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VIA E-FILING

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Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17210

**Re: Technical Conference on Resource Adequacy; Docket No. M-2024-3051988
Comments of Talen Energy Corporation**

Dear Secretary Chiavetta:

Enclosed for filing with the Pennsylvania Public Utility Commission, at the above-referenced docket, are Talen Energy Corporation's Comments on Resource Adequacy in Pennsylvania.

If you have any questions regarding this filing, please direct them to me. Thank you for your attention to this matter.

Sincerely,

Cozen O'Connor

By: David P. Zambito
Counsel for *Talen Energy Corporation*

DPZ/kmg
Enclosure

cc: Jennifer Mansh, Esq., Talen Energy, Senior Vice President, Regulatory and External Affairs
Julie D. LaBella, Talen Energy, Vice President, Regulatory and External Affairs

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Technical Conference on Resource Adequacy : M-2024-3051988
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**COMMENTS OF TALEN ENERGY CORPORATION ON
RESOURCE ADEQUACY IN PENNSYLVANIA**

AND NOW COMES Talen Energy Corporation (“Talen”), pursuant to the Secretarial Letters in this matter dated November 15, 2024 and November 26, 2024, to file these comments with the Pennsylvania Public Utility Commission (“Commission”) on electric resource adequacy in Pennsylvania.

I. INTRODUCTION AND KEY POINTS

Talen is a leading independent power producer and energy infrastructure company that owns and operates nearly 11 gigawatts of power infrastructure in the United States, including 2.2 gigawatts of nuclear power and a significant dispatchable fossil fleet. Talen produces and sells electricity, capacity, and ancillary services into wholesale U.S. power markets, including and primarily in the PJM Interconnection Regional Transmission Organization (“PJM”). Talen owns 8,097 megawatts of installed generating capacity in the Commonwealth of Pennsylvania, making it the largest generation owner on an installed-capacity basis. Formed in 2015, Talen boasts a diverse fuel generation portfolio, comprised of approximately 47% natural gas, 25% coal, and 28% nuclear. Talen employs 1,347 workers in the Commonwealth; 46.6% of these employees are members of respective labor unions.

Talen's generation portfolio is anchored by an approximately 2.2 gigawatt interest in the Susquehanna nuclear facility, which enabled the company to produce over half of its generation carbon-free in 2023. Talen also recently completed a natural gas fuel conversion of its 1,528 megawatt Montour plant, located in Washingtonville, Pennsylvania. The company's Pennsylvania portfolio and investments within the Commonwealth since its formation in 2015 demonstrate a commitment that integrates carbon-free generation with a responsible transition, which prioritizes maintaining a reliable and affordable power system. Talen is responding to current market signals to address resource adequacy. Talen understands that natural gas, as a highly dispatchable and strategically located fuel source in the Commonwealth, plays an integral role in ensuring reliability and a responsible energy transition. Natural gas generation will continue to be a necessary component to addressing increasing power demands. Talen supports an all-of-the-above approach to resource adequacy and ensuring a grid that supports developing technologies and emerging industries. This includes allowing the free market to best control prices and incentivize investment in new generation.

As explained in more detail below, Talen's key points and suggestions to the Commission concerning resource adequacy in Pennsylvania are as follows:

- The free market and pro-market policies that send consistent price signals will best incentivize investment of new generation while controlling prices.
- Natural gas will continue to play an important role with respect to resource adequacy, the energy transition, and ensuring a safe and reliable electric grid.
- Policies, such as overall stringent environmental regulations, which lead to existing gas and coal generation shutting down prematurely should not be pursued.

- Regulatory certainty and maintaining a supportive siting, permitting and state regulatory environment will allow independent power producers and the industry to best address resource adequacy concerns.
- The Commission should avoid adding regulatory complexity or unnecessarily interfering with the PJM capacity market auctions.
- Pro-economic policies that encourage and do not inhibit co-located load arrangements will address resource adequacy and rate fairness to customers.

II. SCOPE OF COMMENTS

On November 15, 2024, the Commission issued a Secretarial Letter providing notice of a Technical Conference regarding resource adequacy that would be held on November 25, 2024: “As part of the informal educational process, Commissioners will pose questions to the panelists and will engage the panelists in discussions related to electric resource adequacy in Pennsylvania.” The Letter further provided that the Commission would accept comments following the Technical Conference, with an initial deadline of December 27, 2024.

