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**PA House Energy Committee
Public Hearing on HB1834
Testimony of Joseph E. Bowring**

**The Independent Market Monitor for PJM
October 22, 2025**

Thank you for the opportunity to provide testimony today.

My name is Joseph E. Bowring. I am the Independent Market Monitor for PJM Interconnection. I am the President of Monitoring Analytics, LLC. Monitoring Analytics serves as the Independent Market Monitor for PJM, also known as the Market Monitoring Unit (Market Monitor or MMU). Since March 8, 1999, I have been responsible for all the market monitoring activities of PJM, first as the head of the internal PJM Market Monitoring Unit and, since August 1, 2008, as President of Monitoring Analytics. The market monitoring activities of PJM are defined in the PJM Market Monitoring Plan, Attachment M and Attachment M-Appendix to the PJM Open Access Transmission Tariff (OATT).

The purpose of my testimony is to address House Bill No. 1834, which would authorize the Pennsylvania Public Utility Commission (PUC) to establish a regulatory framework for data centers operating in Pennsylvania.

As the Independent Market Monitor for PJM, I address issues related to the PJM wholesale power markets and not retail ratemaking. House Bill 1834 would have a direct impact on the PJM wholesale power markets and my testimony will address that potential impact. The costs of the PJM wholesale power markets are a component of retail customers' bills for electricity.

The current tight/short conditions in the PJM capacity market are almost entirely the result of large data center load additions, both actual historical and forecast.^{1 2} The current supply of capacity in PJM is not adequate to meet the demand from large data center loads and will not be adequate in the foreseeable future. There is a market solution to the issues created by the addition of unprecedented amounts of large data center loads that does not require a massive wealth transfer. That solution is to require large data center loads to bring their own new generation. It is essential to have a pragmatic market solution that allows data centers to come to market as quickly as feasible and that is consistent with and sustains efficient and competitive PJM markets rather than to create the conditions for a return to cost of service regulation.

The MMU published a report on the latest PJM capacity market base residual auction on October 1, 2025. The basic conclusion of the analysis is that data center load growth is the primary reason for recent and expected capacity market conditions, including total

¹ See, "Analysis of the 2025/2026 RPM Base Residual Auction - Part G Revised," <https://www.monitoringanalytics.com/reports/Reports/2025/IMM_Analysis_of_the_2025_2026_RPM_Base_Residual_Auction_Part_G_20250603_Revised.pdf> (June 3, 2025).

² See "Analysis of the 2026/2027 RPM Base Residual Auction - Part A," ("Part A") (October 1, 2025) <https://www.monitoringanalytics.com/reports/Reports/2025/IMM_Analysis_of_the_20262027_RPM_Base_Residual_Auction_Part_A_20251001.pdf> .

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 same tight supply demand conditions, the same high prices observed in the 2025/2026 BRA and the 2026/2027 BRA, and the currently expected tight supply conditions and high prices for subsequent capacity auctions. The base residual auction, or BRA, is the primary PJM capacity market auction. There is a BRA for each delivery year, which run from June 1 through May 31 of the following year. The latest BRA was for the 2026/2027 delivery year.

Holding aside all the other issues associated with the 2026/2027 BRA, existing and forecast data center load by itself resulted in an increase in the 2026/2027 BRA revenues. Based on actual auction clearing prices and quantities and uplift MW, total RPM market revenues for the 2026/2027 RPM Base Residual Auction were \$16,124,370,889. Inclusion of 11,993 MW of existing and forecast data center load in the peak load forecast for 2026 resulted in a \$7,271,197,971 or an 82.1 percent increase in capacity market revenues for the 2026/2027 RPM Base Residual Auction compared to what RPM revenues would have been had PJM cleared the auction with a peak load forecast that did not include load from existing and planned data centers.

The combined total increase in capacity market revenues for the 2025/2026 BRA and the 2026/2027 BRA was \$16,603,301,829. This total impact will continue to grow until the issues associated with the additions of large data center loads are addressed.³ The impact will increase significantly in the 2028/2029 BRA currently scheduled for June 2026, when the current maximum price is no longer in effect.

