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December 22, 2025

Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
400 North Street, Commonwealth Keystone Building
Harrisburg, Pennsylvania 17120

Re: Docket No. M-2025-3054271 Comments of Mainspring Energy, Inc. on Interconnection and Tariffs for Large Load Customers Tentative Order

Dear Secretary Homsher,

Mainspring Energy, Inc. ("Mainspring") appreciates the opportunity to submit comments on the Tentative Order. Mainspring supports the Commission's proactive approach to expediting the growth of large loads in Pennsylvania by clarifying treatment of this important customer block.

In particular, Mainspring appreciates the Commission's work to enable innovative non-firm, flexible electric service approaches that get customers online faster and protect all ratepayers.

If you have any questions regarding this filing please contact me at 610-368-3010.

Respectfully submitted,

/s/ Brian Kauffman

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BEFORE THE PENNSYLVANIA PUBLIC UTILITIES COMMISSION

Interconnection and Tariffs for Large) Docket No. M-2025-3054271
Load Customers)

COMMENTS OF MAINSPRING ENERGY, INC.

I. INTRODUCTION

Mainspring Energy, Inc. (“Mainspring”) submits these comments in response to the Pennsylvania Public Utility Commission’s Tentative Order in Docket No. M-2025-3054271 addressing interconnection and retail tariff structures for Large Load Customers, including data centers.¹ Mainspring supports the Commission’s proactive focus on cost causation and protecting existing customers from unreasonable cost shifting while creating a transparent, consistent framework for large-load interconnection and service.²

Since the Tentative Order was adopted, activity to encourage and operationalize data center *flexibility* (including bridge power, daily grid curtailment, and ramp control—not merely traditional demand response) has advanced materially. This includes PJM’s Critical Issue Fast Path (“CIFP”) process on Large Load Additions, FERC’s December 18, 2025 Order directing PJM to establish new interim and permanent non-firm transmission service options and rules for co-located load, a Virginia State Corporation Commission technical conference focused on data center load flexibility, and new

¹ Pennsylvania Public Utility Commission, Tentative Order, Docket No. M-2025-3054271 (Order Adopted and Entered Nov. 6, 2025) at 46.

² Id. at 2.

hyperscaler-backed analyses and white papers highlighting flexible load as a reliability and affordability tool. Per the Google-funded analysis, gaining full power 3–5 years earlier for a 500 MW AI data center yields multi-billion-dollar incremental EBITDA, even after the cost of on-site resources and premium portfolio PPAs. The Google-funded study relies on implementation of non-firm service tariffs, as Mainspring will explore below. These approaches have tremendous promise for the tax base of the Commonwealth. These developments provide additional rationale to address the remaining open questions identified by Mainspring more fully in the Commission’s Final Order.³⁴⁵⁶

Mainspring respectfully requests that the Commission use the Final Order to move beyond a one-size-fits-all “firm service” paradigm for large loads and adopt tariff pathways that reward verifiable flexibility because it reduces distribution system risk, limits the need for network upgrades, and protects other customers from cost shifting. Mainspring offers a numeric example to illustrate these benefits. Consistent with the Tentative Order’s emphasis on cost causation and transparency, the Commission should direct utilities to treat large-load service as a spectrum—where customers that measurably reduce peak imports, provide controllability, or self-supply during constrained periods can be served sooner and at lower cost because they require less incremental distribution capacity.

³ PJM Interconnection, Critical Issue Fast Path – Large Load Additions (CIFP-LLA) stakeholder materials (e.g., Aug. 28, 2025 posting), <https://www.pjm.com> (accessed Dec. 18, 2025).

⁴ Federal Energy Regulatory Commission, “FERC Directs Nation’s Largest Grid Operator to Create New Rules to Embrace Innovation and Protect Consumers” (Dec. 18, 2025), <https://www.ferc.gov/news-events/news/ferc-directs-nations-largest-grid-operator-create-new-rule-s-embrace-innovation-and> (accessed Dec. 18, 2025).

