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Sherri L. Golden
Secretary of the Board
44 South Clinton Ave., 1st Floor
PO Box 350
Trenton, NJ 08625-0350

RE: Docket No. QO22080540 – In the Matter of the New Jersey Energy Storage Incentive Program

Dear Secretary Golden,

PowerFlex thanks the Board for the opportunity to provide feedback on the 2024 Straw Proposal for the New Jersey Energy Storage Incentive Program (NJ SIP). PowerFlex is a leading national developer of clean energy solutions, including distributed storage, solar, electric vehicle charging, and load management technologies. PowerFlex has installed over 40 MWh of distributed battery energy storage systems ("BESS") nationwide and over 120 MW of solar in New Jersey. PowerFlex participated in prior stakeholder processes for NJ SIP and appreciates that our comments, along with those of other stakeholders, have been incorporated in changes to the 2024 Proposal from the 2022 Straw Proposal. PowerFlex submits these comments in an effort to further improve the proposed offering for a new storage market in New Jersey.

Response to the Board's Questions

Grid Supply

As a developer of distributed storage, PowerFlex has no comments in response to the questions for grid supply storage.

Distributed

6. The distributed incentive level breakdown provides varying incentive levels for different sized energy storage systems to account for cost differences. Are the proposed incentive levels appropriate?

PowerFlex appreciates that the incentives vary by system size and believes the proposed net present value of the incentive levels is appropriate. However, more clarity is needed on the breakdown in value between the upfront fixed incentive and the annual performance incentive.

7. Are the incentive adders for OBCs too high, too low, or should the proposed OBC incentive otherwise be modified?

PowerFlex believes that the OBC incentive adder is the appropriate value, however, the incentive should be modified to enhance participation. The draft rules propose a distributed energy storage system may be eligible for an OBC Adder if it is Option 1) "installed at a single-family or multi-family residence in an OBC" or Option 2) "Installed at and provides resiliency benefits to a critical public facility such as a town hall, police station, or emergency shelter in an OBC." PowerFlex recommends the Board expand the eligibility requirements for Option 2 and set clear guidelines for qualification.

First, PowerFlex requests clarity on the term "provides resiliency benefits." Are resiliency benefits referring to participation in the distributed pay-for-performance incentive? Or are resiliency benefits referring to the ability of microgrids to island from the grid and provide backup power capabilities to critical facilities during times of grid failure? Both options provide varying amounts of resiliency benefits,[1] however the minimum standard of benefit required to qualify for the OBC incentive is unclear. PowerFlex requests the Board provide clear technical guidelines to fulfill the resiliency benefits requirement.

PowerFlex further proposes that the Board expand eligibility for the OBC incentive to streamline administrative efficiency and promote cost effectiveness. While PowerFlex supports incentivizing BESS to be located at town halls, police stations, and emergency shelters, the draft rules pose the question of what is considered a "critical public facility?" For instance, facilities such as grocery stores and hospitals are often privately owned but provide critical resources to communities. However, the current language suggests these facilities would not qualify for the OBC adder. PowerFlex cautions the Board against creating overly complicated and restrictive rules for the OBC Adder in an effort to ensure benefits flow to overburdened communities. PowerFlex has witnessed how well-intentioned but complex policy for disadvantaged communities has hindered distributed resources' development and increased costs for ratepayers in other markets. Distributed energy storage systems will provide resiliency benefits to overburdened communities through participation in the performance incentive, promote the development of renewable energy thereby reducing the need for peaker plants which will improve the environment and public health, and are more cost-effective when installed at large facilities.

8. How far along are the EDCs in implementing the technology needed to issue calls for the performance incentive portion of the SIP? Will this affect the design of the performance incentive?

No comment.

[1] Microgrids provide the ultimate resiliency benefit, especially for critical facilities which present safety concerns without power, but they have more costs and longer development timelines than traditional, grid-tied distributed energy storage systems.

9. Should the Board require EDCs to implement a designated distributed energy resources management system (DERMS) to effectively manage and dispatch resources across their systems?

PowerFlex supports the EDCs partnering with a single aggregator or single provider to dispatch participating assets, similar to how California uses Olivine to dispatch resources in the Demand Side Grid Support (DSGS) program.

