PJM LAS, *Load Adjustment Requests Summary for 2025 Load Forecast – Preliminary* (LAS, Nov. 25, 2024); 2025 Preliminary Load Forecast, PJM LAS (Dec. 9, 2024). These increases are included in the PJM 50/50 summer peak demand data cited in the prior footnote. See more generally, Monitoring Analytics LLC (the independent market monitor ("IMM") for PJM), *Analysis of the 2025/2026 RPM Base Residual Auction, Part G* (June 3, 2025) ("The basic conclusion of this analysis is that data center load growth is the primary reason for recent and expected capacity market conditions, including total forecast load growth, the tight supply and demand balance, and high prices. But for data center growth, both actual and forecast, the PJM Capacity Market would not have seen the tight supply demand conditions, the high prices observed in the BRA for 2025/2026, or the high prices expected for the 2026/2027 and subsequent capacity auctions.") at 1.

in capacity prices in the PJM region.[3] Relatedly, PJM's 2022 Window 3 Regional Transmission Expansion Plan ("RTEP") project selections resulted in some $5 billion (Capex) in new regional transmission projects—out of $6 billion selected—intended to serve projected data center load projected for 2027/8. PJM continued this pattern, awarding an additional $6.6 billion in new regional transmission projects in RTEP 2024 Window 1. Of these $6.6 billion in new projects, $4.8 billion are for forecasted load increases in 2029/30, again driven by data center loads, in addition to the projects selected through 2024 RTEP Window 3.

Given the undisputed role of data centers and their unprecedented electricity demands, the Commission must: (1) acknowledge the potential for unjust and unreasonable results stemming from undue customer exposure to speculative data center load, and (2) order the regional transmission organizations ("RTOs") to develop a transparent onboarding system for data center load growth, including policies that promote a "bring-your-own generation" approach to meet generation demand.

Beyond its comments on data center demands, MPC offers comments below on severe problems with (i) PJM's method for assessing resource adequacy, particularly its

[3] The first annual base residual auction ("BRA") conducted by PJM in July 2024, for the delivery year June 1, 2025 to May 30, 2026 resulted in an 800% increase in the clearing price from the prior year, raising the annual compensation in the PJM capacity market from approximately $2 billion to over $14 billion. Forecasts of data center load increases are anticipated to continue to put upward pressure on BRA clearing prices for upcoming auctions for future delivery years in order to procure sufficient capacity to meet the resulting increased demand. See, e.g., Monitoring Analytics, LLC (the PJM Independent Market Monitor or "IMM"), *Analysis of the 2025/2026 RPM Base Residual Auction, Part G* (June 3, 2025) (referred to below as the "IMM, Part G Report").

use of the effective load carrying capability ("ELCC") method for capacity accreditation, and (ii) methods for assessing resource adequacy in each of PJM's delivery areas.

PJM's use of ELCC unduly compresses and makes highly volatile the "stack" of resource supply into PJM's capacity market, exacerbating planning and cost control in the capacity market and adversely impacting resource adequacy, given the central role PJM's capacity market plays in assuring resource adequacy in the PJM footprint. Mindful that PJM procures capacity and plans transmission at the regional level, any assessment of resource adequacy needs in each of PJM's individual jurisdictions must consider transmission-transfer capacity into and out of each jurisdiction as well as the changes over time in load and in net-generation capacity in each area. PJM's CEO omitted these material considerations in the jurisdiction-by-jurisdiction graphical presentations offered during the Commission's technical conference. Excluding these considerations impedes sound resource adequacy conclusions and policy directions at the state level.

Below, we provide some of the necessary, additional context omitted in PJM's presentation. Our comments are organized into four parts:

> **Part I** explains that PJM's existing customers are unjustly and unreasonably exposed to the risks of actual and projected data center load growth. These risks require innovative approaches to address the reliability and cost implications of data center additions, such as transparent processes for load forecasting.
>
> **Part II** addresses problems with resource accreditation at PJM. Resource accreditation should be predictable and reflect actual resource performance; however, resource accreditation currently is unpredictable because of its sensitivity to moving assumptions, which are currently used rather than

actual and close-in-time performance metrics that incorporate the effects of changes to rules and best practices.

Part III highlights the adverse impacts transmission incentives have on utility customers. Despite a proposed rule drafted in 2021, the Commission has yet to address these incentives, which are costing customers hundreds of millions of dollars for pre-construction work. In the absence of eliminating these incentives, their costs should be borne by the customers that are driving the need for the transmission projects—often data centers.

Part IV addresses the significant gaps in the information on which PJM relies and provides to states for assessing resource adequacy at the individual state level. Current policies at PJM fail to ensure the availability of information critical to state-level resource adequacy policy development and to public engagement and understanding.

