

Before the Senate Democratic Policy Committee

Hearing on Addressing Energy Reliability and Costs for Consumers

Allentown, PA

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Testimony of Christine M. Martin, President, PPL Electric Utilities

Good morning, Senator Miller and members of the Senate Democratic Policy Committee. Thank you for this opportunity to present testimony today. My name is Christine Martin, and I am President of PPL Electric Utilities. PPL Electric serves 1.5 million customers in 29 counties in Pennsylvania. Resource adequacy is a critical policy issue facing the Commonwealth and our region. The importance of ensuring that reliable energy supply remains available at reasonable cost to customers cannot be overstated. The public relies on safe, reliable, and reasonably priced electric service, which necessarily requires adequate electric generation supply. However, due to various factors including the retirement of base-load dispatchable generation, the introduction of significant amounts of non-dispatchable intermittent resources, and unprecedented load growth from data centers and electrification, the Commonwealth will lack sufficient electric generation supply to meet future customer demand.

Background

In March 2023, PJM, the regional transmission organization for 13 states and the District of Columbia, issued a report identifying as much as 40,000 megawatts of existing generation at risk for retirement as soon as 2028 without firm replacement power to meet existing demand. In just a short time, the expected shortfall has grown. After decades of stagnant growth in electric

demand, electric utilities across the country, including PPL Electric, are facing unprecedented increases in electric demand, fueled principally by data centers and other electrification efforts.

For Pennsylvania specifically, the Electric Power Research Institute (“EPRI”) conducted an analysis showing that data centers could account for 3.78% to 7.49% of all electric consumption in the Commonwealth by 2030, up from 3.16% in 2023.¹ While those differences may appear small, 3.16% of electric consumption in 2023 equals 4,590,240 MWh/year, while 7.49% of electric consumption in 2023 equals 12,187,850 MWh/year.² This is the equivalent of 563 MW and 1496 MW of nuclear capacity, respectively, and 878 MW and 2330³ MW of combined cycle natural gas capacity, respectively. These figures illustrate the massive potential growth in Pennsylvania’s electric demand that is on the horizon.

Pennsylvania electric distribution companies (“EDCs”), including PPL Electric, own and operate the poles and wires that deliver electricity to customers and have a statutory duty to deliver adequate, efficient, safe, and reliable service at reasonable rates⁴. However, since the Competition Act of 1996, EDCs are precluded from including the costs of owning or operating electric generation in base rates. In addition, customers can choose to purchase generation service from competitive electric generation suppliers or, if they do not shop, EDCs will procure power on their behalf as default service providers. Regardless, EDCs are responsible for delivering distribution and transmission service to all customers at just and reasonable rates. Generators have no similar obligation to serve. While EDCs own, operate, and maintain transmission and distribution assets,

¹ “Powering Intelligence: Analyzing Artificial Intelligence and Data Center Energy Consumption,” EPRI, p. 13 (May 2024), available at <https://restservice.epri.com/publicdownload/000000003002028905/0/Product>.

² *Id.*

³ This estimate assumes a capacity factor of 93% for nuclear facilities and 59.7% for natural gas combined cycle facilities. See U.S. Energy Information Administration – Electric Power Monthly, Fossil Fuel - https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_6_07_a; and Non-Fossil Fuel - https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_6_07_b.

⁴ See 66 PA C.S. §1501

they must coordinate with and follow PJM orders regarding operation of the flow of electricity and interconnection of the transmission system. Under this paradigm, PJM can, as a last resort, issue load shed directives should a supply shortage occur that impacts grid reliability. EDCs are required to comply with these directives, the result of which is customer service outages (blackouts or brownouts). Under current law, EDCs have no ability to mitigate or prevent the supply conditions leading up to a load shed directive but must execute the consequences of a failure of supply resources to meet demand, over which we, and the state, have no control.

While the Competition Act did not remove the Public Utility Commission's obligation to ensure resource adequacy, it did eliminate tools the Commonwealth and the Commission had to address generation shortages – the ability of EDCs to develop and implement plans to own and operate generation. In the face of a growing supply/demand imbalance and looming brown or blackouts, the Commonwealth must explore all options in case market forces alone are not providing the necessary generation at an affordable cost. The intent of the Competition Act was to provide more affordable electricity that remained reliable. However, the Commonwealth is quickly approaching a future where complete reliance on competitive generation will result in more expensive and less reliable electric service compared to one where EDCs can invest in generation assets alongside the market.

