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May 13, 2026

Submitted Electronically

TO: Hon. Michelle L. Phillips, Secretary
New York State Public Service Commission
Empire State Plaza, Agency Building 3
Albany, New York 12223-1350

RE: **Case 26-E-0045: Proceeding on Motion of the Commission to Address Interconnection Reforms for Large Loads.**

Dear Secretary Phillips,

The New York Battery and Energy Storage Technology Consortium (NY-BEST) is pleased to submit comments in response to the *Order Instituting Proceeding and Soliciting Comments* related to the evaluation of large load interconnection and cost sharing of grid upgrades in New York State, issued by the Commission February 12, 2026.

We greatly appreciate the Commission's consideration of our comments. If you have any questions about these comments or need additional information, please contact us at 518-694-8474 or by email at info@ny-best.org. Thank you.

Sincerely,

Dr. William Acker
Executive Director

ABOUT NY-BEST

The New York Battery and Energy Storage Technology Consortium (NY-BEST) is a not-for-profit industry trade association with a mission to grow the energy storage industry in New York. We act as a voice of the energy storage industry for more than 180 member organizations on matters related to advanced batteries and energy storage technologies. Our membership includes manufacturers, developers, start-ups, leading research institutions and universities, government bodies, and numerous companies involved in the electricity and transportation sectors.

INTRODUCTION

The Energize NY Development initiative was announced by Governor Kathy Hochul as part of her 2026 State of the State address on January 13, 2026, to evaluate the impact that large loads have on the electric grid. The initiative is looking at finding solutions to speed up interconnection, protect ratepayers, and ensure that large loads pay their fair share of grid upgrades that benefit them directly. Following the Governor's announcement, the Commission initiated the Proceeding on Motion of the Commission to Address Interconnection Reform for Large Loads, including questions in the Appendix of the Order, to which NY-BEST will respond in these comments.

With an expanding fleet of data centers and other large loads coming onto the grid, it will be increasingly important to understand the effects large loads will have on grid congestion for the transmission and distribution (T&D) system, and consider what solutions can speed up interconnection and reduce the cost of energy for ratepayers. As noted by the Commission, as of February 2026, 11.9 GW of load within the NYISO interconnection queue were attributed to future large load projects, with more than 8.3 GW of new load entering the queue in 2025 alone.[1] Based on NYCA Baseline Energy and Demand Forecasts in the 2026 NYISO Gold Book,[2] the 2041 baseline forecast for winter peak demand is expected to be 30.0 GW,[3] with large loads forecasted to contribute 2.9 GW or 9.2% of the winter peak demand in 2041.[4] The main drivers of new large loads in New York State come from semiconductor manufacturing, microchip fabrication, and data centers.[5]

It is important to recognize that the baseline winter peak demand forecast in the NYISO 2026 Gold Book is conservative and may not account for recent trends of rapid growth of data centers. In our comments, NY-BEST will discuss how intraday energy storage, long duration energy storage (LDES),

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[1] Case 26-E-0045, New York State Department of Public Service and the New York Energy Research and Development Authority, *Order Instituting Proceeding and Soliciting Comments*, filed February 12, 2026, p. 3.
[2] New York Independent System Operator, *2026 Gold Book: Load & Capacity Data Report*, April 30, 2026, available here.
[3] Calculated from Table I-1a of the 2026 NYISO Gold Book.
[4] Calculated from Table I-14 of the 2026 NYISO Gold Book.
[5] New York Independent System Operator, *Power Trends 2025*, June 2, 2025, available here.

and other grid services can help reduce the impacts of large loads to the grid, reduce interconnection timelines, and save ratepayers money.

RESPONSES TO COMMISSION QUESTIONS

1. How can large load demand be accurately forecasted and verified before being included in long-term load forecasts and system planning studies?

Recommendation:
NY-BEST recommends that the Commission consider the role of energy storage in mitigating the risks of load forecast uncertainty for large load interconnection planning, and encourage NYISO and utilities to move toward more probabilistic approaches to forecasting.