⁵ Virginia State Corporation Commission, News Release: “SCC Hosts Load Flexibility Conference – 2025” (Oct. 24, 2025), <https://www.scc.virginia.gov> (accessed Dec. 18, 2025).

⁶ Energy + Environmental Economics (E3), “Tailored for Scale: Designing Electric Rates and Tariffs for Large Loads” (study for Amazon, released Dec. 16, 2025), <https://www.ethree.com> (accessed Dec. 18, 2025); Camus, encoord, and Princeton ZERO Lab, “Flexible Data Centers: A Faster, More Affordable Path to Power.” (study for Google, released Dec 2025). <https://www.camus.energy/flexible-data-center-report> (accessed Dec. 18, 2025).

Specifically, the Commission should establish: (1) an interim non-firm “bridge power” tariff that supports accelerated time-to-service when on-site generation (or equivalent controllable load reduction) reduces peak load and upgrade requirements, with clear and enforceable rules for transitioning to firm service as grid upgrades come online; and (2) a permanent flexible/non-capacity-backed service option—separate from PJM emergency demand response participation—that provides a standardized retail product for customers willing to commit to defined flexibility (e.g., peak import caps, ramp limits, curtailment availability).

An individual large load site should be eligible to take one or a combination of service types. For instance, firm service up to “X MW” and non-firm service up to “Y MW” (for a total of “X+Y MW” at a site). Both interim and permanent non-firm options should explicitly map flexibility commitments to expedited load interconnection service. Creating these options has a litany of benefits, not only to large load customers, but to the utility and other retail customers by creating a more affordable and efficient expansion of the system.

Table of Contents

I. INTRODUCTION..... 1

II. BACKGROUND AND SUMMARY OF MAINSPRING’S JUNE 6, 2025
COMMENTS..... 4

III. ISSUES ADDRESSED IN THE TENTATIVE ORDER THAT MAINSPRING
SUPPORTS..... 5

 A. Interconnection study timelines, transparency, and queue management.... 5

 B. Cost causation and CIAC principles.....5

 C. Interruptible service as a reliability tool and recognizing on-site generation
in rate design..... 5

 D. Contract structures, minimum demand, ramping, and exit-fee protections..6

E. Self-construct/customer-funded upgrade concepts (with need for further implementation detail).....	6
IV. ISSUES MISSING FROM THE TENTATIVE ORDER AND OPEN QUESTIONS FOR THE FINAL ORDER.....	6
A. A workable “bridge power” framework to address speed-to-power realities	6
B. A “flexible / non-capacity-backed” service option beyond emergency interruptible service.....	7
C. Network Open Season details and interaction with flexibility commitments	7
D. CIAC benefit tests for network facilities, especially for flexible customers...7	
E. Forecasting and planning data requirements for co-located generation and flexibility.....	8
F. Self-construction implementation details and utility returns on customer-funded upgrades.....	8
V. DOING THE MATH: NON-FIRM SERVICE ENABLES RAPID, LEAST-COST INTERCONNECTION.....	8
Example 1 – No flexibility at distribution peak (baseline, simplified version of status quo).....	9
Example 2 – With flexibility (Customer A provides verified peak reduction)...10	
Note on verification.....	11
VI. REQUESTED ACTIONS IN THE FINAL ORDER.....	11
VII. CONCLUSION.....	12

II. BACKGROUND AND SUMMARY OF MAINSPRING’S JUNE 6, 2025 COMMENTS

Mainspring appreciated participating in the Commission’s November 25, 2024 Resource Adequacy technical conference. In comments filed June 6, 2025

following the Commission’s en banc hearing, Mainspring identified six priority issues: (1) enabling on-site “bridge power” to accelerate time-to-service; (2) new tariff structures distinguishing firm vs. non-firm/interruptible service; (3) flexible integration of on-site generation (including distinct treatment for retail vs. non-retail BTM generation and a potential class for repurposed legacy generation); (4) transparent and expedited interconnection; (5) cost and fee transparency; and (6) enhanced load forecasting and planning (including proactive data collection from customers with co-located generation).⁷