Accordingly, it is time for the legislature to reevaluate whether the 1996 Competition Act⁵ meets the needs of Pennsylvania consumers today and in the future and, if not, that law should be

⁵ The Competition Act was designed to achieve lower electricity rates while maintaining system reliability. The General Assembly even prioritized electric service reliability, finding that competition is only in the customers' best interest as long as safe and affordable transmission and distribution service is available at levels of reliability currently enjoyed by the Commonwealth's citizens and businesses. In other words, competition for competition's sake is not the ultimate goal; rather, safe, reliable, and affordable power remains the polestar. *See* 66 Pa. C.S. § 2804(1)(i); 66 Pa. C.S. § 2802(4)-(7), (9), (11)-(12), (20); 66 Pa. C.S. § 2802(11)-(12), (20).

revised. Electric transmission and distribution service providers can only provide reliable service if there is adequate generation supply to deliver. Challenges to maintaining existing generation and building new generation, with the necessary characteristics to maintain reliability, continue to mount⁶. This includes PJM’s transition to a cluster-study interconnection process, low construction rates for projects that have cleared the interconnection queue and persistent delays in the capacity auction schedule that have resulted in auctions being held close to the Delivery Year rather than on a 3-year forward cycle⁷.

In an effort to bring more generation online and reduce market volatility, PJM has recently made several filings with FERC.⁸ PPL Electric agrees that changes to PJM market rules⁹ and improvements to the interconnection queue¹⁰ process are necessary to improve resource adequacy and reduce volatility. However, it is unlikely that these changes will come in time to prevent supply gaps or at a cost that is reasonable for our customers. Moreover, PPL Electric cannot and will not rely on blind faith that market forces will deliver reliable generation supply, and neither should the

⁶ See *Energy Transition in PJM: Resource Retirements, Replacement and Risks* (February 24, 2023) Available at: <https://www.pjm.com/-/media/DotCom/library/reports-notice/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.pdf>; *Energy Transition in PJM: Flexibility for the Future* (June, 24, 2024) Available at: <https://www.pjm.com/-/media/DotCom/library/reports-notice/special-reports/2024/20240624-energy-transition-in-pjm-flexibility-for-the-future.pdf>

⁷ [*PJM Manual 18: PJM Capacity Market §1.3 (Definition and Purpose of the Reliability Pricing Model)*]

⁸ See *PJM Interconnection, L.L.C., Revisions to Reliability Pricing Model*, Docket No. ER25-682-000, Attachment D, Affidavit of Walter Graf and Skyler Marzewski at ¶ 41(c) (Dec. 9, 2024) (“While market signals suggest the need for new generation resources, the transition in PJM’s interconnection queue process has created a bottleneck, slowing the entry of new capacity.”). See *PJM Interconnection, L.L.C., Docket No. ER25-785-000, Extending the Capacity Must-Offer Requirement to All Generation Capacity Resources* (Dec. 20, 2024);

⁹ See *Letter of PPL Electric Utilities Corporation to PJM Board of Managers*, Available at <https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2024/20241104-ppl-electric-util-letter-re-pjm-bra-and-capacity-market-issues.pdf>

¹⁰ See *Shapiro v. PJM Interconnection, L.L.C.*, Docket No. EL25-46-000, pp. 14-22 (Complaint filed Dec. 30, 2024); *PJM Interconnection, L.L.C., Proposed Tariff Revisions for Reliability Resource Initiative*, Docket No. ER25-712 (Dec. 13, 2024); *PJM Interconnection, L.L.C., Proposed Tariff Amendments for Surplus Interconnection Service*, Docket No. ER25-778 (Dec. 20, 2024); *Technical Conference on Resource Adequacy in Pennsylvania*, Docket No. M-2024-3051988 (PPL Electric Comments filed Jan. 9, 2025).

legislature. The time is now to update Pennsylvania's decades old energy laws to mitigate resource adequacy risks. Pennsylvania's consumers and businesses deserve a future where reliable energy at reasonable rates is not in question.

Need for State Action

To achieve these goals and to give the Commonwealth a role in its destiny, the state needs to put the power to address resource adequacy back in Pennsylvania's hands. Solutions proposed run the gambit from doing nothing – in other words - the so-called “letting the markets work” approach to developing alternatives to PJM. Rather than endorse either of these extremes, which will not address an impending resource adequacy crisis, PPL Electric instead proposes a more moderate, state-focused approach that will enable Pennsylvania to implement a “no regrets” strategy that improves resource adequacy and works alongside the PJM markets to help insulate customers from continued supply price volatility and reliability concerns.