Accurately forecasting large load demand is inherently difficult. As NYISO has noted, planning for large loads is challenging because of uncertainty in load performance and behavior, including the level of certainty that a project in the queue will eventually come into service, its ramp-up schedule, and how long it is anticipated to operate.[6] This applies to data centers and manufacturing facilities alike. Nationally, utility forecasts for data center demand alone through 2029 range from as little as 10 GW to over 90 GW, reflecting the wide variance in how planners are accounting for AI-driven growth.[7] In New York, the *2026 Gold Book* baseline large load forecast notably includes a maximum of 2.9 GW of winter peak demand from large load projects by 2040-41, while total aggregated load of all projects currently in the NYISO interconnection queue stands at more than four times that, at 12.6 GW.[8] The gap between announced and forecast load reflects the natural attrition of the development process and highlights that grid infrastructure investments sized to the full queue may risk imposing costs on ratepayers that future load does not justify.

New York is already grappling with the limitations of single-scenario planning in other contexts. For example, until recently, NYISO's reliability planning process identified needs based on a single base case rather than a range of plausible scenarios. In its 2025-2034 Comprehensive Reliability Plan, approved in November 2025, NYISO acknowledged that its existing planning process, which relies on a single deterministic base case, no longer adequately reflects the growing range of demand and system conditions, and proposed to move toward a multi-scenario planning approach.[9] The Coordinated Grid Planning Process (CGPP), conducted in partnership between the NYISO and the Joint Utilities (JU), models three scenarios to evaluate alternative futures, but these remain somewhat limited, and DPS staff has further noted that the current three-year cycle lacks sufficient

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[6] New York Independent System Operator, *Load Interconnection Process: Challenges and Considerations*, TPAS/ESPWG, Alison Stuart, Manager, Reliability Studies, February 3, 2026, slide 8.
[7] John D. Wilson, Zach Zimmerman, and Rob Gramlich, *Strategic Industries Surging: Driving US Power Demand*, December 2024, available here.
[8] NYISO, *2026 Load and Capacity Data Report,* April 2026, Table I-14, p. 59.
[9] New York Independent System Operator, *2025-2034 Comprehensive Reliability Plan*, November 21, 2025, available here.

responsiveness to rapidly changing load forecasts and resource costs.[10] For both large load planning and broader system planning as part of the CGPP, NY-BEST encourages the Commission to work with the NYISO and the utilities to develop more comprehensive probabilistic forecasts that model a range of scenarios with variable load, generation, intraday energy storage, and long-duration energy storage deployment. This approach would improve planning resilience and reduce the risk of over-investment in traditional infrastructure.

Notably, energy storage offers a more adaptive planning tool than traditional infrastructure investment. Because energy storage can often be deployed in 2-4 years compared to 5-10 years for traditional T&D upgrades, it allows the grid to respond to load growth that materializes faster or differently than anticipated, without locking ratepayers into costly infrastructure built around forecasts that may not prove accurate.

2. What innovative technology should be considered to improve interconnection cost estimates, reduce development time, and provide sensitivity analysis? a. How has this technology been utilized and what were the results?

Recommendation*:*
NY-BEST recommends the Commission consider energy storage as a solution to avoid or defer T&D upgrade costs, reduce interconnection timelines for new service, and improve sensitivity analysis in interconnection planning.

Interconnection Cost Estimates
Energy storage can broadly lower interconnection cost estimates across the grid by reducing the need for T&D upgrades and improving the efficiency of the grid. Energy storage helps increase the utilization of the grid by charging the battery when grid demand is low and discharging energy when grid demand is high, known as load shifting. Load shifting improves the efficiency of the grid because it helps reduce congestion on the grid during high demand periods. Without leveraging load shifting from energy storage (or the use of other flexible assets), the T&D system will require more upgrades that put upward pressure on the cost of energy for ratepayers. For this reason, energy storage can be a low-cost solution to allow large loads to avoid withdrawing power during peak demand, which defers the need for T&D upgrades and improves the efficiency of the grid.[11] For large load customers, pairing on-site energy storage with a new facility reduces the peak demand draw from the grid, which in turn can reduce the scope and cost of network upgrades identified in the interconnection study process, lowering the overall cost of interconnection for the customer and reducing the portion of upgrade costs that may otherwise be allocated to ratepayers.