However, PowerFlex does not support any additional requirements for developers to install dedicated control devices on-site as this will create additional costs, complexity, and redundancy with existing storage operating systems.

Other

10. Do any aspects of this program need to be modified to address NJ Legislature Bills S225/A4893, should the bill be signed into law?

PowerFlex believes that that 2024 Straw Proposal complies with NJ Legislature Bill S225/A4893. However, the bill's passage will be redundant as it calls for a similar incentive design as the Straw Proposal but in the format of a three-year pilot program that may eventually become a permanent program. Energy storage technology is established enough to render pilot programs unnecessary, and for market certainty it is more important to establish a permanent program, such as the NJ SIP. PowerFlex therefore opposes signing the bill into law; this will reduce confusion in the market and duplicative work on behalf of the Board.

However, there are several provisions in S225/A4893 that PowerFlex recommends the Board incorporate into the NJ SIP. First, PowerFlex supports the statement 3.d., "the board shall consider revising the eligibility requirement for net-metering for solar energy systems that requires that the capacity of the solar energy system be no greater than the annualized electricity usage of the facility to which the solar energy system supplies electricity, in order to accommodate the inclusion of energy storage system capacity, as well as the potential for future electric vehicle capacity." This provision aligns with the Grid Modernization Docket QO21010085 which in recent proposed amendments and rules to N.J.A.C. 14:8 states 14:8-5.2 (o) "Any applicant may request that the EDC take into account any significant anticipated changes in load associated with contemporaneous installation of the customer-generator facility and any of the following: 1. Electric vehicle charging infrastructure, including any vehicle-to-grid bidirectional capabilities; 2. Building electrification upgrades; 3. Deployment of energy efficiency upgrades; or 4. Verifiable increases in load."[2] PowerFlex therefore supports the Board revising the eligibility requirement for net-metering for solar energy systems to allow for larger capacity limits if an applicant can demonstrate significant anticipated changes in load.

[2] 56 N.J.R. 999 (o)

In addition, PowerFlex supports section 6. of S225/A4893: "In addition to the upfront incentive…and the performance incentive…each electric public utility in the State shall file a tariff with the board, no later than 12 months after the effective date of this act, that shall apply only to front-of-the-meter energy storage systems that are not subject to a tariff from PJM. The tariff shall be formulated to provide front-of-the-meter energy storage systems with compensation for their value to the grid…The tariff shall establish a new rate design for front-of-the-meter energy storage systems that accurately reflects cost causation, based on a cost of service study. The tariff may distinguish between different sizes and types of energy storage systems. The tariff shall exempt front-of-the-meter energy storage systems from charges intended for customers who consume electricity, including, but not limited to, the societal benefits charge imposed pursuant to section 12 of P.L.1999, c.23 (C.48:3-60)." It is important front-of-the-meter (FTM) distributed storage is not overburdened with costs to charge from the grid and operates under pricing structures that compensate the asset for its grid benefits. Tariffs can also provide value for a much longer term than a performance or capital incentive without the need for additional funding from ratepayers.

An example of successful tariff design for FTM distributed assets can be seen in New York. To date, New York incentives have facilitated the contracting and installation of over 320 MW of commercial retail (distributed) storage.[3] This year the state approved to increase its energy storage deployment goal to 6 GW by 2030, with incentives to develop 1.5 GW of new retail storage. A key aspect of this success has been the tariff, the Value of Distributed Energy Resources (VDER). VDER compensates distributed energy production by creating a value stack of realized benefits a resource provides to New York's grid and allocating that value in the form of bill credits.[4] VDER values projects based on day-ahead wholesale energy prices, distributed resources' capacity, demand reduction, environmental benefits, and specific location as resources installed in areas of high grid congestion provide additional reliability benefits. Storage especially benefits from the value placed on demand reduction, capacity, and location system relief (easing grid congestion).

California has also implemented storage friendly tariff design through time-of-use (TOU) tariffs. TOU electricity rates are a well-developed market mechanism that can help utilities manage ratepayers' usage patterns and recover additional revenue for particularly "expensive" demand behavior. Well-designed TOU electric rates offer passive incentives for asset owners and enable distributed resources to improve grid operations incrementally. The California utility Pacific Gas and Electric has even designed a storage-specific TOU tariff for BESS, Option S, which calculates demand charges daily instead of monthly thereby significantly reducing revenue risk with demand peak shaving.