Talen participated in the Commission’s Resource Adequacy Technical Conference on November 25, 2024. Darren Olagues, Chief Development Officer for Talen, joined the second panel of the conference, entitled: “How do we facilitate completion of the construction of those generation resources?” Mr. Olagues explained that Talen is focused on building dispatchable generation, specifically natural gas, in Pennsylvania. He commented that Pennsylvania is well positioned to lead the country in successfully developing new gas-fired generation that ensures not just reliability and cost-effective power, but also so that the Commonwealth can attract its share of the large industrial and data center-driven power demand. While natural gas alone will not solve

all resource adequacy concerns, it is a necessary component of an all-of-the-above approach to address increasing capacity needs. Mr. Olagues engaged with the participating Commissioners and other panelists in a robust conversation concerning the need to develop new generation, barriers to bringing resources online, and the necessary balancing of interests required to address resource adequacy. Acknowledging the importance of this topic, the Commission issued another Secretarial Letter on November 26, 2024, extending the deadline for comments in this matter to January 9, 2025.

Talen's comments will build upon the discussion provided by Mr. Olagues during the November 25, 2024 Technical Conference by discussing efforts made by Talen to improve its existing generation portfolio and by explaining the challenges to developing new generation. Talen advocates for a free-market approach to best control prices and incentivize investment in new generation. Talen encourages the Commission and other regulatory and legislative bodies to allow the competitive markets to work, including by choosing not to make regulatory policy (environmental or otherwise) that drives premature retirement of existing gas and coal generation, by not introducing additional regulatory uncertainty and complexity that could serve to dissuade investments, and by promoting and not inhibiting co-located load arrangements for large industrial and data center-driven demand. Pennsylvania has an opportunity to benefit from current discussions of resource adequacy and changes to power markets; Talen looks forward to being part of the solution.

III. INVESTMENTS AND COST REDUCTION MEASURES FOR EXISTING GENERATION FACILITIES

Since its formation, Talen has invested significantly in its Pennsylvania generation portfolio, including undertaking cost reduction and energy conversion measures. Talen's zero-

carbon Susquehanna nuclear facility is the sixth largest nuclear-powered generation facility in the United States, comprising 50% or more of Talen's annual generation. In 2023, Talen produced over 18,000 gigawatt hours of reliable, zero-carbon power from Susquehanna at a top-quartile low all-in cost of under \$24 per megawatt hour while maintaining leading safety performance. The success of Susquehanna is due in part to cost reduction measures that Talen has implemented since the company's formation. In 2017, Talen began an initiative to raise the operational and financial performance of Susquehanna. As part of this initiative, Talen utilized a systematic, measured, and monitored approach to achieve significant cost reduction. Within approximately 18 months, the plant's overall financial performance moved from 2nd quartile into the top decile within the industry. Talen recently undertook a similar effort to assess operational efficiencies and costs, helping to ensure Talen remains at the top of the industry. Talen maintains that nuclear generation is integral to the grid and the energy transition. Talen's cost reduction efforts for the Susquehanna facility reflect its commitment to investing in its generation portfolio within the Commonwealth.

Talen has also invested in its Montour plant to complete a coal to natural gas fuel conversion. The Montour plant was built in the early 1970s as a coal generation plant. The conversion of the plant from coal to natural gas took approximately three years from start to finish, resulting in the unit being now fully operational on gas. Talen invested \$155 million to complete the conversion, including the development of a 17-mile lateral gas pipeline to bring the gas to the plant. The conversion of legacy coal facilities to alternative fuels meaningfully extends the life of these assets, while also lowering the carbon profile of the fossil fleet, mitigating uncertainty associated with coal supply, and improving power system reliability. Following conversion, the Montour plant joins Talen's existing natural gas portfolio in being well suited to benefit from varying market dynamics while also generating predictable capacity. Natural gas generation is

capable of providing meaningful operational flexibility, allowing independent power producers to respond to price signals and changing power price dynamics. This is why Talen maintains that gas assets will be a core component of the power markets and grid reliability for the coming years. Further, Talen's investments in its existing generation portfolio show an approach to addressing resource adequacy that is not confined to developing new generation, but also looks to extend and improve upon current resources. Talen maintains that market visibility and pro-market policies will allow existing generation and incentivized new generation to sufficiently address resource adequacy.