While some new service interconnections will require grid upgrades, energy storage provides a significant opportunity to avoid or defer grid upgrades. According to the 2026 report, *The Value of*

[10] Case 20-E-0197, New York State Department of Public Service, Coordinated Grid Planning Process Mid-Cycle Assessment, July 15, 2024, p. 10.
[11] pv magazine, "On-site batteries accelerate grid access for data center developers," April 11, 2025, available here.

Integrating Distributed Energy Resources in Texas, published by the Texas Advanced Energy Business Alliance (TAEBA), interconnecting Distributed Energy Resources (DERs) like energy storage broadly across the grid will save Texas over a billion dollars per year in T&D deferral.[12] Using a five-year average of annual T&D costs in Texas from 2020 to 2024, DERs interconnected to the grid avoided $1.2 billion per year or 40.2% of the total yearly $2.9 billion T&D investments in Texas.[13] Over the next 10 years in 2025 dollars, the study predicts that Texas will save $8.2 billion dollars in T&D deferral from DER deployment. While this analysis covers DERs broadly rather than large load projects specifically, this analysis demonstrates the significant benefit ratepayers can experience from T&D deferral from DERs. NY-BEST recommends that further analysis is conducted in New York State to understand the cost savings to ratepayers available from T&D deferral for large load customers by deploying energy storage.

Development Time

In addition to benefits from T&D deferral, energy storage can reduce development time by bringing energy to a site in 2-4 years, compared to traditional infrastructure upgrades that take significantly longer. Indeed, the average timeline for building a new high-voltage transmission line is approximately ten years.[14] New York's own Energy Storage Roadmap, published by NYSERDA, similarly recognizes that transmission development in New York is expensive, often challenging to permit, and takes place over lengthy timelines.[15]

In a recent example of using energy storage to accelerate large load development timeframes, Aligned Data Centers partnered with Calibrant Energy to deploy a 31 MW / 62 MWh on-site energy storage system at a Pacific Northwest data center campus, "enabling the facility to come online years earlier than would have been possible through traditional utility upgrades."[16] In New York State, a project leveraging mobile energy storage units along the New York State Thruway successfully accommodated a wave of fast-charging EV hubs five years ahead of schedule at one sixth of the cost of traditional grid upgrades.[17] NY-BEST notes that while the utility ownership structure of that project is not a model we endorse, the underlying result demonstrates that energy storage deployed at the point of interconnection can dramatically reduce both cost and timeline for new load, and that similar outcomes are achievable for large load customers through customer-sited or third-party owned storage arrangements.

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[12] Texas Advanced Energy Business Alliance, *The Value of Integrating Distributed Energy Resources in Texas*, January 8, 2026, available here.

[13] Ibid.

[14] Qiushi Wang and Xingpeng Li, "Evaluation of battery energy storage system to provide virtual transmission service," Electric Power Systems Research, Vol. 244, July 2025.

[15] Case 18-E-0130. New York State Department of Public Service (DPS) and New York State Energy Research and Development Authority (NYSERDA), *New York's 6GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage*, filed December 28, 2022, updated March 15, 2024, p. 17.

[16] Sean Wolfe, "Can purpose-built battery systems alleviate data center interconnection woes?" Power Engineering, October 23, 2025, available here.

[17] Schuyler Matteson, "How grid-enhancing technologies are shaping New York's planning and protecting ratepayers," Utility Dive, August 22, 2025, available here.

These examples illustrate the significant time and cost savings that energy storage can deliver compared to traditional infrastructure. Indeed, faster interconnection by leveraging energy storage has the potential to satisfy both the interest of large load customers in reaching commercial operation quickly while reducing the overall cost of interconnection for ratepayers.

Sensitivity Analysis

Given the inherent uncertainty in large load forecasting discussed above, energy storage provides a flexible, modular option that enables more adaptive sensitivity analysis in interconnection planning. Unlike traditional T&D infrastructure, which must be sized at the outset based on peak projected load, energy storage can be deployed incrementally and scaled as actual load materializes, making energy storage a valuable tool for sensitivity analysis in interconnection planning.

3. What requirements should be applied to large loads and / or data centers to maintain grid reliability, protect ratepayers, and meet New York's climate goals?

<u>Recommendation</u>:

NY-BEST recommends that the Commission work with the NYISO to ensure large load customers evaluate, and where feasible, implement, on-site demand management technologies prior to interconnection.