1) Creating More Tools to Ensure Reliability at Reasonable Customer Cost

PPL Electric recommends that the legislature allow EDC investment in generation, up to and including ownership, as a flexible tool for the Commonwealth to support system reliability and economic growth and reduce price volatility. Not only would this investment be subject to PUC oversight, review, and approval, but it would also provide additional benefits to customers that market-based investment cannot, such as the flow through of net revenues from EDC market participation to customers. In addition, while this solution requires legislative changes, it does not necessitate a full rollback of the Competition Act or regulation of existing merchant-owned generation plants. Instead, it allows for meaningful EDC participation alongside the market – not in lieu of it. Given the time it takes to develop and build new generation, the time to hammer out the details and triggers for EDC investment in generation is now. The Commonwealth cannot wait to act until a supply shortage occurs or generation costs to customers become untenable. By then

it will be too late to reverse course without inflicting serious harm to customers and the Commonwealth's economy.

2) Resource Adequacy and Cost to Customers

Generators often tout that a benefit of competition is that risk is shifted away from customers. However, at the end of the day, all cost and reliability risk is ultimately borne by retail electric customers. In the July 2024 Capacity Auction, PPL Zone capacity clearing prices increased nine-fold from \$28.92/MW-day in the 2024/25 BRA to \$269.92/MW-day in the 2025/26 BRA.¹¹ This will cost customers within PJM \$14.7 billion.¹² Further price increases are expected.¹³ It is clear that whether shopping or not, customers cannot avoid the impacts of market volatility, fuel prices, and capacity charges. In light of impending resource adequacy issues and little new generation being built, customers must now also assume the risk of reduced reliability in the form of blackouts and brownouts. That is an unacceptable outcome, and one that we should immediately take action to avoid.

The PJM capacity market is intended to clear resources at a price signal sufficient to incentivize new generation to be built when needed. However, this is not happening, and customers are paying higher capacity costs but not receiving the intended benefit of increased of new generation necessary to ensure that “the lights stay on.” This result is a major flaw in the PJM market design. Absent significant change, PPL Electric does not see how PJM can timely fix this fundamental market design flaw. While PJM has proposed changes to its markets and

¹¹ Shapiro Complaint at 13, *citing* PJM 2025/2026 Base Residual Auction Report (July 30, 2024) at 3, *available at* <https://www.pjm.com/-/media/DotCom/markets-ops/rpm/rpm-auction-info/2025-2026/2025-2026-base-residual-auction-report.ashx>.

¹² *Id.* This will translate to an increase to PPL Electric retail customers' bills of up to \$15 per month.

¹³ *PJM capacity prices could jump 157% in next auction: Morgan Stanley*, Utility Dive (Aug. 29, 2024), *available at* <https://www.utilitydive.com/news/pjm-capacity-prices-auction-morgan-stanley-esai-nrg-vistra-pseg/725618/>

interconnection queue that should help,¹⁴ some of which PPL Electric has publicly supported¹⁵ in whole or in part, they will not be sufficient to forestall the coming burden on Pennsylvania customers.

PPL Electric strongly believes that Pennsylvania must reinstate the ability for EDCs to invest in generation resources to increase generation supply, reduce the risk that Pennsylvania customers will be subject to blackouts and brownouts, and help smooth market volatility to customers under current PJM market rules and any market reforms that may be implemented.

CONCLUSION

Pennsylvania has historically been a leader in the energy space. To continue playing a leading role, the Commonwealth must be proactive in modernizing its energy policy and developing solutions, up to and including EDC investment in generation resources to address these unprecedented resource adequacy challenges that pose a significant threat to customers' continued receipt of reliable electric service and the Commonwealth's continued growth in economic development.

I look forward to continuing to work with the General Assembly and other interested stakeholders on this urgent issue to develop collective, forward-thinking, and innovative solutions

¹⁴ *PJM Interconnection, L.L.C., Revisions to Reliability Pricing Model*, Docket No. ER25-682-000, Attachment D, Affidavit of Walter Graf and Skyler Marzewski at ¶ 41(c) (Dec. 9, 2024); *PJM Interconnection, L.L.C.*, Docket No. ER25-785-000, *Extending the Capacity Must-Offer Requirement to All Generation Capacity Resources* (Dec. 20, 2024) *PJM Interconnection, L.L.C., Proposed Tariff Revisions for Reliability Resource Initiative*, Docket No. ER25-712 (Dec.13, 2024); *PJM Interconnection, L.L.C., Proposed Tariff Amendments for Surplus Interconnection Service*, Docket No. ER25-778 (Dec. 20, 2024) Docket No. ER25-778 (Dec. 20, 2024).

¹⁵ *See Comments of First Energy Companies, Duquesne Light Company and PPL Electric Utilities Corporation*, Docket No. ER25-682 (Jan. 6, 2025); *Supportive Comments of the Indicated PJM Transmission Owners*, Docket No. ER25-712 (Jan. 8, 2025)

to ensure sustainable long-term reliability of electricity supply and delivery that drives economic growth and prosperity in the Commonwealth, at reasonable customer cost.