IV. CHALLENGES TO DEVELOPING NEW GENERATION

The results of the recent PJM capacity auction show a need for new generation to keep up with growing demand, and the Commission's Technical Conference centered around questions concerning the development of new generation and how to ensure resource adequacy for electric distribution customers. There are significant challenges that impede developing new generation. As discussed below, regulatory uncertainty and unnecessary government intervention would make these challenges worse.

At the outset, Talen maintains that the PJM capacity market is still the best method to incent new generation and new gas build. However, the PJM interconnection process and well-documented challenges with the queue, including the existing backlog and delays for approval, create an uncertain and challenging environment for new generation development. PJM is working diligently to address the queue delays and address other concerns, with multiple capacity market design change proposals currently pending before the Federal Energy Regulatory Commission ("FERC"). But there needs to be a recognition that the time frame for the auction and the inconsistency of the auction rules do not inspire investors to underwrite new construction for

generation, particularly for natural gas generation. While PJM is implementing new measures to address the queue delay and improve the auction process, and many of the proposed measures could benefit the PJM capacity market processes, ever-changing rules and a constantly evolving regulatory landscape create concerns for investors.

There are additional non-market barriers to bringing resources online, with time frame and cost as two leading challenges to developing new generation. Both challenges are the result in part of supply chain issues that lengthens the time for projects through long lead times and delays to receive equipment, which in turn drives prices up and creates more investor risk. The time to build from the last build cycle to the new build cycle has elongated from four to six years. Relatedly, the cost to build is up roughly 50% as a result in part of the elongated development and construction process. While there are several contributing factors to the higher costs and lengthened time to build, inflation in equipment and steep labor costs are the primary reasons for these challenges. With respect to the spend profile for these projects, the milestone payments occur much earlier in the process. There are significant demands for engineering, procurement, and construction (“EPC”) contractors as well as the original equipment manufacturers (“OEM”) of turbines and equipment allowing them to tighten commercial terms in their favor. For example, EPC contractors and OEMs are able to reduce their risk by working on a time and materials basis versus a “wrap” of the project where delivery dates and performance are guaranteed. They are instead asking the developers to take on that risk which in turn increases costs for the developers to begin new projects.

Many turbines are made overseas, which highlights supply chain and workforce issues. The OEMs are trying to increase the capacity to produce turbines but there are continuing delays in building turbines to satisfy these commitments. Maintaining a reliable and knowledgeable

workforce also continues to be an issue impacting the OEMs. Moreover, beyond direct construction costs, insurance costs are higher and financing costs are higher than in the past. These higher costs, when combined with longer lead times and significant deposits required for building new turbines, increases the costs and risk on developers dramatically, which disincentivizes or at a minimum makes it considerably more expensive to build new generation.

If a developer today decided to build new generation (and putting the PJM queue timelines aside), it would likely take until mid to late 2028 before the developer would actually have the equipment in-hand and be able to commence construction of the last phase—which would take another 12-18 months to complete—and only then would the project actually come online. The elongated timing and the associated high costs do not inspire the confidence for developers to start to put down the milestone payments associated with being in the PJM queue and commence developing new generation. This is one of the reasons why there are not many significant new natural gas builds in the PJM generation queue, leaving a highly dispatchable resource underutilized in addressing resource adequacy.

While some work can be started before the major equipment is delivered, a lot of the money associated with doing that work and the changing regulatory landscape make it difficult for developers to satisfy the early milestone payments and convince banks to underwrite these capital-intensive projects from the beginning. Developers and their investors need some assurance that their investments will earn a return and that their bets will pay off. As discussed above, there are considerable challenges to new generation from the capacity market and from other factors including lasting supply chain issues, inflation, and labor costs. Attempts to adjust the market to push environmental agendas, suppress prices to a “correct” clearing price, or to otherwise correct perceived policy concerns make it difficult for developers to convince banks and investors to invest

in new generation because the lack of certainty hinders long-term planning. The landscape of generation resources is likely to change with a new federal administration, which is why consistent and stable conditions are needed to address resource adequacy. As discussed below, allowing the free market to respond without unnecessary regulatory intervention will enable developers and the independent power producer industry to overcome the challenges with developing new generation.