COMMENTS

I. PJM's existing customers are unduly exposed to the risks of actual and projected data center load growth.

The recent unprecedented scale and timing of new loads and projected load growth is due almost entirely to data centers. As a result, data centers are placing significant cost and reliability risks on existing customers. That existing customers are facing these risks from new customers is contrary to core principles of cost and risk allocation and—more basically—is fundamentally unfair and not just and reasonable. Data center load growth thus requires a novel approach to addressing reliability and costs; the most appropriate solution is for data centers to bring their own generation. The Commission should also require regional transmission organizations to establish new and transparent processes for adding data center load while ensuring that existing customers are not harmed.

A. Speculative business decisions impact ratepayer-borne transmission and capacity cost increases, some of which is tied to "ghost" data center load.

The operation and development of data centers is a $208 billion industry in the U.S., which is expected, by industry observers, to grow to a $308.3 billion market by 2030.[4] Coupled with this "gold rush" of investment is a high risk of speculation about where this investment will be located, resulting in potential multiple-counting of the same demand.[5] So-called "Goldilocks" locations, which are ideal for data center development, are in high demand. These locations, such as Loudon County, Virginia, are safeguarded from extreme weather events and provide pro-development state regulatory frameworks, with ready access to existing infrastructure such as fiber optics and expedient power interconnection. With these locations in high demand, they are likely accompanied by the aforementioned speculation and inflation of demand.

As noted by the PJM IMM Part G Report, data center load growth drove a major portion of the increase in the clearing price for PJM's annual capacity auction ("BRA"), for delivery year 2025/6, and such data center-driven load growth is anticipated to continue to drive even higher clearing prices for future auctions conducted to procure capacity for subsequent delivery years.[6]

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[4] *See, e.g.*, Research and Markets, *US Data Center Landscape, 2025-2030*; Colliers, *US Research Report 2025 Data Center Marketplace* (May 2025) at 14 (showing an estimated $300 billion in Capex by hyberscalers in 2025); Newmark, *2025 US Data Center Market Outlook* at 4 (showing hyperscale Capex "spend" of $210 billion in 2024); Cushman and Wakefield, *Global Data Center Market Comparison,* 2025 (2025).

[5] *See, e.g.*, John Cropley, "As it Pursues Deals, Constellation Says Data Center Load Growth Overstated," *RTO Insider* (May 6, 2025) ("'We know from conversations from our customers and the end users that the same data center need is being considered in multiple jurisdictions across the United States at the same time.'") (*quoting* CEO of Constellation Energy Corporation)).

[6] *Id.*

Stranded assets pose a significant risk to ratepayers. Due to the colossal demand for power of data centers, dwarfing the demand of entire cities, infrastructure expansions become necessary to meet this demand to ensure reliability. These costs, such as those incurred in building new high voltage regional transmission lines, are being socialized amongst all ratepayers—an unfairness of its own. But adding to the ratepayer risks are questionable load forecasts driving needs for new transmission that may not be necessary.

Long lead times are typically required to build out the transmission system at scale to serve data centers. Data centers are thus incentivized to apply for interconnection in more than one state or location to arrive early to market and hedge their business risk. When this load is submitted to the RTOs, there is risk of double counting these projects. Although PJM states it reviews such large load addition requests from TOs, this duplication risk requires a more stringent review process. Moreover, mobile data centers operating on trucks or in portable shipping containers can relocate when energy prices or regulatory frameworks make it advantageous to do so. This mobility only exacerbates the potential for stranded assets which ratepayers would subsidize even if the transmission assets never came into service. Ratepayers thus become the backstop for this interconnection hedging.

B. Unprecedented projected data center load growth warrants a new approach to onboarding large load to balance reliability and ratepayer protection—bring your own generation.

The scale and timing of actual and projected data center load growth requires new policies to protect existing customers. Historically, increasing loads—even new manufacturing loads—were not nearly of the same scale as the growth being caused by data centers and projected data center development today. New customers—even relatively large industrial customers—often created benefits for existing customers, for example, by contributing to a utility's fixed costs.

Data centers turn this historical model on its head, imposing substantial new costs on existing customers in the absence of policy changes. Northern Virginia, for example, anticipates load growth driven by data centers to exceed 11.2 GW in the next five years.[7] That growth is nearly twice the current peak load of Maryland's largest utility—Baltimore Gas and Electric Company—which has developed over more than a century. The Commission should acknowledge the unique nature of this situation and direct RTOs to adapt their tariffs in recognition of this new reality.