PowerFlex recommends that the Board require the EDCs to develop tariffs for storage in addition to the fixed and performance incentives of the SIP.

[3] New York's 6 GW Energy Storage Roadmap published December 28, 2022
[4] See New York State, The Value Stack https://www.nyserda.ny.gov/All-Programs/NY-Sun/Contractors/Value-of-Distributed-Energy-Resources

Comments on Program Design and Draft Rules
PowerFlex offers the following comments on the program design of the Straw Proposal:

- Distributed storage capacity and incentives should be expedited in the NJ SIP
- The definition for Distribution Energy Storage Systems should include front-of-the-meter systems interconnected to the distribution system
- The timeline to achieve commercial operation should be extended and include extensions for events outside of a developer's control
- The NJ SIP should have a clearly defined budget for market certainty
- The Distributed Fixed Incentive Program should not have a waitlist, and incentive rates should be fixed for up to three years before declining to promote market predictability
- Minor modifications to the language for UL9540A

Distributed storage development and associated incentives should begin in 2025

The 2024 Straw Proposal recommends that the Grid Supply Fixed incentive begin in early 2025 whereas the Distributed Storage Segment Incentive program is not anticipated to launch until 2026. PowerFlex strongly opposes this and urges the Board to begin the Distributed Storage Segment Incentive program in 2025, preferably by the beginning of next energy year. Distributed storage can scale quickly, has proven success in other markets, provides essential cost savings to ratepayers, and can only rely on the SIP for state incentives.

New Jersey has already launched an incentive mechanism for grid supply storage through the Competitive Solar Incentive (CSI) Program. In this program storage that is co-located with grid-supply solar systems can bid into a tranche of an annual competitive solicitation to receive incentive value. The CSI Program has now completed two solicitations and in two years and twenty-seven total applications, only one storage system of 80 MWh has been approved.[5] The limited success of the CSI Program for storage indicates that the SIP Grid Supply Fixed Incentive, which is proposed to operate through a competitive solicitation as well, will also face challenges. Considering the grid supply performance incentive is also deferred indefinitely there are significant concerns for the proposed grid supply incentives next year.

Grid supply storage also faces significant challenges with an approximately five-year long interconnection que backlog in PJM.[6] Once an interconnection agreement is reached, PJM estimates it can take at least another three years for new generation (including storage) to

[5] Watson, D. (2024, September 17) "NJ Competitive Solar Incentive Program ("CSI") Stakeholder Session" [PowerPoint Slides]. https://csisolar.nj.gov/wp-content/uploads/2024/09/NJBPU-Stakeholder-Session-Slides_9-2024_FINAL.pdf
[6] Howland, Ethan. "PJM says 'concerns are growing' after less than 2 GW added this year." Utility Dive, 26 September 2024. https://www.utilitydive.com/news/pjm-interconnection-capacity-online-construction-shortfall-vc-renewables/728145/

complete permitting, land acquisition, financing, and construction.[7] Grid Supply storage will therefore need more time than the currently proposed 550 days to reach commercial operation.

Although distributed storage faces its own hurdles and delays due to interconnection and supply chain limitations, the sector has demonstrated the ability to scale quickly and effectively in other markets. Recently Connecticut's Four-Year Program Review of the Energy Storage Solutions program, which is structured similarly to the SIP, revealed the state has already achieved 150 MW of commercial and industrial storage capacity almost three years ahead of schedule.[8] Wood Mackenzie forecasts an additional 12 GW of distributed storage to deploy over the next five years nationwide.[9]

Furthermore, distributed storage is essential to reduce costs for ratepayers. As a result of the challenges facing PJM to procure sufficient generation capacity to meet demand growth, the PJM summer 2024 capacity auction dramatically spiked, with a clearing price ten times higher than that of the previous auction. This increase in capacity price will directly translate to an increase of capacity charges for ratepayers, especially commercial and industrial customers, as soon as 2025. Capacity charges are based on the contribution of electric customers to the PJM system load peaks and can subsequently only be offset with flexible load and dispatchable distributed energy resources, such as energy storage. Incentivizing the deployment of distributed storage as soon as possible can therefore help a significant amount of New Jersey businesses and other ratepayers better cope with electricity cost increases expected in 2025-2026.

