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Via Electronic Filing

Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: *En Banc* Hearing Concerning Interconnection and Tariffs for Large Load Customers
[Docket No. M-2025-3054271](#)

INTRODUCTION

NRDC (Natural Resources Defense Council) is grateful to the Pennsylvania Public Utility Commission (“PUC” or “commission”) for initiating proactive discussions regarding the design of a large load customer tariff which fairly allocates costs, reduces the risks of stranded assets, ensures continued grid reliability, and increases transparency. We urge the commission to consider tariff elements that would filter out speculative or overly risky requests for interconnection, provide non-large load customers with sufficient protections from cost shifts, and promote flexibility and demand response.

NRDC is an international non-profit organization with over 700 lawyers, scientists, and other environmental specialists who have worked since 1970 to protect our public natural resources, health, and climate. With a diverse group of over three million members and activists, NRDC works with federal and state government officials, including utility commissions, to secure a just, clean energy future for all. Recognizing the PUC faces many challenges in addressing load growth, we seek to offer guidance in developing sufficient standards and consumer protections for interconnection and tariffs for large load customers.

DISCUSSION

One such challenge that affects not only Pennsylvania, but all regions across the country, is planning uncertainty. National, regional, and utility territory-specific forecasts for near- and long-term demand growth are made uncertain by speculative bids from prospective data center developers, unpredictable market conditions for artificial intelligence (“AI”) technologies

affecting their future uptake, and potential advancements in chip technology or model architectures, which could drastically reduce the energy requirements of AI over time.

The variable nature of load forecasts poses great risks to all other customers. If actual demand falls short of projected forecasts, infrastructure could be overbuilt, stranding other customers with the costs. Conversely, if infrastructure is underbuilt and large loads are brought online, this could create capacity shortfalls and threaten reliability. Even if the system is “right sized,” absent deliberate, thoughtful, and proactive steps from regulators, there are risks that costs to serve large load customers will be allocated in a manner that unfairly shifts the burden to other ratepayers.

For these reasons, it is critical to set forth a model tariff that adequately addresses the risks around surging demand to ensure other customers are not stranded with the costs of the infrastructure built to serve large load customers. To increase demand certainty, tariff elements consistent with a capacity commitment framework (CCF) would align infrastructure investments with real demand. This requires new large load customers to provide near- and long-term guarantees that they are committed to siting in Pennsylvania with the capacity and energy requirements that they request. A large load tariff incorporating a CCF would benefit large load customers by providing certainty, transparent costs, and roadmaps for expanding their operations, while also guaranteeing secure and reliable energy services and capacity over a predetermined timeframe.

CCF elements include:

1. **Applicability terms:** Defining what size load the tariff applies to ensures only loads large enough to significantly impact the grid or other customers are included (e.g., a 50 MW threshold for loads operating with a minimum capacity factor of 50%).
2. **Upfront financial commitments:** Requiring early fees to enter the queue, such as collateral or deposits, and other commitments like site control can help filter out speculative customers while prioritizing customers who are committed to siting in Pennsylvania (e.g., ComEd in Illinois currently requires site control and one million dollars upfront to be counted in load forecasts). Prior to interconnection, any study associated with a new large load customer or aggregation of large load customers should be paid for solely by these customers.
3. **Minimum length of tariff term:** Time horizons to recover costs for new transmission and distribution infrastructure can require 20-40 years. Tariff terms should accurately reflect the length at which these costs are recovered, guaranteeing adequate revenues from customers who necessitate this buildout.