The best approach for new data center load, suggested by PJM's independent market monitor, Monitoring Analytics, LLC (the "IMM"), is "a bring-your-own-generation" approach. The IMM suggests that PJM should not add large data center loads to its forecasts and capacity market procurement mechanisms unless these loads bring their own generation.[8] We agree that requiring data centers to bring-your-own-generation is the most pragmatic solution and urge the Commission to order PJM's facilitation of this approach. Not only would this combat the constraints large-load additions pose to the capacity and energy markets, but it also would require PJM to engage in a planning process that is robust, comprehensive, and transparent.

[7] *See* PJM 2025 Load Report, Table B-9 and Table B-9b.
[8] IMM Comments at 8 (May 20, 2025).

As discussed more fully in the IMM's pre-conference comments, data centers that supply their own generation allow for flexibility to that company's temporal and locational needs. Most importantly, it would ensure that the principles of cost causation are adhered to and promote economic efficiency.

A requirement that new large load customers supply their own generation would mitigate the current supply and demand conditions straining the capacity and energy markets. Data center load growth is the primary cause of these conditions; therefore, a targeted, data-center specific approach is the most practical solution in lieu of upending the current market design in PJM. Data-center supplied generation, in theory, can be offered into the energy market and new capacity into the capacity market. The benefit of expedited interconnection could be explored as an incentive to this approach. This is the only approach that ensures consumer protection, reliability, and the commercial needs of data center customers.

C. The Commission should direct regional transmission organizations to create an open and transparent process to add data center load and help ensure existing customers are not harmed.

PJM's current load forecasting processes leave it incapable of sifting through speculative versus actual load from data center interconnection requests. Although PJM does offer guidance to the individual TOs for developing their large load addition forecasts, which are subsumed into PJM's overall forecast, and PJM is engaged in on-going process improvements, PJM has yet to effectively address problems in load forecasting, particularly as they affect data center loads. The TOs submitting the large load adjustments have widely varying and bespoke methods for incorporating customer interconnection requests into their forecasts. There is no common and best practice for assuring that data center customers have "skin in the game" in the form of financial commitments to pay for the full cost of expansion required to serve the data center. These gaps mean there is nothing to prevent duplicative customer requests either within or across the TOs' service territories (or with respect to such activity in other RTOs). PJM does not have a sufficient method for assuring or providing disclosure about forecasting practices to support data center interconnection requests.

Furthermore, there is a profound asymmetry in access to information, creating a huge obstacle for active and informed engagement by consumer advocates, states, and the public. Given the jurisdictional issues surrounding speculative data center load, we are hopeful that if the Commission addresses, or encourages RTOs to address, these forecasting issues at the federal level, states will follow suit. If there is a framework at the federal and state levels for RTOs and electric utility companies, respectively, to distinguish projected load growth that is likely to occur versus that which is more uncertain, it will disincentivize unsubstantiated interconnection requests. We thus urge the Commission to open a proceeding specifically aimed at establishing a process specific to data-center load additions.

The Commission also should consider promoting RTO policies that prevent utilities from interconnecting large data center loads that put in jeopardy the reliability of the system for existing customers. PJM is raising alarm bells in states about reliability—including potential "service interruptions" such as "brownouts" and "blackouts" that can only be explained by the interconnection of data center loads.[9] Data centers should not be interconnected to the transmission system if they jeopardize reliability for existing customers, especially areas with vulnerable and large populations. The Commission has a key role to play in helping to ensure that system reliability is maintained for existing customers before the massive demands of data centers put that reliability in question.

II. Resource accreditation should be predictable and reflect actual resource performance.

Discussion at the Commission's technical conference highlighted the potential benefit of implementing the marginal ELCC method for capacity accreditation. ELCC resource values allow system planners to account for uncertainty in output from wind and solar generators while also accounting for outages of traditional, dispatchable, resources due to weather events such as winter storms. The implementation of ELCC as a resource accreditation method, however, has drawbacks that can now be observed in PJM.

The first drawback is the sensitivity of the calculations to assumptions. The second drawback is that the probabilistic methodology—a "Monte Carlo" simulation—assumes the statistical distribution of past performance does not change, i.e., market participants and PJM do not improve their operations after an extreme event, or market rule change. Although the use of marginal ELCC is an improvement for reliability planning, the methods used are overly sensitive to modeling assumptions. This creates a difficult environment for both resource investors and the load serving entities that contract with

[9] *See, e.g.*, https://www.pjm.com/-/media/DotCom/about-pjm/newsroom/fact-sheets/md-piedmont-reliability-project-fact-sheet.pdf.

them. A resource owner should have an accreditation that does not depend so much on modeling assumptions and depends more on actual performance during hours that the system is at risk. The Commission should encourage RTOs to explore accreditation methods that emphasize actual, after-the-fact, performance metrics and payments.