PowerFlex therefore recommends that the NJ SIP begin with distributed storage incentives in 2025 to achieve the state's storage targets by 2030 and provide necessary grid and cost benefits to ratepayers. Although the proposal and feedback from the Board claim more time is needed to implement the distributed program, the proposal also cites existing frameworks the incentives should reference, such as basing the distributed performance incentive on ConnectedSolutions. Using the existing references of successful distributed storage markets in other states should ease the administrative burden of establishing the distributed program. Conversely, more Board efforts will likely need to be dedicated to the grid supply sector to establish its performance incentive and rectify existing challenges with the competitive solicitation process.

PowerFlex also requests that the Board clarify the breakdown in capacity between grid supply and distributed storage sectors in the NJ SIP. The majority of SIP capacity should be dedicated to distributed storage since grid supply storage can also receive incentives through the CSI program, but distributed storage can only apply for essential revenue through the SIP.

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[7] Shoemaker, J. (2024, September 25) "Commercial Deployment of New Generation" [PowerPoint Slides]. https://www.pjm.com/-/media/DotCom/committees-groups/committees/mrc/2024/20240925/20240925-item-09---pjm-interconnection-queue---presentation.ashx

[8] Docket No. 24-08-05, Annual Energy Storage Solutions Program Review – Year 4, Final Decision (issued and effective December 4, 2024). https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/5dfd10f7c319dfec85258be90050bf9c/$FILE/240805-120424.pdf

[9] Wood Mackenzie, US Energy Storage Monitor Q4 2024 Full Report.

FTM Distributed Storage should qualify as Distributed Energy Storage Systems and participate in the Distributed Fixed and Performance Incentive rather than Grid Supply

The Straw Proposal currently designates all FTM storage, regardless of system size or interconnection type, as "Grid Supply Energy Storage Systems," which must participate in a competitive solicitation for an upfront incentive. This places smaller systems interconnected to the distribution grid at a significant disadvantage because with smaller economies of scale than grid supply storage and higher charging costs, because they are subject to both wholesale and distribution charges, these systems require higher incentive rates. FTM distributed storage is subsequently not competitive with FTM grid supply storage.

PowerFlex therefore recommends that the Board adjust the definition for "Distributed Energy Storage System" to state "an Energy Storage System that operates in parallel with an electric Distribution System, is connected on the customer side of the meter, *or interconnected with the Distribution System of a New Jersey EDC in a front-of-the-meter configuration,* and is owned by the customer or another party that is not an EDC." FTM distributed storage should subsequently be eligible to participate in both the distributed fixed incentive and distributed performance incentive.

PowerFlex also recommends the Board consider creating an incentive or development pathway for FTM distributed storage paired with community solar. New York, for example, will allow distributed standalone storage and storage paired with solar to participate in its community solar program, The Statewide Solar for All program.[10] This will enable low-income residents unable to own or install BESS to still receive cost savings and resiliency benefits from storage. Incentivizing storage pairing with the New Jersey Community Solar Energy Program can therefore provide additional benefits to low-income residents in New Jersey.

Timeline for commercial operation of distributed storage must be clarified and extended

PowerFlex supports requirements for a set timeline to achieve commercial operation after conditional approval of an incentive to thwart speculative projects from hindering development. However, the proposed requirement of 550 days (approximately 18 months) to achieve commercial operation is difficult given current market conditions. PowerFlex also supports the proposal in the draft rules that the number of days for a Planned COD and Guaranteed COD should begin after interconnection approval for distributed energy storage systems. However, as currently written in the draft rules, "date of execution of the GIA [Generator Interconnection Agreement]" is unclear because the utilities have different rules as to when they and customers must sign interconnection agreements, therefore presenting different and complex timelines for when a GIA can be considered executed. PowerFlex recommends that the Board designate a more specific and measurable requirement of interconnection approval as the basis for the countdown to COD.

[10] Case 21-E-0629, In the Matter of the Advancement of Distributed Solar, Order Approving Statewide Solar for All Program with Modifications (issued and effective May 16, 2024).