4. **Exit fees and resizing clauses:** In the case that a large load customer ceases operations or wishes to decrease their energy usage, adequate fees should be assessed to recover unmet costs due to early termination or a reduction in load. For new data centers, it is of particular concern that AI uptake will not meet expectations, resulting in vacant facilities; additionally, large efficiency gains in chip technology or model architectures could significantly reduce energy and capacity requirements in the future. These potential risks complicate the cost recovery of new infrastructure, as it can strand other customers with the costs. One potential solution can be found in Indiana Michigan Power's Industrial Power Tariff Settlement¹, which provides that customers may reduce load by up to 20% with 42-months' notice and may terminate a contract after the first five years with an exit fee assessed as the nominal value of the remaining minimum charge for the terminated/reduced capacity.
5. **Load ramping provisions:** Dictating timelines for a customer to scale to their full capacity can enable better project development timing and resource adequacy planning, while also providing transparency of timelines for customers served under the tariff.
6. **Minimum load charges:** Even if a large load customer's actual consumption is lower than their contracted amount, a take-or-pay clause would require the customer to pay for a minimum amount of energy, regardless of how much they use. This would ensure the utility recovers the costs associated with providing reliable power to the customer even if their actual consumption falls below their contracted obligations (e.g., under the AEP Ohio tariff, the customer pays the greater of either their actual monthly use *or* 85% of their contracted capacity).²

Additional elements that should be considered in a model tariff set forth by the commission:

7. **Load Shedding and Demand Response:** There are abundant benefits to requiring large customers to maintain flexibility and curtail load with day ahead notice. However, for data centers and other industries with high uptime like microchip processing and battery manufacturing, the existing participation in demand response programs is extremely low, proving that financial payments alone are not sufficient incentives. Requiring large load customers to respond to emergency load reduction events should be deemed necessary to maintain grid reliability and stability. There is a need to review and account for the benefits of curtailing load from data centers that can do so without consequence, such as data centers training large AI models, performing tasks related to research or leisure, while ensuring data center loads that provide essential and critical services to end users,

¹ [Indiana Michigan Filing for Approval of Modifications to its Industrial Power Tariff](#)

² Application of Ohio Power Company For New Tariffs Related to Data Centers and Mobile Data Centers, No. Case No. 24-508-EL-ATA (Public Utilities Commission of Ohio April 9, 2025), <https://dis.puc.state.oh.us/DocumentRecord.aspx?DocID=82a856c0-206c-491d-9d93-96969cac1a6e>.

such as hospitals or defense infrastructure, disaster response, etc., are not compromised. Backup generation at data center sites can allow demand response without compromising these services but, importantly, can raise pollution concerns for local communities.

8. **Regulation and monitoring of backup generation:** Backup generation can allow for demand response and flexibility from data centers but also poses risks to air, water, and land quality from dirty fuels, and could potentially allow large load customers to strategically reduce their peak demand in key hours to avoid peak demand charges, shifting their costs onto all other customers. Because battery storage is not designed for quick charging and discharging large volumes of power is not currently economically feasible to scale, backup diesel generators are widely used. To protect local communities, diesel generators should be required to: (1) operate with the cleanest fuels (Tier 4 or higher); (2) only be allowed to run in emergency circumstances deemed appropriate by regulators; and (3) meet all existing air quality standards. Enforceable rules should be developed, which rely on continuous monitoring and reporting of backup generation use and its associated emissions (some of these regulations would fall under the jurisdiction of the Pennsylvania Department of Environmental Protection but could be crafted in consultation with PUC staff, as appropriate).
9. **Forecasting and Reporting:** Demand forecasting is addressed to an extent by the tariff elements listed above. However, we urge the commission to plan regular and timely updates to forecasts as large load tariffs are implemented and the market conditions for data centers evolve. If there are deficiencies in forecasting found by the commission, this could be rectified by a utility forecast update following the implementation of a large load tariff, and more frequent forecasting requirements. For the commission to have the most accurate and sufficient information as large new loads evolve, utilities should additionally report on a timeline deemed fit by the commission (e.g., quarterly, semiannually, annually) the aggregated load from customers under the tariff, expected capacity and energy needs, status updates of prospective customers or customers in the queue, estimated interconnection timelines, and any further information deemed necessary for adequate short- and long- term planning. Importantly, this data could also inform a more accurate Pennsylvania component for the broader regional PJM load forecast.