The first drawback—sensitivity to assumptions—was alluded to by PJM's CEO in the technical conference:

> But I will just sort of caution, it is very, very sensitive to influence, and you're trying to predict the future without a lot of historical data… Well, the weakness in the system happens during truly extreme events. By definition, extreme events don't happen all that often, so we don't have a lot of performance data… And those [statistical] assumptions are pretty key to this model.[10]

The use of specific extreme weather events has been questioned repeatedly in the PJM stakeholder process. Climate change has made old observations (from 1993 and earlier) less plausible, while subsequent, responsive rule changes cast doubt on the predictive power of performance during the winter storm events of 2014 and 2022. Other modeling assumptions, such as selecting a temperature bin from which to sample resource performance, have as strong or stronger impact on the ELCC.[11] The range of some recent sensitivity testing is illustrated below. The impact on UCAP of making different modeling assumptions, such as including or excluding an extreme event, has an impact of thousands of MW, in this case an impact of 4,000 MW.

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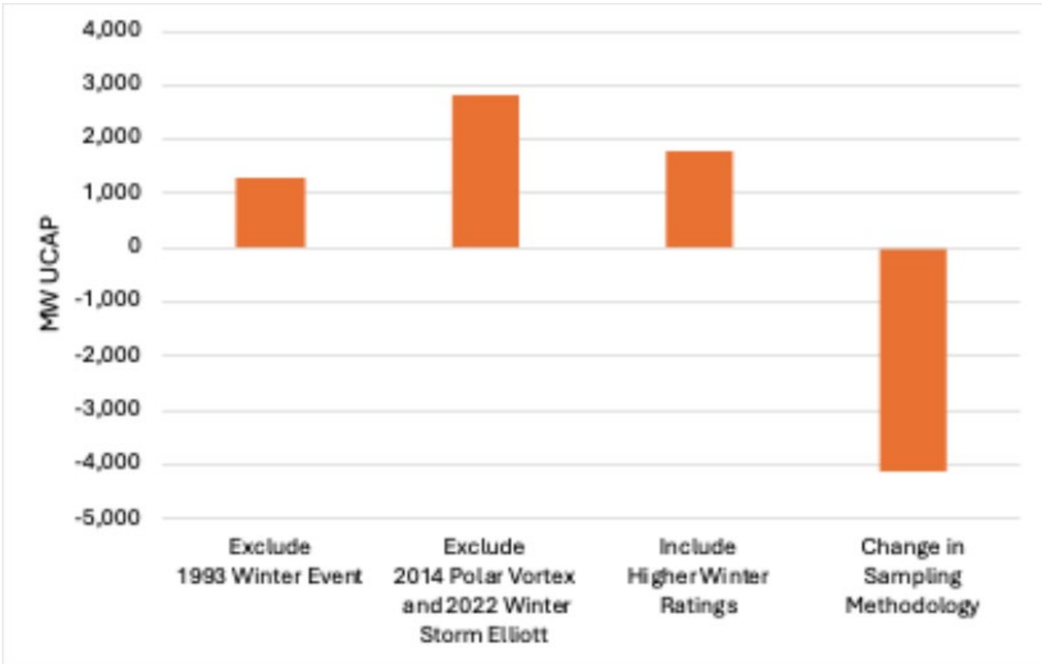
[10] Resource Adequacy Technical Conference, Panel 1, Day 1. Transcript at 54-55.

[11] After the 2014 polar vortex, PJM implemented performance requirements and penalties to incent better performance. After the 2022 winter storm, PJM adopted more conservative operations to maximize availability of natural gas generators. A similar storm in January 2025 resulted in better performance due to the conservative operations.

Figure 1: Effect of Assumptions Relative to Base Case on Market Surplus (MW of UCAP)



Source: PJM Interconnection, ELCC Accreditation Methodology: Update on Sensitivity Analyses (May 30, 2025), www.pjm.com.

The aggregate impact is large, as Figure 1 demonstrates. The impact on individual resource owners that invest or sign contracts based on ELCC values is also large. This was discussed by several panelists during the fourth panel. As one panelist explained:

> …one thing that we've seen with PJM's current construct is it is very, very sensitive to like particular weather events that happen that can cause the ELCC values to swing wildly and make them harder to invest based on. . . ." [12]

Another panelist representing a load-serving entity that also owns generation said:

> If we don't have certainty in what the accredited value of our resource is, that's really hard to match that load, and it's really hard, I

[12] Casey Roberts, Natural Resources Defense Council comments, Resource Adequacy, Panel 4, Day 1 Transcript at 6:27:20 – 6:27:33.

> think, for entities who have generation capacity to sell to entities to know over the long duration of the contract what's the value [of the generation capacity].[13]

Thus, not only are the calculations of ELCC extremely sensitive to assumptions and inputs, but the changing ELCC values—values that the market participants have little control over—create undue risk for the investments that the system needs.