It is misleading to assert that the capacity market results are simply just a reflection of supply and demand. The current conditions are not the result of organic load growth. The current conditions in the capacity market are almost entirely the result of large load additions from data centers, both actual historical and forecast. The growth in data center load and the expected future growth in data center load are unique and unprecedented and uncertain and require a different approach than simply asserting that it is just supply and demand. The extreme uncertainty in the load forecasts based on uncertainty about the addition of large data center loads is also unique and unprecedented and raises questions about the meaning of clearing a capacity auction based on those forecasts.

I support the goal of HB1834 to authorize the Pennsylvania Public Utility Commission (PUC) to establish a regulatory framework for data centers operating in Pennsylvania. The inclusion of requirements to help ensure that planned data centers will actually be

³ Inclusion of existing and forecast data center load (embedded and above embedded) increased the 2025/2026 BRA revenues by \$9,332,103,858 (Scenario 88). See, "Analysis of the 2025/2026 RPM Base Residual Auction - Part G Revised," <https://www.monitoringanalytics.com/reports/Reports/2025/IMM_Analysis_of_the_2025_2026_RPM_Base_Residual_Auction_Part_G_20250603_Revised.pdf> (June 3, 2025).

constructed and not impose costs on customers is consistent with the broader market recommendations of the MMU. The specific requirements for financial security, contributions in aid of construction, minimum contract terms, load ramping schedules, early termination fees, cost tracking, provisions for curtailment, and end of contract provisions all contribute to increased certainty and to limit some of the impacts on other customers and the broader PJM markets. Increased transparency and certainty about expected data center loads will help PJM markets function more efficiently. The states in PJM and the state public utility commissions specifically have an important role to play with respect to data center loads and the impact of data center loads on the PJM wholesale power markets.

The market solution is to require new large data center loads to bring their own new generation with locational and temporal characteristics matched to their load profile. The generation must be able to serve the actual hourly load of the data centers without transmission constraints. The generation must be deliverable to the system and deliverable to the new load. The generation must match the energy requirements of the data centers for all hours of the year. The added capacity would equal the load plus the required reserve margin. In the absence of that requirement, some or all of the costs of serving the new large data center loads would be imposed on other customers.

Under the MMU's recommendation, PJM would establish an expedited interconnection process for the new generation and for the new load. Both would be added to the system at the same time in order to minimize the impacts on other customers. The large new data center loads and their new generation would be studied and interconnected as quickly as possible. This requires cooperation and coordination among PJM, transmission owners, electric distribution companies (EDCs) and state regulatory authorities.

My comments about HB1834 are based on my role as market monitor for PJM and impacts on PJM markets.

HB1834 defines a commercial data center as having a peak demand of 25 megawatts or greater. Based on what I have learned about data centers as part of our analyses for the PJM markets, data centers can be significantly smaller than 25 MW.

HB1834 includes a requirement that: "A public utility that enters into a contract for electric service with a commercial data center on or after the effective date of this section shall ensure that not less than 25% of the electricity supplied under the contract is generated from renewable energy sources."

The MMU recommends that the new generation brought by large new data centers must match the energy requirements of the data centers for all hours of the year. In 2024, 7.7 percent of total generation in PJM was from renewable resources including hydro, wind and solar. If a data center relied on the wholesale power market for energy in 2024, it would have been supplied by renewable sources for approximately 7.7 percent of its load. In the first six months of 2025, 9.4 percent of total generation in PJM was from renewable

resources including hydro, wind and solar. The output of renewable resources is unlikely to match the energy demands from data centers.

There are provisions of HB1834 specifically about the interaction between data centers and the PJM wholesale power markets. Specifically, HB1834 directs the Pennsylvania Public Utility Commission to review each data center contract to determine: the impact on the PJM grid; the effect on the reliability of the grid; and the impact on ratepayers. From my perspective as the market monitor for PJM, these provisions recognize the fact that decisions by the commission with regard to data centers have an impact on the PJM wholesale power markets and that the commission can identify and address those impacts.

The Pennsylvania Public Utility Commission by itself cannot fully address the impacts of the addition of large new data center loads on the PJM wholesale capacity and energy markets. It is my view that the provisions of HB1384 would provide the Pennsylvania Public Utility Commission with the specific authority to make an important contribution to understanding and limiting the impacts of large new data center loads on other customers in Pennsylvania and in PJM and on the efficient operation of the PJM markets.