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September 19, 2023

Via Electronic Mail

Sherri Golden, Board Secretary
Board of Public Utilities
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board.secretary@bpu.gov

**Re: In the Matter of the New Jersey Energy Storage Incentive Program
Request for Information Dated August 8, 2023
BPU Docket No. QO22080540**

Dear Secretary Golden:

Public Service Electric and Gas Company (“PSE&G”) submits the following in response to Board Staff’s August 8, 2023 Request for Information regarding the New Jersey Energy Storage Incentive Program (“NJ SIP”) (the “RFI”).

PSE&G strongly supports the State’s goals of increasing the resilience of New Jersey’s electric grid, reducing carbon emissions, and enabling New Jersey’s transition to 100% clean energy. PSE&G commends the Board for continuing to solicit input on all components of NJ SIP as a means of putting energy storage on a path to achieve the State’s clean energy goals. Below, PSE&G offers input on a selection of the RFI’s questions, covering topics in numerous sections of the RFI.

The Clean Energy Act sets a target to have 2000 megawatts (“MW”) of installed storage by 2030, but there has been minimal development to date and there are many challenges in meeting this goal. As the Board continues to pursue this ambitious target, it should utilize every available resource, specifically including utilities to maximize the reliability benefits of storage and meet the goal cost-effectively for customers. PSE&G was therefore disappointed to read that the RFI reiterates Staff’s statement that the September 2022 NJ SIP Straw Proposal “does not propose to allow for utility ownership or operation of devices.”¹

PSE&G respectfully suggests that the state’s electric distribution utilities (“EDCs”) are a resource that should be more a part of the NJ SIP solution now. In comments filed December 12, 2022, PSE&G provided expansive descriptions of the contributions that PSE&G (and all EDCs)

¹ RFI at Section 1.0, citing In the Matter of the New Jersey Energy Storage Incentive Program, BPU Docket No. QO22080540, Straw Proposal dated September 29, 2022 (the “September 2022 Straw”).

could make in storage development. PSE&G encouraged Staff to consider the following six items:

- PSE&G’s demonstrated commitment to installing 35 MW of energy storage, as proposed in PSE&G’s 2018 “Clean Energy Future” filing.
- The need for an “all hands on deck” approach to meet the Clean Energy Act’s goals.
- The utilities’ expertise in siting and deploying storage to maximize reliability, resiliency, and environmental benefits, and integrating storage with other clean energy technology and goals.
- PSE&G’s past success in kickstarting the nascent solar industry through its successful Solar 4 All® and Solar Loan programs, and how PSE&G could serve the same role with the private energy storage industry today.
- The utilities’ ability to flow back federal storage incentives directly to customers.
- The utilities’ ability to develop grid-supply storage during a period where the distributed storage program is still being developed.

PSE&G expands upon each of those six items below.

1. PSE&G Has Demonstrated a Commitment to Advancing Energy Storage in New Jersey Since 2018

Nearly five years ago, PSE&G filed a comprehensive petition to develop a “Clean Energy Future” program, containing energy storage provisions.² The goal of PSE&G’s energy storage program was “to incorporate utility-scale energy storage into the Company’s distribution system to optimize electricity costs for PSE&G’s customers, support grid operations, and facilitate the integration of renewables on the PSE&G grid.”³ PSE&G’s proposal was modest: to deploy just 35 MW of storage (2% of the State’s 2000 MW 2030 goal), and demonstrate the capabilities and possible benefits of utility-scale storage while allowing PSE&G and the State to “learn from experience” about how best to incorporate storage into the electric utility distribution system.

PSE&G’s 2018 proposal covered multiple storage use cases, including solar smoothing, distribution deferral, outage management, microgrids for critical facilities, and peak reduction for public sector facilities. While the storage proposal was put in abeyance in January 2021, PSE&G remains ready and able to step up to the plate and assist New Jersey in meeting its energy storage goals—and PSE&G urges to Board to reconsider the NJ SIP’s exclusion of utility participation.

² In the Matter of the Petition of Public Service Electric and Gas Company for Approval of Its Clean Energy Future - Electric Vehicle and Energy Storage (“CEF-EVES”) Program on a Regulated Basis, BPU Docket No. EO18101111, Petition dated October 11, 2018 (the “2018 CEF-EVES Petition”).

