



COMMONWEALTH OF PENNSYLVANIA

June 6, 2025

E-FILED

Matthew L. Homsher, Secretary
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**

Dear Secretary Homsher:

Enclosed please find the Comments of the Office of Small Business Advocate
("OSBA"), in the above-referenced proceeding.

If you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ Rebecca Lyttle

Rebecca Lyttle
Assistant Small Business Advocate
Attorney ID No. 201399

Enclosures

cc: Jason Hails
Roger Cathcart
Parties of Record

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

***En Banc* Hearing Concerning** : **Docket No. M-2025-3054271**
Interconnection and Tariffs :
for Large Load Customers :

**COMMENTS
OF THE
OFFICE OF SMALL BUSINESS ADVOCATE**

I. INTRODUCTION

The Pennsylvania Public Utility Commission (“PUC” or “Commission”) conducted an En Banc hearing on matters pertaining to the Interconnection and Tariffs for Large Load Customers on April 24, 2025. The hearing's intent was to educate and inform the PUC on the prudent design of a large load customer model tariff for electric distribution companies.

Per Chairman DeFrank: “The Public Utility Commission is aware of the increasing number of large load customers, including hyperscale data centers supporting artificial intelligence and other operations. These large load users are forecast to place significant new demand on the electric grid, in both Pennsylvania and the broader PJM region. Having said that, these new customers represent a tremendous opportunity for the state in terms of jobs, economic growth, technological advancement, and rate stability, in addition to bolstering our national security. Balancing concerns like these is one of the primary mandates of the Commission, as we seek to establish just and reasonable tariffs that provide open and non-discriminatory access to our public utility systems while protecting existing customers from undue burdens and costs”¹.

¹ Motion of Chairman Stephen M. DeFrank, Page 1 – March 27, 2025.

The hearing included written submissions and oral testimony provided by invited parties including panels of large load market participants, utilities, and intervenors. The PUC Commissioners issued questions and solicited comments from the panels and individual testifiers.

Interested parties were invited to file comments on the En Banc hearing within thirty (30) days of the hearing, and on May 16, 2025, the PUC extended the deadline for comments to Friday, June 6, 2025. The purpose of this document is to offer the Office of Small Business Advocate's ("OSBA") comments on the various issues and opportunities with the advent of large load customers in Pennsylvania, as well as comment on the testimony that was provided by the panelists.

The Pennsylvania Office of Small Business Advocate is an independent agency representing small businesses with 250 or fewer employees in regulated utility matters before the Pennsylvania Public Utility Commission ("PUC"), state and federal regulatory agencies, and courts. Our comments are intended to represent the interest of small businesses in addressing the challenges and opportunities associated with powering large load customers, including data centers and similar high-energy-demand entities.

II. THE EVOLVING LARGE LOAD INDUSTRY

Pennsylvania currently boasts 79 data centers², about twice the number reported in 2018. Pennsylvania is experiencing this surge in large-scale data center development due to the State's abundant energy resources (natural gas, nuclear, and growing renewables), strategic location

² <https://www.datacentermap.com/usa/pennsylvania/>

within PJM Interconnection's reliable grid, and favorable tax incentives. Nationwide, data centers could use 6.7% to 12% of all U.S. electricity by 2028, up from about 4.4% in 2023. Total use by data centers could grow from 176 TWh in 2023 to a range of 325 TWh to 580 TWh by 2028 - translating to a total power demand for data centers between 74 GW and 132 GW"³. In Pennsylvania, numerous very large generation projects are planned or underway, including the \$10 billion 4.5 GW Homer City Redevelopment⁴, the 837 MW Three Mile Island Unit 1 restart for Microsoft⁵, and the 960 MW Humboldt North Industrial Park project, near Amazon's Cumulus Campus⁶.

Chairman DeFrank identified in his Motion several key high-level considerations with the integration of large load customers into the Pennsylvania energy ecosystem. For the purposes of the OSBA's Comments, these include:

a. Ratepayer Protection:

- i. Protecting existing customers from undue burdens and costs.
- ii. Ratepayer protection against the risk of utility investment for projects that may not materialize, and who will bear these stranded costs.

b. Expedited Interconnection:

Potential opportunities for expedited interconnection for end users willing to fund and construct system upgrades themselves.