Mainspring also recommended that the Commission consider conducting an additional en banc or similar forum to gather expert input on “non-capacity backed” service models where loads can self-supply and/or curtail in a structured, transparent manner.⁸

III. ISSUES ADDRESSED IN THE TENTATIVE ORDER THAT MAINSPRING SUPPORTS

A. Interconnection study timelines, transparency, and queue management

Mainspring supports the Commission’s proposed expectation that Electric Distribution Companies (“EDCs”) complete interconnection studies within six months absent exigent circumstances, the availability of independent studies by approved contractors at the applicant’s expense if that deadline is missed, and the proposed refund mechanism for delays.⁹ Mainspring also supports the proposed Network Open Season concept and public queue transparency

⁷ Mainspring Energy, Inc., Comments of Mainspring Energy, Inc. on Interconnection and Tariffs for Large Load Customers (June 6, 2025) at 1 (listing recommendations).

⁸ Id. at 2 (requesting an additional en banc to gather expert input on such approaches).

⁹ Tentative Order at 25.

requirements (posting interconnection applications by zip code, date accepted, MWs sought, and study stage).¹⁰

B. Cost causation and CIAC principles

Mainspring supports the Commission's focus on aligning cost responsibility with cost causation, including the Commission's tentative view that a triggering customer should contribute toward certain network upgrades (Contribution in Aid of Construction or "CIAC") when it receives more than half of the benefit and the Commission's request for comment on the appropriate benefit test and degree of contribution.¹¹ Mainspring also agrees that utilities and stakeholders should avoid structures that create incentives for speculative queue positions or socialize large-load-driven upgrades onto existing customers absent a defensible allocation methodology.

C. Interruptible service as a reliability tool and recognizing on-site generation in rate design

Mainspring supports the Commission's tentative determination that it is beneficial to develop interruptible programs for large loads and that appropriately designed incentives (e.g., reduced minimum demand charges and/or standby charges) need not be discriminatory.¹² Mainspring also supports the Commission's recognition that, while behind-the-meter generation should not offset gross load for purposes of defining a "Large Load Customer," on-site generation that reduces use of the interconnection limit may justify lower standby and/or minimum demand charges.¹³

¹⁰ Id. at 26.

¹¹ Id. at 16.

¹² Id. at 39.

¹³ Id. at 8.

D. Contract structures, minimum demand, ramping, and exit-fee protections

Mainspring supports the Commission’s efforts to adopt standardized contract provisions that protect ratepayers against stranded costs, including a minimum demand charge framework, ramp schedule concepts, and advance notice requirements for major load reductions that align with PJM’s capacity procurement timelines.¹⁴

E. Self-construct/customer-funded upgrade concepts (with need for further implementation detail)

Mainspring supports the Commission’s willingness to include a self-construct option for customers willing to fully fund infrastructure upgrades, subject to safety and reliability standards, while recognizing that implementation details require additional development.¹⁵

IV. ISSUES MISSING FROM THE TENTATIVE ORDER AND OPEN QUESTIONS FOR THE FINAL ORDER

A. A workable “bridge power” framework to address speed-to-power realities

Mainspring’s June 6 comments urged the Commission to address “speed-to-power” constraints by enabling large loads to deploy on-site generation as bridge power until grid upgrades are completed.¹⁶ The Tentative Order recognizes on-site generation in the context of standby and minimum demand charges, but it does not yet establish a coherent retail pathway that (i) encourages bridge power where it reduces system risk and cost, (ii) preserves

¹⁴ Id. at 28 (minimum demand discussion), 29 (load ramp schedule discussion), and 34 (42-month notice framework tied to PJM BRA timing).