³ 2018 CEF-EVES Petition at ¶ 18.

2. The State’s Lofty Storage Goals Require the Deployment of Every Available Resource, Including Utility-Scale Storage

The Clean Energy Act requires the development of 2000 MW of storage by 2030, but as of the September 2022 Straw, only 497 MW of storage existed in New Jersey.⁴ For New Jersey to close that 1500 MW gap will require an all-hands-on-deck, all-of-the-above approach, and should include not only incentivized private industry development, but also participation by the state’s electric utilities. PSE&G and the other EDCs have the experience, personnel, and knowledge to achieve the Clean Energy Act’s goals. NJ SIP’s exclusion of utilities—especially in light of the hard road ahead in meeting the State’s goals—may only further increase the likelihood that New Jersey falls even further behind.

3. The State’s Utilities are in the Best Position to Site, Develop, and Operate Grid-Supply Storage to Maximize Reliability, Resiliency, and Environmental Benefits

The September 2022 Straw acknowledges that energy storage “provides numerous reliability and resilience services” and “is expected to play a key role in maintaining electric system reliability.”⁵ There are no private entities as prepared to achieve these benefits as the State’s utilities. The EDCs have extensive knowledge of their own systems, including how and where utility-scale storage assets could improve reliability, and how to adapt to changing reliability needs—items that the private market may not adequately address. Utilities are best positioned to see how energy storage fits in with New Jersey’s larger climate goals, including the electrification of transportation and buildings.

4. PSE&G’s Track Record in Boosting the Private Solar Industry Could Serve as a Model for Utility Involvement in Energy Storage Development

PSE&G’s Solar 4 All programs (first approved in 2009) and Solar Loan programs (first approved in 2008) played major roles in developing the nascent solar industry and providing it the stability that allowed it to grow—the same kind of role PSE&G could play with storage.

Through Solar 4 All, PSE&G has developed 36 solar sites and a pole-attached solar system, containing a total of 158 MW of solar generation, and including five “storage plus solar” facilities with a total storage capacity of just under 2.5 MW. This program targeted sites that the private market avoided—like landfills and contaminated sites. It did not provide the utility an unfair advantage or stunt the development of a solar industry in New Jersey. In fact, it has been quite the opposite. Since approval of the original Solar 4 All program in 2009, New Jersey’s installed solar capacity has grown over 7800%, making New Jersey a center for solar jobs and creating an ecosystem that has allowed a national solar market to grow.⁶

⁴ September 2022 Straw at 4.

⁵ Id.

⁶ Per the “Installation Report” available at the New Jersey Office of Clean Energy’s Solar Activity Reports web page (available here: <https://njcleanenergy.com/renewable-energy/project-activity-reports/project-activity-reports>): at the end of 2009, 57,740 kW of solar was installed in New Jersey, and as of July 31, 2023, 4,525,509 kW of solar was installed.

PSE&G’s Solar Loan program played a major role in moving behind-the-meter solar technology along the maturity curve. Solar Loan allowed PSE&G to provide over 1600 customers loans to install solar, and used the solar renewable energy certificates generated by that solar as repayment of those loans. This program led to the development of approximately 147 MW of solar.

5. Utility Development of Storage Could Maximize Customer Savings from Other Government Programs

The 2022 Inflation Reduction Act expanded a 30% investment tax credit to apply to energy storage projects.⁷ PSE&G would be eligible for this credit, and if received, would flow it back to customers. Private developers would not.

6. Technical Challenges in Implementing the “Distributed” Portion of NJ SIP Provide Additional Urgency in Allowing Utility Participation

PSE&G observes that creating and implementing the distributed (behind-the-meter) storage program will include significant technical challenges that may take time to resolve, as detailed below, and proposes two ways in which increased utility participation in NJ SIP could help to advance the state’s storage goals during this development period. First, the Board could permit the utilities to conduct a behind-the-meter pilot program so as to test and refine call capabilities and evaluate the impacts of storage on the distribution system. Second, and because of the time involved in resolving technical/administrative issues on the distributed portion, the Board could permit utility participation in the grid-supply program.

* * *

Below, PSE&G addresses a selection of the questions in the RFI. Each question is included in full, and is followed by PSE&G’s response.