³ <https://www.utilitydive.com/news/homer-city-gas-fired-power-station-data-center-firstenergy/744332/>

⁴ <https://canada.constructconnect.com/dcn/news/usa/2025/04/pennsylvanias-largest-coal-fired-power-plant-now-retired-to-become-gas-powered-data-center-campus>

⁵ <https://www.datacenterdynamics.com/en/news/three-mile-island-nuclear-power-plant-to-return-as-microsoft-signs-20-year-835mw-ai-data-center-ppa/>

⁶ <https://www.timesleader.com/news/1691625/northeast-pennsylvania-is-a-hot-spot-for-potential-data-centers>

c. Extensive Studies and Related Infrastructure Investments:

Large loads may require extensive studies to maintain reliability and those studies may necessitate large investments in infrastructure.

d. Fair Rules and Procedures:

Provide transparency to new customers seeking to interconnect, protections for existing customers, and certainty to utilities themselves as they consider potentially significant investments to their infrastructure.

III. OSBA COMMENTS

The OSBA takes a principled approach to these large load considerations, whereby small business customers would avoid undue burden and costs; yet benefit from related infrastructure upgrades and the economic development opportunities introduced with the development and operation of large load customer operations.

1. Key Impacts On Pennsylvania's Small Businesses

Pennsylvania is emerging as a strategic hub for AI-driven data centers. While these projects promise new jobs and tax revenues, they also strain energy systems, potentially raising costs and reducing service reliability for small businesses across the Commonwealth.

a. Rising Electricity Prices

Pennsylvania's energy grid is under increasing pressure as high-load facilities (like data centers) demand massive, constant power. Small businesses, unlike industrial giants, cannot negotiate wholesale electricity rates and are at greater risk of seeing their energy bills rise. The Pennsylvania Public Utility Commission has already forecasted higher generation prices for 2025 due to increased grid demand.

b. Grid Strain and Infrastructure Costs

New substations, transmission lines, and reliability upgrades are needed to support data center clusters. Utility companies typically recover infrastructure costs from ratepayers, meaning small businesses could end up funding the grid expansions needed for large tech companies.

c. Environmental and Regulatory Pressures

Data centers consume enormous energy, much of it still generated by natural gas and coal in PA. New regulations may be introduced to curb emissions, leading to higher compliance costs across the grid that small businesses must also pay for, even though they are not the primary contributors to the increase.

d. Opportunity Costs for Community Investment

Local governments offer significant tax incentives to attract data centers (property tax breaks, sales tax exemptions, etc.). These tax breaks reduce funding available for small business support programs, education, infrastructure, and other public services.

2. Bonbright Principles of Utility Regulation

The OSBA acknowledges longstanding Bonbright⁷ Principles of utility regulation to balance the interests of utilities, customers, and society. These principles include:

- a. Rates should have the following practical attributes: simplicity, understandability, public acceptability, and feasibility of application.
- b. Rates should be free from controversies as to proper interpretation.
- c. Rates should effectively yield total revenue requirements under the fair return standard.

⁷ “Principles of Public Utility Rates”, James C. Bonbright, 1961, Columbia University Press, NY, NY. page 291

- d. Rates should provide revenue stability from year to year.
 - e. Rates themselves should be stable, i.e. rates should experience minimal unexpected changes that are seriously adverse to existing customers.
 - f. Rates should apportion the total cost of service fairly among different customers.
 - g. Avoidance of “undue discrimination” in rate relationships.
 - h. Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amount of use:
 - i. In the control of the total amount of service supplied by the company; and
 - ii. In the control of the relative uses of alternative types of service.
- For purposes of comment, the OSBA will separate the principles it advocates for dealing with the advent of large loads, and the tools and mechanisms used to achieve principled outcomes discussed at the En Banc Hearing.