The second problem is with the Monte Carlo distributions' assumption that distributions of past performance never change. The capacity accredited to an individual resource through ELCC depends on this probabilistic, or Monte Carlo, approach.[14] This method uses a known statistical distribution to estimate probable outcomes that cannot be directly observed. In the case of ELCC, the distribution of past performance of a technology—e.g., solar, during periods of system stress—is used to predict the future, unobserved, performance under similar weather and load conditions. The ELCC method creates a distribution of performance under different temperatures and load profiles based on historical performance. The distribution based on historical performance is then used to predict performance in the future. But if the distribution changes, then the predictions for future performance, i.e., ELCC, are flawed.

Much of the current criticism in PJM's stakeholder process amounts to assertions that the distribution has changed, although not always in such technical terms. For

[13] Denise Foster-Cronin, Eastern Kentucky Power Cooperative, Transcript at 6:30:00-6:30:42.
[14] The Monte Carlo method was first used in the Manhattan Project to predict the behavior of neutrons in a chain reaction. It assumed that the distribution of neutron behavior inside a nuclear chain reaction was the same as outside a chain reaction, modified by known parameters such as heat. See N. Metropolis, "The Beginning of the Monte Carlo Method" in *Los Alamos Science*, 15, (1987), United States: Los Alamos Scientific Laboratory.

example, after the 2014 polar vortex, PJM filed to reform the capacity market with the capacity performance market rule change in FERC Docket No. ER15-623, which imposed significant penalties for non-performance. One would expect a change in the distribution of behavior because of a FERC market rule change targeting that behavior. Thus, there is logic to the argument for excluding behavior observed during the 2014 polar vortex from the distribution used to estimate the ELCC of different resources going forward.

A similar argument applies to whether to include non-performance behavior observed during Winter Storm Elliott in December of 2022. After the storm, PJM took various corrective actions, including incorporating new NERC requirements for cold weather operations. During a similar event during January 2025, PJM generators incorporated many of these more conservative actions, such as early commitment of some units, and the 2025 winter storm did not have the performance or reliability problems observed in 2022. This suggests PJM had meaningfully changed the distribution of performance during cold weather. Thus, the observations of performance in 2022 should no longer be a part of (or be weighted less in) the distribution used to calculate ELCC going forward. Past behavior is not always a predictor of future behavior. As currently construed, the ELCC calculations will always be flawed because of these dynamic changes.

Market participants are correctly focused on this dependence on past performance for calculating ELCC. The methodologies result in questionable ELCC values that undermine the value of their resources. The industry needs to move away from a dependence on past performance and towards payment based on actual performance during system stress periods.

III. Transmission incentives decrease developer risk but increase ratepayer risk in the event of abandoned transmission projects.

Transmission owners may seek rate incentives from the Commission designed to encourage the capital investment in transmission infrastructure.[15] These incentives, for example, allow for increases to the return on equity in investment in transmission projects for participation in RTOs. Although the Commission proposed a rule on these incentives in 2021, it has yet to come to fruition.[16]

These incentives lack sufficient consumer protection and meaningful scrutiny of project need. For example, in the Potomac Appalachian Transmission Highline project ("PATH") proceedings, not an inch of metal was installed in the ground; however, ratepayers still had to reimburse developers upwards of $250 million for various pre-construction costs since 2008.[17] This was because the Commission granted a "Construction Work-in-Progress" incentive, which allowed the transmission owners to recoup their costs from ratepayers as means of providing investor stability.

These pre-existing concerns surrounding transmission incentives are magnified in current circumstances given the onslaught of transmission expansion primed by forecasted data center load increases in the PJM region. If transmission like the PATH project is built for speculative data center, ratepayers could be similarly responsible for

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[15] *See* 16 U.S.C § 824s (2025).
[16] 18 C.F.R. Part 35; RM20-10-000.
[17] *See, e.g.,* Letter Order Approving PATH Settlement, ER12-2708-010, *et al.* (Comm'r Christie, concurring).

certain costs with no benefits. The Commission should reconsider these policies altogether, but if it retains them, it should be rigorous and judicious in evaluating the evidentiary bases for its decisions to award these incentives. The Commission must implement further consumer safeguards, such as revising its cost allocation determinations so that large loads that cause the need for new transmission are directly allocated those costs. Directly allocating those costs to the cost-drivers—often data centers—adheres to the principles of cost causation, protects ratepayers from the costs of abandoned transmission projects, and properly dis-incents speculative load.

IV. The information on which PJM relies and provides to states for assessing resource adequacy at the individual state level is deficient.

