Testimony of Jessica Shirley

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Good morning, Chair Yaw, Chair Comitta, and members of the Senate Environmental Resources and Energy Committee. My name is Jessica Shirley, Secretary of the Pennsylvania Department of Environmental Protection (DEP). Thank you for the opportunity to provide information on resource adequacy in the PJM Interconnection (PJM), PJM market updates, and barriers to entry for new power generation and capacity projects.

As you know, among other things, Pennsylvania is a founding member of PJM, literally putting the "P" in PJM. We rely on that shared grid to secure capacity resources – such as thermal power plants, wind, solar, storage, and demand response – to maintain bulk power system reliability. PJM typically secures these resources through annual capacity auctions where chosen resources must be online and available within three years of the auction. Until recently, PJM maintained an excess reserve margin of resources, well above the minimum amounts needed to ensure reliability.

Both reliability and affordability are now at a tipping point in PJM. New data center demand for power is growing faster than new power supply can keep pace, meanwhile prices for all consumers continue to rise to produce energy and build new capacity and transmission. PJM's capacity auction for the 2027/2028 delivery year was over 6.5 gigawatts short in securing enough

power to maintain reliability. This means that come June 1, 2027, there could be significant reliability events in PJM, ranging from more frequent emergency procedures to blackouts. PJM is facing a reliability crisis while ratepayers – from households, to small businesses and industrial-scale manufacturers – are becoming increasingly aware of escalating prices. This has created significant public attention on PJM, and has triggered a wave of major policy reform efforts at PJM, which I will discuss shortly.

It is important to understand why PJM's capacity market failed to secure enough resources to meet its reliability needs. PJM published a report on the 2027/2028 capacity market procurement shortfall, which attributed the shortage to the following factors.[1]

- First and foremost, **PJM attributes the shortfall to exploding energy demand from the computational loads of data center**. In essence, shovel-ready data center development is causing demand to rise faster than new power supply can enter the market.
- Second, **supply-side constraints are preventing new capacity supply from entering the market.** PJM believes these are primarily physical constraints and economic realities, in addition to regulatory constraints. PJM cites the following as the major supply-side challenges:
    - **Deactivation of 54 GW of supply between 2011 – 2023**, mostly from older coal units that were largely replaced by newer high efficiency gas units.
    - **Interconnection bottlenecks** – the process of studying new resource interconnection has been too slow. The queue was paused in February 2022 to address the bottleneck. The queue is now reopened and is accepting new project proposals through the end of April.
    - **Local siting and permitting issues** have delayed or prevented proposed plant from being built.
    - **Lagging supply chains for critical equipment** such as gas turbines and high voltage step-up transformers have gone from 18 months to up to 3-4 years.

[1] PJM Interconnection, *"2027/2028 Base Residual Auction Reserve Target Shortfall Report",* February 9, 2026, https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2027-2028/2027-2028-bra-reserve-target-shortfall-report.pdf

- Third, **some capacity was lost due to implementation of PJM's new accreditation method**, which sought to more accurately value the reliability contribution offered by different technologies.
- Fourth, **power plant development economics have changed**, where inflationary and supply chain issues have nearly doubled project development timelines and ballooned financing costs.
- Lastly, **PJM blamed market design risk** associated with regulatory uncertainty over the power sector, as well as its own constantly changing capacity market rules, for some degree of investor hesitance about long-term investments.

Governor Shapiro has been a national leader in pushing PJM to do better. His advocacy amidst these failures at PJM is on track to save consumers over $45 billion thanks to a cap on capacity market prices that he demanded. At the urging of Governor Shapiro, joined by the other PJM governors, the federal administration, and FERC—all of whom recognize the gravity of the situation—PJM has launched a variety of stakeholder processes to develop proposed policy changes to FERC. These include, but are not limited to:

- Establishing new types of transmission service to accommodate loads that are co-located with generation.
- Extending the capacity market price collar to protect consumers.
- Creating a limited-time, expedited interconnection process for state-endorsed projects.
- Developing bring your own new generation (BYONG) rules to incentivize data centers to procure their own capacity outside of the capacity market, through mechanisms like bilateral contracts.
- Exploring connect-and-manage rules for how to treat data centers that do not have full capacity backing during reliability events.
- Developing a new reliability backstop auction with long-term contract commitments for capacity, to potentially secure 15 gigawatts of new capacity by 2031.
- Forthcoming launch of a holistic market review of PJM's energy, capacity, and ancillary services markets to determine if additional reforms would be beneficial.