3. Regulatory Principles for Large Load Customers

a. Small Business Ratepayers Should Not Cross-Subsidize

Small business ratepayers should not bear an undue burden or cost, nor should they cross-subsidize large load customers over the short, medium, or long term⁸. This will require built-in assurance mechanisms throughout the entire impact cycle of large load additions to the system (for instance, from project inception to project end-of-life, whether through contract termination,

⁸ Bonbright principle #6.

large load withdrawal, or end-of-life generation). This includes pursuit of cost causation and allocation principles, the allocation of risk, and the consideration of stranded costs related to non-performance or withdrawal of the large load customer.

b. Non-Discriminatory Tariffs

Rates for utility services must be applied uniformly to all customers within a specific class, without unfair preference or discrimination on factors like customer type, location, or usage characteristics, unless justified by valid quantifiable system-wide cost differences caused by individual or groups of large loads. While clear in principle, and broadly supported by panelists in the Hearing, this objective with large load customers will be highly dependent on detailed assessments of system-wide cost differences among large load customers, whether data centers specifically should be categorized as different from other large load customers, and whether the size of the load or other factors within class should dictate different subclasses.

c. Transparency and Public Input

Given the technical and financial complexity introduced by large loads, as well as the significant potential impact of numerous large loads connected to the grid, the Bonbright Principle numbers 1 & 2 become increasingly important. These principles highlight the need for characteristics such as understandability, public acceptability, feasibility of application, and freedom from controversies regarding proper interpretation. Despite concerns about contract confidentiality, the regulatory adjudication process, whether for establishing rules and regulations or approving specific applications, must be transparent and open to stakeholder input to ensure public accountability.

4. Tools and Mechanisms to Achieve Principled Outcomes

The Hearing included discussion of many considerations in addressing the opportunities and challenges of new large load customers. The OSBA identified key considerations and potential solutions, listed in project life-cycle sequence, and provides comment on each below.

#	Issue	OSBA Comment
1	Feasibility Studies (engineering and financial)	<ul style="list-style-type: none">• There are some current requirements in place for new customers to provide deposits for feasibility studies. (E.g. Duquesne, Transcript Page 101⁹, PECO Energy, Transcript Page 119¹⁰). The OSBA supports that new large load customers be required to provide sufficient deposits to cover the costs for feasibility studies (including engineering and financial studies).• Feasibility studies may extend beyond single new large loads and include a more portfolio-based approach with multiple regional new simultaneous or quick-sequence large loads. Broader studies may require coordination of various customers, utilities, agencies (E.g. PJM), etc., and none of these costs should be borne by small business customers.• It is imperative that any solution and associated costs be studied by qualified experts and validated by independent third parties where advisable.

⁹ Written Testimony of C. James Davis on behalf of Duquesne Light Company April 24, 2025, Page 3 “*Under the existing tariff, DLC requires a deposit in order for a large load developer to be assigned a position in the queue. This deposit pays for engineering and interconnection studies and is fully refundable if the customer decides not to move forward, less any costs already incurred. These large load developers also pay the actual costs of construction. Referred to as “open book” costs, these include direct and indirect costs, plus applicable taxes. This practice ensures that Duquesne Light existing customers are protected from paying for projects that never come to fruition.*”

¹⁰ Written Testimony of Richard G. Webster, Jr. on Behalf of PECO Energy Company , April 24, 2025, Page 4 “*If a large load customer seeks to proceed with an Engineering Feasibility Study, it will be required to submit a deposit to PECO that will be utilized to pay for the initial analysis. PECO currently requires a \$250,000 deposit. If the customer cancels the project, any unspent funds will be returned to the customer.*”

		<ul style="list-style-type: none"> • Adequate time needs to be allocated for comprehensive studies to take place. Given the complexity and interdependencies involved with new large loads, priority should be given to quality vs. speed of execution in development of feasibility studies. The OSBA agrees that timeliness is important for developers and recognizes that flexibility should be built into service levels to address the relative complexity of different projects or portfolios of projects. There is no single standard expectation for timelines to develop these studies.
2	Queueing	<ul style="list-style-type: none"> • There were several references to preferential sequencing in the generation queue for large load customers bringing new generation alongside new load or co-locating with new generation, with scoring advantages or creation of a separate queue track for these projects (Vantage¹¹, Transcript Pages 47 and 48). • The OSBA supports policy tools, such as co-location, that prioritize projects that solve grid challenges provided that utilities are providing fair non-discriminatory access to the grid.
3	Cost Causation	<ul style="list-style-type: none"> • The OSBA agrees with the consensus that large load interconnection costs must be entirely borne by the large load customer, and not by other customer groups, based on cost causation as described by the Bureau of Investigation and