V. COMPETITIVE MARKETS WILL BEST INCENTIVIZE INVESTMENT OF NEW GENERATION WHILE CONTROLLING PRICES

The Commission, to the extent that it has jurisdiction, should ensure regulatory certainty and implement pro-market policies that foster economic competition and allow the competitive markets to best address resource adequacy. The independent power producer industry is ready to respond to the challenges for developing new generation with the investment risk on its shoulders and not the customers. Pennsylvania has inherent advantages, including a supportive siting, permitting and state regulatory environment. Resource adequacy and the results of recent PJM auctions should not serve as an opportunity for the Commission to exceed its jurisdiction and unnecessarily interfere with the competitive markets.

A. Ensuring Resource Adequacy Means Keeping Existing Generation and Avoiding Premature or Incentivized Retirements

One way in which the government should allow the free market to address resource adequacy is by not incentivizing existing gas and coal generation to shut down prematurely. Earlier-than-necessary retirements of existing gas and coal generation exacerbates resource adequacy-related problems. Again, Talen is supportive of an all-of-the-above approach that incorporates renewable energy sources and energy storage, along with existing and highly-dispatchable sources; but forcing early termination of existing generation before the useful life of

these sources has been reached will jeopardize the affordability and reliability of the Commonwealth's power systems.

The generation retirement decisions that are contributing to lower reserve margins were made during periods of low capacity prices, when the anticipated revenues were not sufficient to keep those units economically viable. For many of those units, the economics were further challenged by significant capital investments that would have been needed to comply with new environmental regulations. The capacity market rightly responded to the tighter reserve margin with a higher clearing price. If the market is allowed to continue to work and send the right price signal, then those higher capacity prices will encourage owners of units that had planned to retire to reconsider those decisions and the capital investments necessary to keep the units operating. On the other hand, if the response to the recent higher clearing price is to rework the capacity market to generate a lower price, then the owners of those units will deem the capacity price signal unreliable and continue with the planned retirements.

In resource adequacy discussions, it has been argued that given the longer lead times for building new generation coupled with the delays occurring in PJM's auction schedule, higher capacity clearing prices over the next several years would likely not be paid to new generators. While true, higher capacity prices over the next several years will be of critical importance to forestalling further generation retirements until such time as new generation can come online. Accordingly, if successful in reversing generation retirement decisions, higher capacity costs borne by the Commonwealth's ratepayers would constitute a direct investment in supporting resource adequacy. Further, supporting the continued operation of existing generation through reasonable interpretation of environmental regulations allows those units to remain operational until replacements are available. Reducing and avoiding regulatory complexity with respect to existing

generation sources and allowing the capacity market to send the proper price signals and perform as functioned will best address resource adequacy without risking an unreliable and unaffordable power market.

B. Pro-Market Policies, Not Re-Regulation, Will Incentivize New Generation

Talen expects that the market should provide the level of visibility and certainty that banks and lenders need to underwrite new generation. The market is better equipped to respond to changing price signals and other challenges without additional intervention. Government should not impose further regulations or consider re-regulation of generation as a potential solution to resource adequacy. The regulatory uncertainty with the PJM auction, including changing auction rules and new requirements, have left investors wary of new generation development. While some supply chain issues and other factors cannot be avoided, a complex regulatory environment should be avoided. Regulatory stability will allow investors and developers a measure of certainty where other forces render the value of their investments uncertain. Maintaining a siting, permitting and regulatory landscape that avoids unnecessary regulation and allows the free market to respond best will send the right message to investors and developers to support a growing need for new generation.

To underscore the point that re-regulation is not the answer to address resource adequacy, since Pennsylvania enacted its restructuring law in 1996, there has been considerable new generation. In a 2016 report from the University of Pennsylvania Kleinman Center for Energy Policy, it was found that Pennsylvania-based installed capacity increased 18 percent from 1996 to 2014, including 15.1 gigawatts of new capacity entry.¹ New generation development has been strong since Pennsylvania restructured its electric generation markets. Further, a 2018 report found

¹ Simeone & Hanger, A Case Study of Electricity Competition Results in Pennsylvania (Oct. 28, 2016).

that states with a deregulated market have on average lower carbon intensity than states that maintain a regulated market.² The report found that this conclusion was due largely to fuel conversion from coal to natural gas, much like Talen’s recent Montour plant conversion. Deregulation has not hindered the development of new generation; rather, there is reason to believe that new generation has been successful and abundant in deregulated states and that it has also resulted in achieving environmental policy objectives.