The ultimate result from these and other PJM initiatives will not be known for some time. The Pennsylvania Public Utilities Commission, Office of the Consumer Advocate, and The Office of Governor Shapiro are all closely monitoring these proceedings.

Within Pennsylvania, the Shapiro administration has been pushing on strategies that attempt to facilitate new supply entry on a variety of fronts. Last year, Gov. Shapiro announced the "Lightning Plan", a comprehensive plan to secure Pennsylvania's energy future that will create jobs, lower costs for consumers and build next generation power to position the Commonwealth as a national energy leader for years to come. Among initiatives in the Lightning Plan are several that would help increase energy generation, including:

- The creation of the Pennsylvania Reliable Energy Siting and Electric Transition (RESET) Board to speed permitting, reduce red tape, and support the next generation of energy projects in the state.
- Modifications to the Pennsylvania Economic Development for a Growing Economy (PA EDGE) Tax Credit Program, with a specific update for a Reliable Energy Investment Credit that would provide up to $100 million per facility for three years for new reliable energy sources added to the grid.
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The DEP is takingadditional steps to facilitate new energy supply. For example, DEP is currently soliciting stakeholder input through a Request for Information (RFI) on PJM's proposed Expedited Interconnection Track (EIT) and potential EIT projects in Pennsylvania. PJM's EIT would offer a ten-month interconnection process for up to ten large capacity projects (250 MWs or greater) per year. The DEP is interested in understanding both what projects may be eligible for this process in Pennsylvania, and why certain projects are ineligible for the EIT. Accordingly, the RFI is intended to shed light onto how the EIT can be used for capacity expansion in the Commonwealth, particularly for projects that also advance other key Commonwealth priorities, and alternative opportunities for capacity expansion outside of the EIT.

Additionally, DEP's Energy Programs Office manages a variety of initiatives that support energy generation and reliability. Through the Solar Assistance for Local Governments program EPO helps local governments identify siting of grid-scale solar projects and

through the Community Energy Development program helps local governments develop onsite generation. EPO has conducted a microgrid study to identify opportunities to replicate or expand microgrid systems and to inform next steps on possible Virtual Power Plant installations. EPO is also expanding ways to support energy storage, such as battery energy storage systems, through programs like the Grid Resilience Grant program.

As described herein, multiple efforts are underway – at PJM and within Pennsylvania – to maintain electric grid reliability. However, maintaining reliability to meet data center demand must not be achieved at the expense of Pennsylvania households, businesses, and other industries. Affordability must be a consideration alongside reliability and power system expansion. Pennsylvania's economy will suffer if energy costs become unaffordable. Between 2024 and 2025, the total cost of a megawatt hour of PJM wholesale power increased by 49%, from $55.52 to $82.67.[2] The largest contributions to this increase were the cost of energy ($16.70/MWh increase), capacity ($9.48/MWh increase), and transmission ($0.80/MWh increase).[3] Recall for most households, the wholesale portion of the bill is about half the cost of the total bill, and retail rates are also climbing.

A significant driver of recent wholesale cost increases at PJM has been data center load growth. Part of the reason for this is the way that system expansion is paid for throughout PJM – where significant costs are socialized across PJM customers to support capacity and transmission expansion. Balancing data center load growth with affordability for homes and businesses means ensuring that data centers internalize and pay for the costs they are causing on the power system and avoiding cost socialization.

- At the PJM level, the reforms underway must be completed in a manner that prevents data centers from shifting cost and reliability risks to other customers.
- At the state level, this means ensuring utilities have a data center-specific tariff schedule in place so that wholesale and retail costs caused by the data centers can be passed through to these customers. Some of this work has started, for example through PPL's

[2] Monitoring Analytics, *"2025 State of the Market Report for PJM",* March 12, 2026
[3] IBID, Monitoring Analytics

proposed rate case settlement that would create a data center specific rate schedule (LP-6), as well as the PA PUC's model large load tariff.

Thank you for the opportunity to provide testimony. I am happy to meet with any member who has follow-up questions.