¹¹ Written Submission of Shawn Smith on Behalf of Vantage Data Centers April 24, 2025, Page 2 “ *We encourage the Commission to consider policy tools that could prioritize such projects in the load and generation interconnection queue. This could include explicit scoring advantages, creating a separate queue track, for new load that brings new generation, and earlier access to system impact studies. Doing so would send the right market signals: that if a customer helps solve the grid problem, rather than contribute to it, they deserve a faster path forward.*”

		<p>Enforcement¹². This includes the full costs of planning, design, engineering, procurement, construction, maintenance, upgrade and decommissioning throughout the life of the interconnection, and should include typical contributions in aid of construction¹³.</p> <ul style="list-style-type: none"> • If the large load customer supplies self-generation, the large load customer should be responsible for all related utility and grid-related infrastructure costs required to service that load, including interconnection, balancing and maintenance. This includes maintaining equivalent levels of affordability, reliability of supply, grid resilience, accessibility, security, scalability, and interoperability.
4	Ramping and Load Characteristics	<ul style="list-style-type: none"> • To the extent that any new energy intensive load is brought online over time and there is limited ability to shed load during peak periods, consideration should be given to charging energy intensive rates which cover incremental costs incurred to supply the new capacity, generation, or other infrastructure required specifically for the energy-intensive customer. This will recover costs above the embedded cost-to-serve rates. • For ramping over several years, system attributes must be protected in the near term with existing utility supply, and in the longer term with the incremental generation capacity. Infrastructure requirements and solutions may vary for each project, and each should be individually addressed by the

¹² Written Testimony of Allison Kaster on behalf of the Bureau of Investigation and Enforcement, April 24, 2025, Pages 2 and 3: “It is undisputed that utility rates must be “just and reasonable” and, one of the primary tools to develop such rates, is through a cost of service study. A cost of service study categorizes the various parts of a utility’s revenue requirement and allocates those costs across all rate classes based on factors determined from actual data, such as number of customers and usage characteristics. There are many different cost of service methodologies that a utility can choose to allocate costs, and it is undeniable that determining the most appropriate cost of service methodology and the appropriate assignment of costs can be one of the more contentious issues in a base rate case”.

¹³ Bonbright principle #6.

		<p>utility, with costs recovered through appropriate tariff rates during the ramp-up period (E.g. Data Center Coalition, Transcript Page 37).</p> <ul style="list-style-type: none"> • The OSBA also suggests that if projects are ramped up or phased over time, feasibility studies may need to be updated or refined to reflect current system conditions. Large load customers should be responsible for any associated costs, and there should be flexibility within contracts to adjust costs accordingly with study outcomes.
5	Trade-offs	<ul style="list-style-type: none"> • If with the large load addition there are any trade-offs to be made with the system attributes in the short, medium, or long term, these trade-offs need to be transparent and accounted for through current PUC adjudicative mechanisms to allow comment and debate of the merits¹⁴.
6	Allocation of Risk	<ul style="list-style-type: none"> • Large load additions, depending on the timing of installation and global system effects, may present higher risk of loss or failure for any of the system attributes noted above. • The large load customer should be responsible for addressing and paying for enhanced risk to other customer groups, through various mechanisms such as mitigation (e.g. implement system controls), transfer (e.g. insurance), or reduction (e.g. minimizing the likelihood of risk materializing on the system, including through security deposits, minimum contract terms, penalties for non-performance, exit fees).

¹⁴ Bonbright principles #1 and #2.

7	System Benefits of New Large Loads	<ul style="list-style-type: none"> • To the extent that there are quantifiable grid-related benefits (system attributes) that can be attributed to the solution to meet new large loads (e.g., new capacity, load shedding during peak demand periods, improved reliability, higher resilience), the OSBA supports an approach in which benefactor customer groups share in the cost associated with the benefits. Payment could take the form of feed-in-tariff rates for excess large load customer supply, credits, lower fees, interruptible rates, or discounted tariffs assigned to the large load customer, leaving the other groups to absorb the costs of these quantifiable benefits through cost allocation and rate design.
8	Allocation of Benefits	<ul style="list-style-type: none"> • The OSBA agrees that there are wide-ranging societal benefits of attracting large load customers to the Commonwealth of Pennsylvania, including economic growth, jobs, technology advancement and national security. While these benefits may prove to be tangible, ratepayers should not be accountable for them through increased rates or diminished level of service. • The OSBA recommends that the Commission require large load customer engage with local businesses in supporting the development and operations of the new customers. The OSBA believes that small businesses should benefit from and be an integral part of the solution of integrating large load customers and suggests that commitments to include a procurement provision for small businesses to be incorporated into large load contract terms for building and the operations of construction or ongoing maintenance of data center facilities, especially if large load customers are the benefactors of public incentives. • Benefits attributed to society at large should be paid for commensurately by taxpayers and not ratepayers. Any sovereign grants, low interest loans, tax breaks or other