PJM administers the wholesale market for 14 individual jurisdictions and currently is the planner and market administrator, assuring through its capacity market resource adequacy across all and each of these jurisdictions. Implicit in the discussion at the Commission's technical conference were questions about the role the states either already play or could play in further enabling resource adequacy. Each state's contribution to resource adequacy and its methods for reforming current approaches in State-RTO-FERC coordination and cooperation provide a beginning point for framing the basic questions regarding resource adequacy and the role individual jurisdictions can play. During the Commission's technical conference, PJM's CEO presented charts purporting to establish a rough "balance sheet" of changes in resources by jurisdiction. This chart did not accurately represent these circumstances because it omitted critical information about the change in loads by jurisdiction.

To cure this deficiency, we provide the table immediately below, showing missing information necessary to determine state level contribution to resource adequacy, namely net load changes over time.

Table 1. Net New Entry vs. Load Changes – PJM States (2015-2024) (MWs)

State	New Entry[18]	Deactivations[19]	Net New Entry[20]	Additional Resources[21]	Net New Entry with Planned Resources[22]	Delta Load[23]	Net "Entry"[24]	Est. Non-Coincident Peak plus Exports[25]	Net New Entry v. Load Growth
DE	243	441	-198	79	-119	86	-205	2374.26	-8.63%
Il	3277	3016	261	984	1245	116	1129	17920.63	6.30%
IN	915	820	95	1820	1915	160	1755	4260.41	41.19%
KY	60	907	-847	99	-748	1188	-1936	4589.41	-42.18%
MD	2078	3114	-1036	788	-248	-469	221	11931.01	1.85%
MI	933	0	933	43	976	63	913	870.5	104.88%
NJ	2074	4696	-2622	773	-1849	91	-1940	14802.29	-13.11%
NC	196	270	-74	196	122	-261	383	842.83	45.44%
OH	5582	9663	-4081	1853	-2228	1064	-3292	31068.46	-10.60%
PA	9025	5543	3482	439	3921	645	3276	29077.96	11.27%
TN		33	-33	0	-33	24	-57	318.18	-17.91%
VA	3850	4211	-361	1612	1251	5835	-4584	26972.26	-17.00%
WV	163	1353	-1190	1565	375	644	-269	7078.92	-3.80%
Totals	28,396	34,067	(5,671)	10,251	4,580	9,186	(4,606)		

Sources: 1. Prefiled Statement of Manu Asthana on Behalf of PJM, AD25-7-000/PJM Capacity Market Forum, p. 9 (2025)

Sources: 2. PJM IMM Percentage of PJM Load by State

The UCAP value listed for Maryland, taken from PJM's pre-filed comments at 9, apparently does not include the Wagner 3 and 4 and Brandon Shores 1 and 2 power plant with an aggregate UCAP value of 1,567 MW. Under the RMR arrangements for these units, they will continue in operation until at least the second quarter of 2029, at a cost primarily paid for by Maryland electric consumers. Their retirement is linked to completion of transmission facilities costing more than $1.5 billion, which are intended to address the local grid reliability and resource adequacy issues posed by the retirement.