¹⁵ Id. at 42.

¹⁶ Mainspring Comments (June 6, 2025) at 1.

forecasting accuracy, and (iii) avoids punitive minimum billing or standby outcomes during the transition from self-supply to full grid service.¹⁷

B. A “flexible / non-capacity-backed” service option beyond emergency interruptible service

While the Tentative Order supports interruptible service in concept, Mainspring continues to recommend that the Commission explicitly define flexible or non-capacity-backed service construct designed for routine flexibility (load shifting, ramp limits, and structured self-supply/curtailment), not limited to PJM emergency response.¹⁸ A bankable, scalable flexible service product should specify (i) operational triggers and limits, (ii) measurement and verification standards (telemetry, baselines, performance testing), (iii) penalty structure, and (iv) how flexibility commitments translate into reduced infrastructure requirements, CIAC, or study prioritization.

C. Network Open Season details and interaction with flexibility commitments

The Tentative Order introduces a biannual Network Open Season (“NOS”)/cluster study concept, but leaves key design elements unresolved (cluster boundaries, withdrawal/restudy rules, assumptions, and sequencing).¹⁹ Mainspring recommends that the Final Order establish minimum statewide guardrails for NOS design and explicitly consider whether verified flexibility or voluntary CIAC commitments can reduce system risk and justify prioritization, while avoiding undue discrimination.

¹⁷ Tentative Order at 8 and 39.

¹⁸ Tentative Order at 39; Mainspring Comments (June 6, 2025) at 1.

¹⁹ Tentative Order at 26.

D. CIAC benefit tests for network facilities, especially for flexible customers

The Commission requests comments on the appropriate test for determining when a large load receives more than half the benefit from a network facility and the degree of CIAC contribution required.²⁰ Mainspring recommends that the Final Order clarify how benefits are measured (e.g., capacity utilization, contingency support, deliverability), and ensure the test accounts for customers using on-site generation and/or flexibility to reduce peak grid impacts. This is underscored in the example in Section V below.

E. Forecasting and planning data requirements for co-located generation and flexibility

The Tentative Order proposes useful pipeline and compliance reporting, but does not yet require the specific operational data needed to forecast hybrid load shapes and flexibility availability (e.g., expected self-supply profiles, import ceilings, ramp capabilities, and M&V parameters).²¹ Mainspring recommends that the Final Order add a confidential “co-located generation and flexibility” reporting module that can be used for both distribution planning and PJM coordination.²²

F. Self-construction implementation details and utility returns on customer-funded upgrades

The Tentative Order acknowledges that questions regarding utility returns on customer-funded infrastructure and broader cost allocation may be better addressed in a separate proceeding, and encourages additional comments on ensuring safety and reliability for self-construct options.²³ Mainspring recommends that the Final Order either (i) establish near-term minimum standards for contractor qualification, review timelines, and dispute resolution for

²⁰ Tentative Order at 16.

²¹ Tentative Order at 44–45.

²² Mainspring Comments (June 6, 2025) at 1.

²³ Tentative Order at 42.

self-construct, or (ii) initiate a scoped follow-on proceeding with a defined schedule so these uncertainties do not stall projects.

V. DOING THE MATH: NON-FIRM SERVICE ENABLES RAPID, LEAST-COST INTERCONNECTION

Non-firm service is the key ingredient to achieving the Commission’s goals and in this section we illustrate this with quantifiable examples. We offer a “before” and “after” series of examples that demonstrate the experience of two customers. Before, both customers were on firm service. After, a portion of one customer’s load is on non-firm service.

As background, under the status quo, only firm electric service is generally available and used. In addition, under Commission-required tariffs, the EDC requires a full set of identified electric upgrades prior to authorizing any portion of the full electric service requested. The examples show that with non-firm service, large loads can get service at lower cost (which correlates with faster speed, also). Moreover, this option can benefit non-participating customers that remain on firm tariffs.