		incentives should be borne by taxpayers (local, state or federal governments). Utility negotiations to contract with new large load customers must be independent of these incentives (with the large load customer applying incentives to its own internal business case).
9	Large Load Tariffs	<ul style="list-style-type: none"> Referring to earlier discussion of non-discriminatory tariffs, the OSBA recommends data centers be set up as a separate class of customer. This class may adopt the class characteristics or rates of other large load classes, or this new class may evolve customized tariffs to account for unique data center characteristics and cost of service studies reflecting cost causation factors that dictate the need for custom tariff rates. Consideration should be given to subclasses within the data center category for load size, location, or other key factors (such as co-location with generation). Having several tariff categories based on relevant customer characteristics of cost causation will offer a balance of standardization and customization needed to both encourage data center development and protect the interests of other customer groups. The OSBA recommends that cost-of-service study professionals be engaged to help determine the applicability of varying load factors to establish appropriate size (or other variable) classifications.
10	Stranded Costs	<ul style="list-style-type: none"> While stranded costs represent one aspect of the cost causation principle, the magnitude and unpredictability of potential stranded costs if data centers become no longer commercially viable render them an important consideration.

		<ul style="list-style-type: none"> • The OSBA recommends minimum load contract terms, duration provisions (8 – 10 years) and exit fees; concepts broadly supported by Hearing Panelists.
11	Financial Security and Collateral	<ul style="list-style-type: none"> • Data center developers generally support collateral requirements as part of a “balanced commercial package” (Amazon, Transcript Page 20), with potentially phased reductions as risk declines (Vantage, Transcript Page 50). • The Data Center Coalition also advocated for flexibility in posting financial security and collateral to allow non-discriminatory access to different types of large load customers¹⁵. • The OSBA recommends that there should be financial security and collateral requirements to balance the need to mitigate risk of exposure to other customers and the allowance of non-discriminatory access to the grid.
12	Contract Terms	<ul style="list-style-type: none"> • In addition to development of legislated policies and rules for large load customers, contract terms and conditions, by phase or stage-gate, with new large load customers (and data centers specifically) should be comprehensive and explicit, thereby reducing ambiguity where possible.
13	Best Practices Learned from other Jurisdictions	<ul style="list-style-type: none"> • While there are significant learnings available from other jurisdictions, Pennsylvania will need its own solution. However, the OSBA strongly encourages systematic adoption of preferred regulatory treatment of large load customers across

¹⁵ Written Testimony of Lucas Fykes on behalf of the Data Center Coalition, Page 5 “*To better achieve diversity, customers should have the flexibility to post collateral through a variety of forms, including parental guarantees, letters of credit, surety bonds and cash. And utilities must allow data center customers a realistic timeline to sign tenants and post collateral. Finally, tariffs should include structured collateral phase out schedules as utility risk decreases over time, such that the customer can manage long-term capital planning.*”

		multiple jurisdictions or regions to avoid a competitive race-to-the-bottom with preferential treatment deemed not in the best interest of jurisdictional customer groups.
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IV. OSBA’S POLICY RECOMMENDATIONS

1) Equitable Rate Design

Ensure that small businesses do not subsidize utility expansions primarily benefiting large data centers both in the near term and the long term.

2) Impact Assessments Before Approvals

Require energy and infrastructure impact studies before granting permits for new data centers.

3) Transparent Reporting

Publicly disclose all tax breaks and utility contracts associated with new data center projects.

4) Local Hiring and Vendor Requirements

Tie incentives for data centers to commitments to hire Pennsylvania small businesses as vendors and contractors.

V. CONCLUSION

Small businesses are the economic engine of Pennsylvania. As AI data center growth accelerates, state and local leaders must safeguard small businesses from unintended energy and financial burdens. Smart, equitable policies will ensure technology development benefits the whole economy, not just a few large corporations.

Respectfully submitted,

/s/ Rebecca Lyttle

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For:

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DATE: June 6, 2025