Grid Reliability

Flexible grid service technologies like energy storage, can increase reliability and protect ratepayers by ensuring large loads are not drawing from the grid when energy costs and demand are high. Increased utilization is achieved by adding load where there is additional capacity available and pairing that load with flexible distributed energy resources (DERs) that reduce congestion on the grid during periods of high demand. Without such flexibility, large loads drawing simultaneously during peak periods can narrow reliability margins and strain the system. As the NYISO has already noted in its February 2026 interconnection reform presentation, uncertainty in large load performance, including whether projects will come into service on schedule and how they will ramp up, creates significant planning challenges for maintaining system reliability.[18] Requiring large load customers to evaluate and, where feasible, commit to demand management technologies as a condition of interconnection would directly address these reliability risks by ensuring that new load can be managed flexibly rather than as an unresponsive load on the system.

Ratepayer Protection

Energy storage and other demand management technologies protect ratepayers by reducing T&D upgrade costs, improving overall grid utilization, and reducing reliance on costly fossil fuel peaking plants. According to The Brattle Group's report, *The Untapped Grid: How a Better Utilized Power System Can Improve Energy Affordability*, published in March 2026, a 10% improvement in system utilization can reduce rates by 3.4% relative to current conditions, and by 4.8% relative to a

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[18] New York Independent System Operator, *Load Interconnection Process: Challenges and Considerations, TPAS/ESPWG*, Alison Stuart, Manager, Reliability Studies, February 3, 2026, slide 8.

scenario in which load growth is served entirely through traditional infrastructure buildout.[19] The report also finds that improved system utilization reduces the time to connect new load from 5-10 years to 1-5 years, and increases utility earnings by 23% relative to current levels.[20] While the report presents these findings as an illustrative analysis and notes that jurisdiction-specific analysis is needed to quantify benefits for any given system, the results demonstrate the significant potential for demand management technologies and DERs to reduce ratepayer costs and accelerate interconnection timelines in New York.

Climate Goals
Requiring large load customers to implement demand management technologies also directly supports New York's climate goals under the Climate Leadership and Community Protection Act (CLCPA). When large loads draw from the grid indiscriminately during peak demand periods, grid operators must dispatch fossil fuel peaking plants to meet that demand, increasing greenhouse gas emissions. By contrast, energy storage allows large loads to shift their grid consumption to periods when clean energy is abundant and avoid drawing power during peak periods when fossil fuel generation is most likely to be on the margin. This reduces the carbon intensity of the electricity consumed by large load customers and supports New York's goal of achieving 70% renewable electricity by 2030 and a zero-emission grid by 2040.

Given these benefits, NY-BEST recommends that the Commission work with the NYISO to establish a requirement that large load applicants evaluate the feasibility of demand management solutions as part of the interconnection study process, documenting how on-site demand management technologies like energy storage have been considered and, where feasible, committed to, prior to interconnection.

4. What grid services such as load flexibility, demand response, on-site generation, energy storage, or alternative service be considered?

Recommendation:
NY-BEST recommends that traditional energy storage, long duration energy storage (LDES) and thermal energy storage (TES) be considered as solutions to provide additional benefits for both large load customers and the grid.

Energy Storage
In addition to benefits of improved system utilization and deferred T&D upgrades, energy storage provides valuable operational efficiency improvements for data centers and other large loads. Key use cases include:

- **Uninterrupted power supply (UPS):** Energy storage can respond to grid instability within milliseconds, protecting facility uptime during short-term disruptions.

[19] The Brattle Group, *The Untapped Grid: How a Better Utilized Power System Can Improve Energy Affordability*, March 2026, p. 23. Available here.
[20] Ibid.

- **Power quality:** Many large loads can adversely affect power quality on the grid by rapid changes in load that can be mitigated by energy storage with a near-immediate reaction time.
- **Peak shaving:** Energy storage is equipped to respond to spikes in energy consumption at large load facilities through peak shaving. Data centers, for example, often experience sudden spikes in energy consumption, called AI spikes, which cause constraints on reliability and add additional operational costs if not addressed.
- **Renewable integration:** Energy storage helps utilize renewable assets at large load sites by storing excess on-site wind and solar generation for later use when grid energy demand is high, improving the utilization of clean energy assets and reducing curtailment and supporting New York's goal of achieving 70% renewable electricity by 2030.
- **Back-up power:** Energy storage can also provide valuable longer-term backup power that can replace the need for diesel generators, reducing emissions and improving resilience during outages.