Further, cost allocation and recovery must be carefully examined in this unprecedented era of demand growth from large load customers to ensure that residential and commercial customer classes are not subsidizing the costs of new infrastructure for large customers. The commission should consider reforms that better match transmission and distribution system upgrades with the specific classes of load driving them. All buildout caused by new large load customers should be allocated to the same customer class absent clear, equivocal, and transparent findings that other customers benefit.

On the cost recovery front, a utility should not be permitted to earn a rate of return on any portion of new infrastructure construction costs that are fully borne by the large load customer. With uncertain load growth forecasts already creating the risk of overbuilding, utilities do not need further incentives to overbuild by receiving a rate of return on construction costs that are entirely covered by a large customer. That would also disincentivize prudent and efficient planning and could result in costly, inefficient system expansion.

The scale and speed of projected new large load demand has not been seen since the 1950s and has been the main driver of an almost tenfold increase in recent PJM capacity prices.³ These costs will be passed onto all customers in PJM's territory by capacity zone, including across Pennsylvania, and therefore warrant the exploration of mechanisms to reduce those cost impacts across other customer classes paid for by the large load customers who caused them.

To mitigate rising electricity and capacity costs, the PUC should direct utilities that are adopting large load tariffs to propose a volumetric charge on new large load customers to contribute to universal service programs to support energy efficiency, demand response, and low-income payment programs in Pennsylvania. The funds collected under a system benefit charge should *not* supplant existing programming. This is already a precedent: Indiana Michigan Power's Settlement directs the large load signatories to pay a flat annual fee of \$500,000 over the first five years of service to the Indiana Community Action Association to support income qualified customers and weatherization opportunities.⁴

We urge the commission to explore establishing a fund that large loads in Pennsylvania would pay into – volumetrically or annually scaled to demand – similar in nature to this construct. We also urge the commission to explore additional mechanisms to both alleviate load growth and help low-income customers during a time of heightened sensitivity on affordability issues writ large.

Energy self-supply models that bring benefits both systemwide and to large load customers should be explored by the commission. When new, additional supply (ideally from zero emissions resources) is built in a location that is “deliverable” to the data center customer and paid for by that load, it can help mitigate price increases that would otherwise occur on the

³ “Analysis of the 2025/2026 RPM Base Residual Auction Part G” (The Independent Market Monitor for PJM, Monitoring Analytics, June 3, 2025), https://www.monitoringanalytics.com/reports/reports/2025/IMM_Analysis_of_the_20252026_RPM_Base_Residual_Auction_Part_G_20250603.pdf .

⁴ *supra* note 1

system from the existing fleet. Put another way, customers can benefit from “bringing their own energy,” or BYOE, with increased reliability as a hedge against grid instability and by making cost effective investments in clean energy technologies, some of which would not be available otherwise. For example, a Clean Transition Tariff (CTT) implemented by NV Energy in Nevada allows Google to directly fund clean, firm geothermal energy matched in real time to their demand and sell any excess back to the utility.⁵

Large load customers co-located with self-funded renewable energy generation and storage in “energy parks,” especially when sited at existing grid connections like retired generation sites to avoid new transmission needs, should be explored as an alternative large load tariff to drive clean energy investments and bolster grid reliability. Recognizing that Pennsylvania is a deregulated state and the PUC has no direct jurisdiction over wholesale generation, it remains worth exploring tariff structures and complementary regulatory constructs that can encourage these large loads to fund as much new, additional, deliverable zero emissions supply coupled with demand side solutions to minimize their impact on overall resource adequacy.

CONCLUSION

NRDC sincerely appreciates the opportunity to submit these comments, and we look forward to working with the PUC and relevant stakeholders to accommodate interconnection and tariffs for large load customers. Moreover, this is a critical issue in addressing broader resource adequacy challenges across Pennsylvania. NRDC is committed to doing so in a manner that will reduce costs, enhance grid reliability, and deliver a cleaner economy for all.

Respectfully submitted,

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⁵ [Joint Application of Sierra Pacific Power Co](#) d/b/a NV Energy and Callisto Enterprises LLC for Approval of an Energy Supply Agreement (Public Utilities Commission of Nevada May 13, 2025).