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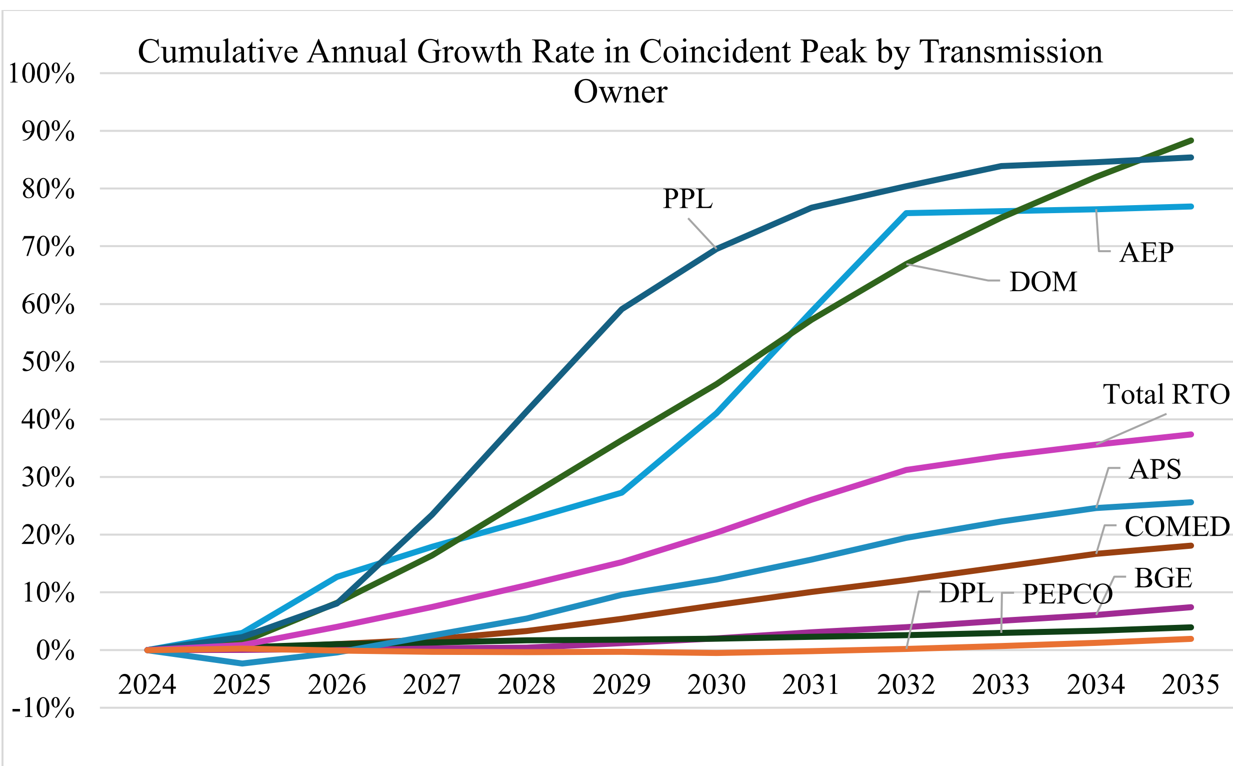
[18] Placed into service since 2015 (UCAP MW).
[19] Since 2015 (UCAP MW).
[20] Placed into service since 2015 (UCAP MW).
[21] This column includes resources not yet in service with executed interconnection agreements/WMPA (Planned Resources) (UCAP MW).
[22] Since 2015 (UCAP MW).
[23] For years 2015-2024 (MW).
[24] Less load growth from 2015-2024.
[25] PJM RTEP 2024 State Infrastructure Reports.

Also of relevance in assessing each state's resource "balance sheet" is the impact of forecasted increase in peak load in the future. The figure below, based on PJM's 2025 Load Report, depicts this impending change, driven by data center load by locational deliverability area ("LDA"), as we have not been able to replicate state level data, on a forward-looking basis, as was done for Table 1 above (reflecting current data curation and publication limitations of PJM, as noted further below in our comments). It shows that the predominant changes, stressing resource adequacy in PJM, are localized to three LDAs, Dominion, AEP, and PPL, affecting primarily the states of Virginia, Ohio, and Pennsylvania where these transmission owners' operations are located (DOM (in VA) and PPL (in PA)) or primarily located (AEP (in OH)).

Figure 2. Future Load Growth by LDA in PJM



Not included in these depictions, but also of great relevance, is transmission transfer capacity into and out of individual local deliverability areas—which may or may not correspond to state boundaries— which we could not compile due to current data and reporting limitations.[26] This information is also critical when assessing resource adequacy, given transmission and generation are partially fungible. Transmission transfer capacity is particularly true for PJM, given its long-time operation as an interstate relatively "tight" power pool. The configuration of PJM's transmission grid and generation locations are a legacy of, and its expansion will be fundamentally shaped by, the interstate nature of the PJM pool. The interstate nature of the pool contributes to economic and more optimal generation and trading of energy and capacity between PJM's jurisdictions than if each jurisdiction within PJM pursued resource adequacy in isolation.

In any event, PJM's current compilation of publicly available information does not allow for a complete assessment of resource adequacy at the state level, assuming the states were to play a larger role in planning for and ensuring resource adequacy. We provide further comments below regarding information that PJM should provide to allow better assessment of transmission—the second, necessary and critical pillar of resource adequacy (if generation is the first pillar).

[26] There are no inter-state transmission limits. Transmission limits do not follow political boundaries. PJM's use of state imports/exports is incorrect from a power engineering perspective. Nodal markets exist because power does not follow political boundaries. What PJM should have presented is an LDA analysis.

Relatedly, PJM needs to provide states better and more timely information to assess resource adequacy and coordinate with PJM. The technical conference recognized the role of states in assuring resource adequacy. During Panel 3 of the Technical Conference, "PJM State's Perspectives" the panelists were asked whether the states had sufficient expertise on resource adequacy mechanisms and modeling:

> Does your state currently have sufficient expertise on resource adequacy mechanisms and resource adequacy modeling to meet the challenge of resource adequacy without PJM's technical expertise, or does your state need additional resources? If your state would need additional resources, what types of resources would be required…?[27]

To participate more fully, states need better data—data that would benefit all market participants. Our recent experience highlights two data sources we believe could be improved: the transmission constraints used in modeling and structuring the reliability pricing model, and the resources listed in the queue data. Maryland has territory in several LDAs modeled in the RPM: BGE, PEPCO, SWMAAC, DPL-South, and APS/Rest-of-RTO. The LDAs do not follow state boundaries or the transmission owners' service territory lines. Those LDAs extending into Maryland in all cases (other than the BGE LDA, which is entirely in Maryland) contain significant area, loads, and resources outside the state. Information reported individually for each state is a basic predicate to greater state level understanding of and engagement with resource adequacy.