1.0 Utility Ownership/Dispatch Control

1.1 What are the advantages and disadvantages of utility control versus non-utility control of energy storage systems?

The EDCs are ultimately responsible and accountable for the reliability, power quality, and resiliency of the electric transmission and distribution systems, and they have the knowledge and experience that goes along with this responsibility. Therefore, utility control of storage has distinct advantages in these areas for maintaining the grid. In contrast, private control will result in storage being operated in a manner that prioritizes individual customers’ interests. While those interests may not always conflict with the utility’s interests, PSE&G recommends that utilities be

⁷ Inflation Reduction Act of 2022, PL 117-169 (August 16, 2022) at Sec. 13102.

provided control in situations where those goals are not aligned so as to better maintain grid reliability and resiliency.⁸

1.2 For Distributed resource Performance-based Incentives, should responding to a utility signal be compulsory or voluntary?

PSE&G recommends that both Distributed resources and Grid Supply resources be required to respond to a utility signal for performance-based incentives under certain conditions set by the utilities. In most instances, the performance-based incentive events may be voluntary, allowing the storage operator to decide whether to participate. However, a storage owner/operator may not be aware of all grid conditions, including localized events that only the local utility would be aware of, and which would create a situation where utility control is required. Therefore, utilities should be given the flexibility to control distributed storage when utilities deem it necessary to maintain grid reliability and power quality under certain emergent circumstances, including the ability to prevent a storage system from charging during a peak load period.

1.3 For Grid Supply resources Performance-based Incentives, should responding to a market signal be compulsory or voluntary?

PSE&G recommends that it not be compulsory for Grid Supply resources to respond to market signals, because market signals may not always align with what is best for the local utility's ability to maintain the reliability, power quality, and resiliency of the electric transmission and distribution systems. Therefore, PSE&G suggests that utilities maintain the ability to override market signals should the utility deem it necessary for those reasons.

2.0 Installed Storage Targets, Deployment Timelines and Capacity Blocks

2.1 How should capacity blocks be structured and proportioned, both within each component of the NJ SIP (Grid Supply and Distributed) and relative to each other?

For the reasons described in the opening section of these comments, PSE&G suggests that utilities be allowed full participation in both the Grid Supply and Distributed portions of NJ SIP.

⁸ PSE&G also notes that generators interconnected to the transmission system do not maintain control over their generation—rather, PJM has that control. That arrangement could be seen as a parallel to Distributed resources that provide capacity via a utility's distribution system.

However, should the Board not reconsider the September 2022 Straw Proposal’s categorical exclusion of utilities from NJ SIP, PSE&G proposes that it consider the following options:

- A reserved block for utility storage development.
- A reserved block for utility storage in certain areas that are unlikely to attract robust private investment, such as overburdened communities.
- A limited period in which utilities may participate in NJ SIP, perhaps with utility participation phasing out as certain interim goals are met.
- A yearly Board review of storage development progress, with automatic triggers for the creation of utility blocks should certain thresholds not be met, whether they are MW thresholds, or more targeted thresholds such as storage deployment in overburdened communities.

2.2 Should the proposed first-come, first-served application process be changed to a “First-Ready, First-Served” process?

PSE&G recommends a first-come, first-served method, and does not recommend that the application process be changed to a first-ready, first-served process because unpredictable delays (e.g., weather, emergencies, etc.) outside of the customer’s control may unfairly impact the timeline and deliverables of the process. Additionally, a first-come, first-served method will assist the utilities in fairly and consistently administering the program.

2.3 How should the program be designed to avoid or minimize interconnection delays? Should the interconnection process be modified for accommodating energy storage and if so, how?

PSE&G’s interconnection process accommodates applications for energy storage, and therefore does not need to be modified at this time.

3.0 Incentive Structure

3.3 Should Fixed Incentives be assignable to an aggregator? Why or why not?

PSE&G suggests that if the aggregator can demonstrate ownership of the storage assets eligible for the fixed incentive, then the aggregator would be eligible for the incentive.

3.9 The Straw proposed that each EDC establish its own level of Performance-based Incentives. Should EDCs establish EDC-specific performance incentives, or should the incentive be standardized and common to all EDCs?

PSE&G suggests that EDCs be allowed flexibility to propose programs that may vary among the EDCs to incent storage deployment within each EDC's respective territory.