PowerFlex also recommends that the Board increase the allotted time to reach Planned COD to 24 months from interconnection approval and provide the potential for a six-month extension for cause, as is currently provided in the Successor Solar Incentive program. Battery procurement lead times have increased exponentially over recent years due to supply chain issues. For example, a leading original equipment manufacturer (OEM), the Tesla Megapack currently has a delivery date of Q3 2025 at the earliest, a procurement lead time of at least 195 days.[11] Unfamiliarity with BESS may also delay permitting timelines with some authority having jurisdiction (AHJ) in the beginning of the program. Two years will provide a more realistic timeline for battery procurement, permitting, and construction in the current market and the Board can reevaluate and reduce the allocated time later if market conditions improve.

Extra time for commercial operation is especially needed for energy storage systems that operate as microgrids to provide resiliency benefits. Energy storage systems that incorporate islanding technology face longer timelines for interconnection approval, design and engineering, equipment procurement and manufacturing, permitting, and commissioning. PowerFlex has developed microgrids in California and has experienced extended project timelines due to complex feasibility studies, increased construction and commissioning timelines due to system complexity, longer equipment manufacturing and procurement times for specific equipment to meet site needs, extended permitting timelines due to AHJ unfamiliarity with microgrids and islanding technologies, and longer interconnection approval timelines due to the complexity of the systems. In total the delays have caused microgrid projects to need at least 3.5 years until commercial operation. PowerFlex therefore recommends the Board incorporate additional timelines or more extensions for resiliency projects compared to traditional grid-tied projects.

PowerFlex requests more budget certainty for the NJ SIP

There is currently no set budget amount or mechanism for the NJ SIP. In the November 20 stakeholder meeting Staff clarified that budget appropriations for the SIP will be determined annually based on assessments of future budgets to balance reaching the 2,000 MW goal by 2030 and funding for other clean energy programs. PowerFlex is concerned about this lack of budget certainty and offers that a clear understanding of available budget is essential to developing new projects around a new program. Specifically, PowerFlex has participated in other energy storage programs with various levels of budget certainty and has found that the programs with greater certainty provide a more stable market in which companies can sell and install projects. Programs that do not have budget certainty generally do not attract a lot of investment due to the uncertainty of return.

PowerFlex therefore supports section 4f of S225/A4893: “The board shall allocate at least $60 million per year…from moneys collected from the societal benefits charge imposed pursuant to section 12 of P.L.1999, c.23 (C.48:3-60) to fund upfront incentives.” PowerFlex recommends the Board implement this provision to the SIP.

[11] Tesla website: Order Megapack | Tesla

Changes to Distributed Segment Fixed Incentive Program Structure

Although the Straw Proposal does not mention a waitlist for the Distributed Segment Fixed Incentive Program, the draft rules imply one may be created. Section (e) of the draft rules states that "Any Fixed Incentive applications submitted after [the level of Distributed Energy Storage System capacity awarded Fixed Incentives in that Fiscal Year exceeds the target capacity of the corresponding Block] shall be treated as an application for Fixed Incentives in the subsequent Fiscal Year's Block." This language is unclear as to whether it allows projects that do not apply for the fixed incentive in time to be added to a waitlist for the next year's block. PowerFlex requests that the Board clarify this language to not allow a waitlist; instead projects that are not awarded a Fixed Incentive in a Fiscal Year should have to reapply for the next block. Given the declining block structure of a fixed incentive, waitlists will create project risk and uncertainty as to the rate a project will eventually receive.

Furthermore, while PowerFlex supports the declining block structure of the Fixed Incentive, PowerFlex recommends that the incentive rates remain the same for up to three years before declining. This follows the Connecticut Energy Storage System Program's structure for an upfront incentive and will provide greater market predictability and stability thereby promoting private investment.

Modifications to UL9540A Language

In section (g) of the Technical Requirements of the Draft Rules PowerFlex recommends the Board change the language from "large-scale fire testing in accordance with UL 9540A" to "UL9540A unit-level testing." This minor modification provides more clarity as "large-scale fire testing" can have different meanings for AHJs that are unrelated to UL9540A requirements.

PowerFlex appreciates the opportunity to comment and urges the Board to adopt the recommendation herein.

Respectfully submitted,

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