Long Duration Energy Storage (LDES)
LDES provides similar benefits to data centers as traditional BESS, including improved grid utilization, deferred T&D upgrades, and peak shaving, but offers significantly greater back-up power duration, enabling large loads to reduce or eliminate their grid draw over extended periods. This is particularly valuable during high grid-stress days, when peak demand drives wholesale electricity prices to their highest levels and reliability margins are at their tightest. A large load paired with LDES can draw down its storage reserves during these periods rather than pulling from the grid, directly reducing the demand that drives price spikes and capacity costs for all ratepayers. Unlike intraday BESS, which can typically bridge minutes to a few hours, LDES systems capable of 10 or more hours of discharge can carry a facility through longer or multi-day weather patterns that limit renewable generation or drive sustained peak demand, providing a firm capacity resource that benefits both the large load customer and the broader grid.

A recent and notable example of this approach is the agreement announced in February 2026 between Google and Xcel Energy to deploy a 300 MW / 30 GWh iron-air battery system from Form Energy at a new data center in Pine Island, Minnesota.[21] The system will provide up to 100 hours of continuous discharge, paired with 1.6 GW of new wind and solar. The agreement was structured so that existing customers would not see higher rates as a result of the large load project.

Thermal Energy Storage
Thermal energy storage (TES) offers an additional grid service that is particularly well suited to data centers and other large loads with significant heating and/or cooling requirements. TES can benefit large loads in two distinct ways:

- TES for cooling allows large loads with significant cooling requirements, particularly data centers, to pre-cool facilities during periods of low grid demand and deploy that stored cooling during peak hours, reducing their grid draw at the times when demand and prices

[21] Xcel Energy, "Xcel Energy to Power New Google Data Center in Minnesota," press release, February 24, 2026, available here.

are highest. According to the National Renewable Energy Laboratory, cooling systems account for as much as 40% of data center total annual energy consumption, representing a substantial and largely flexible load that can be shifted from peak to off-peak hours through TES.[22] This provides additional peak shaving and ratepayer protection benefits and is commercially proven with well-established deployment track records in large commercial and industrial facilities.

- TES for waste heat recovery and storage allows large loads that generate significant heat as a byproduct of their operations, including data centers and industrial manufacturers such as semiconductor fabrication facilities, to capture, store, and redistribute that heat to nearby buildings or thermal energy networks rather than dissipating it as a loss. This reduces both the facility's net energy consumption and the heating demand of surrounding buildings, converting the waste heat into a local asset. In New York, Con Edison has filed a design proposal with the PSC for a thermal energy network in Chelsea that would use excess heat from a data center in a commercial building and distribute it as space heating and hot water to nearby NYCHA residential buildings.[23] Thermal energy storage can further enhance the value of thermal energy networks by capturing and storing excess heat during periods of high generation and dispatching it when demand is highest, smoothing the mismatch between when heat is produced and when it is needed and improving the overall efficiency and reliability of the network.

Updating NYISO Rules on Behind-the-Meter Net Generation Resources

Energy storage resources co-located behind-the-meter (BTM) with large loads can provide significant value to both the customer and the broader grid, but existing NYISO Behind-the-Meter Net Generation Resource (BTM:NG) rules explicitly exclude intermittent power resources and energy storage resources from qualifying as BTM:NG resources. Under current NYISO rules, BTM energy storage can be used to offset customer load and obligations to buy, or it can participate in the markets, but not both. This gap in the market structure limits the ability of BTM resources to fully deliver value to both the customer and the grid. NY-BEST encourages the Commission to work with the NYISO to ensure there are effective pathways for BTM assets to participate in ISO markets, and to explore additional opportunities to maximize the value to the grid of BTM energy storage at large load locations.