3.10 Should energy storage owners be permitted to opt in, or be subject to utility control, in order to be eligible for Distributed performance incentives?

PSE&G recommends that energy storage owners be subject to utility control to be eligible for Distributed performance incentives in certain emergent circumstances. Utility control provides utilities the flexibility to control energy storage systems to maintain grid reliability and power quality under certain conditions.

3.15 What provisions should be included in the program for monitoring, reporting and evaluation in order for deployed projects to maintain eligibility for incentives that are paid over time?

In the September 2022 Straw, Staff suggested that for the Distributed storage program, the EDCs establish call hours, incentive payment levels, and a mechanism for calling resources.⁹ PSE&G therefore recommends that EDCs be provided the ability to set requirements to monitor and verify Distributed storage resources are operational and performing to be eligible for incentives. PSE&G also suggests that the Board provide that EDCs be entitled to full and timely cost recovery for any such monitoring, reporting, and evaluation costs.

5.0 Other Questions

5.1 What actions, if any, should BPU take to improve access to the energy storage value stack as part of implementing the NJ SIP?

PSE&G suggests that the BPU work with EDCs to explore values associated with the various storage use cases or applications that provide benefits to the electric distribution system. If benefits can be valued, monitored, and verified, then storage systems should be eligible for additive/stacked incentives.

⁹ September 2022 Straw at 25-26.

5.2 How will Federal Energy Regulatory Commission (“FERC”) Order 2222 affect New Jersey’s energy storage market? What changes should the Board make to the NJ SIP to take advantage of PJM’s pending implementation of FERC Order 2222?

PSE&G understands that when FERC Order 2222 is implemented in PJM, it will offer a new revenue stream for Distributed Energy Resources (“DERs”) including small-scale energy storage. PSE&G also understands that PJM’s implementation plans may include an expectation that utilities screen for double compensation situations for DERs. Therefore, to protect customers and to comply with PJM’s potential future plans, PSE&G suggests that NJ SIP be structured such that a storage device that chooses to receive compensation through wholesale markets after Order 2222 implementation does not receive double compensation in retail markets. PSE&G also notes that these circumstances may change, as FERC has not yet accepted PJM’s pending Order 2222 compliance filing, and even after FERC’s acceptance, the details of PJM’s implementation plans remain to be determined.

5.6 Should energy storage be utilized and compensated in the Triennium 2 Energy Efficiency/Demand Response proceeding as an allowable Demand Response resource? If so, what changes, if any, should be made to the NJ SIP design to avoid potentially providing double compensation for the same service?

Yes. PSE&G recommends that the Triennium 2 Energy Efficiency/Demand Response proceeding permit the utilities to adopt programs or pilots that allow the utilities to incentivize and utilize energy storage for demand management. To protect customers, PSE&G suggests that NJ SIP be structured such that a storage device receiving an incentive in a utility Energy Efficiency/Demand Response program for a particular service does not also receive an additional incentive for the provision of that same service.

5.7 How should energy storage systems be metered and measured? Can an inverter serve this function? What role should advanced metering infrastructure (“AMI”) play in the NJ SIP?

The September 2022 Straw proposes that for the Distributed program, the EDCs “sum up the total Response kWhs provided by a storage device” and then use that reading to calculate the incentive payment owed.¹⁰ Therefore, PSE&G suggests that each storage system be separately metered by a utility meter that conforms to ANSI C12.1, and if instrument transformers are required, they conform to IEEE C57.13. PSE&G would use AMI meters for that purpose. PSE&G does not believe that a meter module integrated into an inverter control would be compatible with PSE&G’s AMI data collection system.

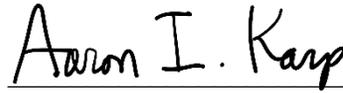
¹⁰ September 2022 Straw at 26.

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Thank you again for this opportunity to provide comments on the NJ SIP program. PSE&G looks forward to working with the Board and interested stakeholders to develop an energy storage plan that achieves the important goals set forth in the Clean Energy Act of 2018.

Please do not hesitate to contact me should you have any questions.

Very truly yours,

A handwritten signature in black ink that reads "Aaron I. Karp". The signature is written in a cursive style with a horizontal line underneath it.

Aaron I. Karp