PJM's current state infrastructure reports do provide some information on state-wide statistics and load growth by transmission owner. However, power system analysis

[27] FERC Docket AD25-7-000, Third Supplemental Notice of Commissioner-led Technical Conference, June 2, 2025. Question 6 for Panel 3.

and planning require data reported at the LDA level or at even more granular data levels. States need that data for analysis or resource planning, as well as state-level data to allow for understanding and engagement by state regulatory bodies. PJM does not currently provide that information. At least two additional categories of information, described below, would help Maryland and other states evaluate resource adequacy.

1. B.1. LDA Level Transmission Information. A key component of analysis by LDA is the Capacity Emergency Transfer Limit ("CETL"). Maryland would benefit from knowing that the CETL is expected to go up or down in the future as transmission elements and resources are added or removed. Because a lower CETL risks an RPM auction cap price, Maryland would benefit from knowing whether its proposed actions improve or harm CETL. Conversely a higher CETL benefits Maryland.

Our office has performed analyses showing that proposed transmission upgrades related to solving for the Brandon Shores and Wagner plants' future retirements will greatly improve the CETL into SWMAAC. Such estimates of CETL benefits from proposed new transmission would assist Maryland's regulators, planning authorities and utilities and the larger public. But PJM has so far been reluctant to provide forecasts of improvements due to proposed transmission improvements.

We recommend that PJM provide CETL forecasts for proposed transmission and other system changes that might affect CETL.

2. B.2. LDA Level Generation Information. To identify emerging future resource scarcity by LDA, Maryland policy makers and planners need the best available information on planned new generation UCAP. The current state infrastructure reports list the nameplate MW of generation in the queue by fuel type.[28] The report, because it is based on queue data, does not list the LDA, ELCC Class type (technology), or UCAP. Thus, while PJM lists 2,057 of solar capacity in the queue for Maryland, at the current ELCC of 11 percent class rating for solar, that comprises only 226 MW of UCAP. In addition, if the solar is in western Maryland, outside the SWMAAC LDA, it provides no more reliability benefit than if it were in West Virgina or Pennsylvania. Any new generation reports, including the queue data, should provide the ELCC class, estimates of the UCAP value, and the LDA in which the project is located.[29]

Because the date a project will be in service is subject to a great deal of uncertainty, PJM should develop an index of project viability and time to operation. This is difficult and imprecise, but critical information.

We believe these reforms to the reporting of queue data would benefit all bulk power system users and not narrowly PJM stakeholders.

CONCLUSION

Explosive forecasted data center load growth presents profound challenges to PJM and the preservation of resource adequacy in the PJM region. PJM's existing set of rules and practices—if not reformed considering data center growth and forecasted growth—are leading and will lead to huge increases in capacity and transmission costs, inequitably borne in major part by existing electric consumers, while putting major stress on resource

[28] PJM, Maryland and District of Columbia State Infrastructure Report (2025).
[29] The capacity value of storage and hybrid projects is particularly difficult to estimate from the queue data that PJM maintains. These ELCC classes form an increasing proportion of queued projects.

adequacy. To better meet this challenge, essential reforms to PJM practices, with direction and guidance from the Commission, are required in large load forecasting and in the procedures and rules for connecting data center loads and their participation in PJM's capacity market. Informed by the context shaped by data center load growth, reforms are needed to correct flaws in the ELCC method currently employed by PJM for accrediting resources that contributes to uncertainties in planning for resource adequacy. Significant enhancements are needed to the information shared and considered for assessing the resource adequacy pertinent to individual jurisdictions. Although PJM functions and operates as a multi-state power pool, with the obligation to plan for and assure resource adequacy at the PJM level, not all jurisdictions—or their customers—are similarly situated. Major distinctions between vertically integrated, non-restructured states and fully restructured states still exist in their respective abilities to engage with resource adequacy at the state level. At a minimum, PJM should report data at the state level, in addition to at the LDA-level, as is currently PJM's limited practice, and for transmission transfer capacity into and out of States, in recognition of transmission's partial fungibility with generation in meeting resource adequacy. Making this information publicly available is a necessary step to enable state-level authorities and the public to better assess state-level contributions to resource adequacy.

Respectfully submitted,

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