These examples build on the Tentative Order’s “majority of benefits” concept to distribution upgrades and recommend that the Commission should direct that “benefit” be quantified based on a customer’s incremental contribution to the constrained distribution peak (i.e., incremental coincident peak distribution import), rather than nameplate site load, so that Large Load Customers that make verifiable peak import-cap commitments through on-site generation and/or controllable load are not assigned distribution upgrade costs for capacity they do not require.

If the Commissioner were to instead base the “benefit” on nameplate size load, it would ignore the significant opportunities presented by non-firm service,

which the Commission already acknowledges in proposing “interruptible” service pathways. In addition to the cost, this has a direct bearing on the speed to market for large loads and ability to take non-firm service, given larger upgrades are proportional to longer interconnection timelines and delays.

Below is a numeric example to illustrate the benefits of non-firm service building on concepts described in the Tentative Order.

Shared assumptions used in both examples:

- Distribution constraint: a substation transformer (or constrained feeder segment) has a planning capacity limit of 100 MW at the relevant seasonal coincident peak. This is larger than typical distribution system equipment sizes but useful for round numbers in the examples.
- Existing coincident peak load: 80 MW (i.e., 20 MW of headroom before upgrades are required).
- Two new Large Load Customers request service from the constrained area: Customer A (30 MW site load) and Customer B (10 MW site load).
- For illustrating cost impacts, assume the baseline distribution upgrade needed to relieve a 20 MW exceedance costs \$12 million.

Example 1 – No flexibility at distribution peak (baseline, simplified example of status quo)

Step 1: Determine whether an upgrade is needed.

Absent mitigation, the EDC’s planning peak would be $80 + 30 + 10 = 120$ MW, exceeding the 100 MW planning limit by 20 MW. A distribution upgrade providing at least 20 MW of incremental capacity (or equivalent peak load relief) is required to meet distribution planning criteria.

Step 2: Allocate “benefit” based on incremental peak contribution.

Define total “benefit” as the peak constraint relief required (20 MW).
 Allocate that relief to customers in proportion to their incremental contribution to the constrained coincident peak (A = 30 MW, B = 10 MW).

Customer	Incremental peak import (MW)	Share of incremental peak	Allocated benefit (MW of relief)	Majority beneficiary?
A	30	$30 / 40 = 75\%$	$20 \times 75\% = 15$	Yes (75%)
B	10	$10 / 40 = 25\%$	$20 \times 25\% = 5$	No (25%)

Step 3: Illustrative CIAC dollars (pro rata by benefit share).

If the 20 MW upgrade costs \$12 million, then allocating costs by the benefit shares above yields Customer A = $75\% \times \$12M = \$9.0M$, and Customer B = $25\% \times \$12M = \$3.0M$.

Example 2 – With flexibility (Customer A provides verified peak reduction)

In this example, Customer A opts for 15 MW of firm service and 15 MW of non-firm service (total 30 MW, as in the Example 1 contracted load). The tariff could be designed to allow interruption at any time for the 15 MW of non-firm service, but in this example we propose instead the concept of a period of

defined “peak windows” during which the customer could prepare to be interrupted. During other periods (non-peak), the customer would be entitled to consume a full 30 MW on a firm basis, just as a traditional customer does. Mainspring offers these as a menu of ratemaking options and does not explore relative tradeoffs at this time.

Step 1: Flexibility reduces the peak exceedance that drives distribution upgrades.

Assume Customer A commits—via tariffed terms and verifiable interval metering/telemetry—to a distribution-peak import cap of 15 MW during defined peak windows, achieved through on-site generation and/or controllable load reduction. Customer B remains unchanged at 10 MW. The revised planning peak is $80 + 15 + 10 = 105$ MW, so the peak exceedance is only 5 MW (not 20 MW).

Step 2: Recompute “benefit” allocation based on incremental coincident peak imports.