C. PJM Market Changes Should Improve Existing Capacity Market and Should Not Be Accompanied by Additional Layers of Regulatory Complexity

PJM is in the process of implementing market changes in response to the recent auction, providing an additional reason why the Commission should not add a layer of complexity or advocate for more regulation to the already-changing rules. In addition to making changes to its capacity market design, PJM also has multiple proposals pending before (or soon to be filed at) FERC regarding changes to allow resources to come online at a quicker pace. These include:

- Capacity Interconnection Rights (“CIR”) transfer reforms, including an expedited interconnection process for a replacement resource seeking to utilize the CIRs of deactivating resources;
- Surplus Interconnection Service (“SIS”) tariff provisions, including adopting a less restrictive approach to allow for new generation while avoiding being processed through the generation interconnection queue; and,
- New Reliability Resource Initiative (“RRI”) proposals to expedite the interconnection of certain “shovel ready” generating resources.

² Dunn & McBride, *Deregulation and Decarbonization: Exploring the Evidence*, The Breakthrough Institute (Oct. 10, 2018).

Talen generally supports PJM's objective to ensure that the capacity auctions send the right price signals. As explained above and during the November 25 Technical Conference, the PJM capacity market remains the best avenue in which to incent new generation and control price for customers. Talen is hopeful that some suggested reforms to the PJM capacity market will be sufficient to address resource adequacy without the need for additional state-level intervention. As these changes will be implemented rapidly and need to be understood and conveyed to investors quickly, regulatory certainty in Pennsylvania will be even more desirable to avoid further complication.

D. Pennsylvania Stands to Benefit from Co-Located Load Arrangements for Emerging Industries

Much of the discussion concerning resource adequacy involves concern for co-located load arrangements, particularly for data centers and artificial intelligence. There are significant economic benefits of co-located load arrangements and supporting these emerging industries, including establishing new jobs and driving economic growth and tax revenue. Regulatory certainty is key to promoting this economic development and to allow these benefits to be realized in Pennsylvania and not overseas or in neighboring states. However, there is a misnomer that should be corrected—co-located load arrangements do not steal generation from the grid as these users would be connected directly from the grid and taking the same generation from the grid without co-located load arrangements. Talen has advocated that the FERC should adopt pro-market policies that allow true economic competition for co-located load and should avoid favoring any one type of co-located load arrangement or supply configuration. In addition, co-located load should pay for network or grid services only to the extent the load uses such services, as many transactions underlying these arrangements often already protect captive customers and address these types of services. Pro-economic policies that encourage and do not inhibit co-located load arrangements will address resource adequacy and rate fairness to customers. These types of

arrangements can prove to be beneficial to local economies and concerns for resource adequacy should not impede the projected realization of these benefits. The Commission should ensure that regulatory certainty allows the market to operate in a manner that sends accurate price signals to incent new generation where such resources are needed and allow the benefits of these emerging industries to be felt closer to home.

Talen is committed to Pennsylvania and the Commonwealth is where most of its assets are located. The independent power producer industry is ready to build and knows how to build—as Vice Chair Kimberly M. Barrow stated at the November 25 Technical Conference: the question is where to build. Talen is looking at efforts to build generation in Pennsylvania. And Pennsylvania is well positioned. With access to natural gas and supportive infrastructure, Pennsylvania is the anchor for PJM and could realize property tax and job benefits from industrialization, data centers, and emerging technological industries. Talen expects that the competitive market, left undisturbed, should incentivize new generation on its own, and Talen looks forward to being a part of the solution in Pennsylvania.

VI. CONCLUSION

Talen thanks the Commission for the opportunity to submit these comments and participate in the Technical Conference on resource adequacy in Pennsylvania. Talen looks forward to working with the Commission and other stakeholders to address the issues raised in connection with the Technical Conference and generally to ensure reliable and cost-effective power in the Commonwealth.

Respectfully submitted,



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