In summary, NY-BEST recommends that the Commission: (a) consider intraday energy storage, LDES, and TES as qualifying demand management technologies for the purposes of any large load interconnection requirements, (b) work with the NYISO to maximize the value BTM energy storage and clean energy resources can provide to the broader grid, and (c) encourage large load applicants to evaluate energy storage technologies as part of their demand management feasibility assessments.

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[22] U.S. Department of Energy / National Renewable Energy Laboratory, *Reducing Data Center Peak Cooling Demand and Energy Costs With Underground Thermal Energy Storage*, January 17, 2025.

[23] Con Edison, "Chelsea Thermal Energy Network," available here.

5. How should cost allocation be structured to ensure data centers or similar facilities bear the cost they impose on the electric system?

<u>Recommendation:</u>
NY-BEST recommends that the Commission preserve the existing revenue credit treatment for large load interconnection costs only for customers who incorporate grid-beneficial actions such as deploying demand management technologies. Large load customers who do not incorporate such technologies, and cannot demonstrate their infeasibility, should bear the full gross cost of required network upgrades without adjustment for expected utility revenue.

Current Revenue Credit
The Commission has long applied a "beneficiary pays" principle to new load interconnection, requiring that customers take responsibility for the costs of grid upgrades that directly benefit them. However, under the current approach, a large load customer's interconnection costs may be adjusted to account for the expected revenue the utility or transmission owner will earn from serving the new load over time, effectively reducing the interconnection costs borne by the large load customer. This approach reflects the fact that new load will generate revenue for the utility, but creates a risk for ratepayers: if a large load project is delayed, uses less power than anticipated, or exits the system early, the expected revenue may not materialize, and the shortfall may ultimately be absorbed by other ratepayers.

Establishing a Conditional Approach
NY-BEST recommends that the Commission address this risk by only providing a discount on interconnection costs to projects that demonstrate actions that minimize their impact to the grid. Large load customers who incorporate demand management technologies will reduce the net impact of their load on the system, improve grid utilization, and lower the risk of stranded upgrade costs for ratepayers, and should continue to benefit from revenue credit treatment. Those who do not, and cannot demonstrate the infeasibility of incorporating demand management technologies at their sites, would impose the full cost of their load on the grid and should therefore pay the full cost of required network upgrades.

This approach directly advances the Governor's stated principle that projects driving high demand must cover the costs they create, and creates a meaningful incentive for large load customers to invest in demand management technologies, reinforcing the requirements recommended in our response to Question 3. It is also consistent with emerging practice in other states: the Pennsylvania PUC's proposed model large load tariff includes lower charges for customers with onsite generation or interruptible service, reflecting the same principle that customers who reduce their net grid impact should receive more favorable cost treatment.[24] NY-BEST encourages the Commission to draw on the Pennsylvania model and other emerging State frameworks as it develops New York's approach.

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[24] Pennsylvania Public Utility Commission, Large Load Model Tariff, Docket No. M-2025-3054271, November 6, 2025.

6. How can the state ensure transparency in the large load interconnection process and information sharing?

Recommendation:
NY-BEST requests that the Commission evaluate what information from the large load interconnection process can be made publicly available to improve transparency and ensure demand management alternatives are being properly evaluated, in coordination with utilities and the NYISO.

To improve transparency, NY-BEST recommends the Commission work with the NYISO, utilities, and/or Transmission Owners (TOs) to consider requiring public disclosure of each large load applicant's:

- estimated in-service date;
- contracted peak demand;
- high-level system impact study results including identified network upgrades and associated cost allocation; and
- commitment to on-site demand management technologies or, where a commitment has not been made, a summary of the feasibility evaluation.

NY-BEST recognizes that some of this information may implicate infrastructure security concerns, and recommends that the Commission evaluate appropriate mechanisms for disclosure, such as aggregated or anonymized reporting, that protect sensitive information while still providing meaningful transparency to stakeholders.

NY-BEST does not have recommendations for the following questions at this time:

7. *What interconnection rules should the Commission consider that would allow for leveraging of waste heat as part of thermal energy networks?*

8*. What additional measures should the Commission consider as part of this proceeding to ensure large load and data centers are not causing cost increases to all other ratepayers, or adversely impacting reliability or the achievement of Climate Leadership and Community Protection Act objectives?*

Thank you for the opportunity to submit these comments.