Define total “benefit” as the constraint relief required (5 MW). Allocate that relief to customers based on their incremental coincident peak imports (A = 15 MW, B = 10 MW; total incremental peak = 25 MW).

Customer	Incremental peak import (MW)	Share of incremental peak	Allocated benefit (MW of relief)	Majority beneficiary?
A	15	$15 / 25 = 60\%$	$5 \times 60\% = 3$	Yes (60%)
B	10	$10 / 25 = 40\%$	$5 \times 40\% = 2$	No (40%)

Step 3: Illustrative CIAC dollars showing cost reduction.

For illustration, if costs scale with the amount of peak relief required, then a 5 MW solution would be substantially smaller than a 20 MW solution. Using a simple proportional scaling from the baseline (\$12M for 20 MW), the 5 MW solution would be about \$3M total. Allocating by benefit share yields Customer A = 60% × \$3M = \$1.8M and Customer B = 40% × \$3M = \$1.2M. Relative to the baseline, verified peak flexibility reduces both the scope of distribution upgrades and the allocated CIAC responsibility.

Note on verification

To make the ‘import cap’ approach workable and non-discriminatory, the Final Order or model tariff should specify: (i) the definition of the peak window(s) that trigger the cap, (ii) required metering/telemetry, (iii) baseline and measurement rules, and (iv) remedies/penalties for non-performance. These elements allow the EDC to rely on flexibility in distribution planning and make ‘benefits’ quantification objective.

VI. REQUESTED ACTIONS IN THE FINAL ORDER

1. Adopt the six-month interconnection study expectation, independent-study backstop, and refund mechanism, and clarify key implementation terms (application completeness, start/stop of the clock, and “approved contractor” governance).
2. Establish an interim non-firm (bridge power) tariff that supports accelerated time-to-service where on-site generation reduces system risk and cost, with clear transition rules to firm service and transparent standby/minimum demand treatment.

3. Establish a permanent flexible/non-capacity-backed service option (separate from PJM emergency demand response participation) that maps to faster service and lower rates, reflecting more efficient grid build out.
4. Provide minimum design requirements for Network Open Season/cluster studies, including withdrawal/restudy rules and how verified flexibility or voluntary CIAC commitments are treated, while maintaining just and reasonable outcomes.
5. Clarify CIAC benefit tests for network facilities, including treatment of flexible customers that reduce peak grid impacts through on-site generation and/or verified load reduction.
6. Enhance forecasting/reporting requirements by adding a confidential module for co-located generation and flexibility attributes that utilities can use in planning and in coordination with PJM processes.
7. Adopt clear self-construct guardrails (technical standards, oversight, acceptance/commissioning, dispute resolution), and either resolve or schedule a follow-on proceeding on utility return and cost allocation for customer-funded upgrades.

VII. CONCLUSION

Mainspring supports the Commission's direction in the Tentative Order to establish a model large-load tariff framework grounded in cost causation, transparency, and ratepayer protection.²⁴ At the same time, the Final Order should more directly address bridge power and broader flexibility-oriented service options so that Pennsylvania can capture the benefits of large-load growth while minimizing reliability and affordability risk.

Finally, the rapid evolution of large-load flexibility efforts since the Tentative Order—including PJM's CIFP process for Large Load Additions, FERC's December 18, 2025 directive on co-located load, Virginia's technical conference on data center load flexibility, and hyperscaler-backed work

²⁴ Tentative Order at 2.

emphasizing a broad flexibility toolkit—further supports resolving the open questions identified above in the Commission’s Final Order.²⁵

Mainspring greatly appreciates the work of Commissioners and staff and looks forward to continuing to support the expansion of industry in Pennsylvania.

Respectfully submitted,

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December 22, 2025

²⁵ See sources cited supra notes 3–6 (PJM CIFP; FERC Dec. 18, 2025 order/news release; Virginia SCC load flexibility conference; E3/Amazon and Google publications).