State of New Jersey Board of Public Utilities)
New Jersey Energy Storage Incentive Program) Docket No. QO22080540
Straw Proposal)

In the Matter of The New Jersey Energy Storage Incentive Program Request For Information

RESPONSE OF ELEVATE RENEWABLES F7, LLC TO THE NJ BPU STORAGE INCENTIVE PROGRAM REQUEST FOR INFORMATION

INTRODUCTION

Elevate Renewables F7, LLC ("Elevate") thanks the New Jersey Board of Public Utilities (the "Board") for the opportunity to provide further comments and responses to the current Request for Information (RFI) regarding the proposed New Jersey Storage Incentive Program ("SIP"). We are pleased to offer suggestions on programmatic structures that will precipitate, promote, and enhance the build-out of energy storage in the state for administrators and developers alike and ensure that the greatest number of projects are brought online in the shortest timeframe possible to meet New Jersey's storage procurement target.

Elevate and its parent, ArcLight Capital Partners, are the largest merchant power producer in the State of New Jersey with seven generating facilities totaling over 4,000 MWs. Elevate currently holds indirect ownership interests in large-scale generation resources totaling approximately 25,000 MWs in nine states nationally (New Jersey, Connecticut, New York, Maryland, California, Ohio, Illinois, Indiana, and Arizona).

As the developer of the largest utility-scale, grid-supply, energy storage facilities in the state, including projects located at the Kearny Generating Station located in Kearny, NJ, the Linden Generating Station located in Linden, NJ, the Burlington Generating Station located in Burlington, NJ, and the Bergen Generating Station located in Ridgefield, NJ, Elevate is dedicated to the development of a truly collaborative storage incentive program that allows developers the room they need, given the interconnection restraints imposed upon them, to bring projects online and begin storing and providing energy to the grid as quickly as possible.

Elevate is not alone. There are a multitude of storage developers, most of whom submitted comments under this docket, who are ready and willing to develop the energy storage industry the State of New Jersey requires to fully modernize its energy grid.

Summary of Key Recommendations

Privately-held or independently owned energy storage developers are well positioned to provide the State of New Jersey with the energy storage facilities needed to integrate onto the grid the vast amounts of off-shore wind, solar, and other variable renewable energy resources, which are all needed to achieve a decarbonized grid by 2035. Energy storage contributes to creating a resilient, modernized electric system that can rapidly respond to energy blackouts, shortages, peak demand events, and extreme weather events. Importantly, energy storage systems are not only capable of

providing clean energy to the grid when renewable and other sources are unavailable, energy storage systems can also reduce the curtailment of those same renewable resources when the system is overloaded and at its peak. By providing strategic charging and dispatching of power, energy storage systems increase the usefulness of renewable energy systems, vastly increase the ability of renewable energy systems to reduce greenhouse gas emissions, and, as such, make the achievement of the state's clean energy goals possible.

Elevate Strongly Supports the Board's Goals to Achieve 100% Clean Energy by 2035 and Encourages a Gradual Increase of the Storage Targets to 6,000 MWs by 2035

At the outset, Elevate has publicly supported the Board and the state of New Jersey's goal of providing 100% clean energy across the state by 2035. While we laud the legislature and Governor Murphy for setting a legislative mandate to achieve 2 Gigawatts (2,000 Megawatts) of installed energy storage capacity by 2030, we continue to message that additional energy storage resources will be needed to aid the clean energy transition, especially assisting in the integration of large quantities of offshore wind and other variable renewable energy resources. Elevate encourages the Board to support efforts to increase the state's energy storage procurement targets on a gradual basis from 4 GW (4,000 MWs) by 2030 to 6 GW (6,000 MWs) by 2035.

New Jersey generates approximately 65 TWh of electric energy annually and consumes approximately 75 TWh.[1] In 2021, renewable energy, mostly comprised of solar generators, accounted for a mere 8% of New Jersey's total in-state electricity generation.[2] Currently, the Board has approved 3.7 Gigawatts (3,700 Megawatts) of offshore wind power generating capacity and is set to solicit another 1.2 Gigawatts (1,200 Megawatts) this year.[3]

Reliability Benefits of Energy Storage

As the State of New Jersey establishes new air control rules[4] that may accelerate the retirement of many fossil fuel generating facilities, it is imperative that adequate quantities of carbon-free resources, like energy storage, are ready and available to replace these thermal resources to maintain resource adequacy and reliability. Energy storage is an absolute necessity for a successful transition to full reliance on intermittent renewable energy resources. With the duration and frequency of natural disasters increasing, energy storage has also demonstrated its ability throughout the US to provide grid stability, frequency control, and critical reliability services to the distribution and transmission systems to support resilience efforts.

It is important for New Jersey to remain a leader in this clean energy transition and develop an incentive program that galvanizes the energy storage industry and brings as many storage systems online, with as much capacity, and in the shortest amount of time as possible. These storage facilities should remain privately owned and operated to ensure there is no discrimination and the lowest cost to customers is achieved.

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[1] U.S. Dept. of Energy. State of New Jersey Energy Sector Risk Profile. https://www.energy.gov/sites/prod/files/2016/09/f33/NJ_Energy%20Sector%20Risk%20Profile.pdf

[2] U.S. Energy Information Administration. New Jersey Profile Analysis. https://www.eia.gov/state/analysis.php?sid=NJ

[3] *Id.*

[4] Department of Environmental Protection, Air Pollution Control, Control and Prohibition of Carbon Dioxide Emissions Adopted Amendments: N.J.A.C. 7:27-1.4, 1.36, 8.14, 8.15, 22.16, and 22.28; and 7:27A-3.2, 3.5, and 3.10 Adopted New Rules: N.J.A.C. 7:27F (Jan 3, 2023)

To that end, Elevate encourages the Board to adopt the following key recommendations and additional elements of the SIP to allow for a successful implementation of the program.

Elevate's Key Recommendations

Procurement Targets:

- At a minimum, fully procure by 2030 or before the 2,000 MWs already authorized.
- Increase the size of the program to at least 4 GW (4,000 MWs) by 2030 and 6 GW (6,000 MWs) by 2035.

Interconnection:

- To address the PJM Queue backlog and to incorporate the first-ready, first-served approach into the SIP, the following should be implemented: **(1) institute a conditional registration process whereby all Grid Supply projects must have a PJM Queue number to register in the SIP and further advancement in the SIP contingent upon remaining in the PJM Queue; and (2) impose a Commercial Operation Deadline for all SIP projects that is six months from the date of completion of all network upgrades required by the facility's executed interconnection agreement.**
- Promulgate a rule that any Grid Supply project that falls out of the PJM Queue for any reason will simultaneously have their conditional registration in the SIP canceled.

Fixed Incentive:

- Set the Fixed Incentive at **$150/kWh for energy year 2024**, which covers 30% of the fully installed cost of storage, according to NREL energy storage cost projections.
- The fixed incentive should be disbursed across a 10-year period.
- Set the Fixed Incentive annually prior to the start of each energy year using the most up-to-date NREL projected costs of storage for that year.

Performance Based Incentive ("PBI"):

- **Move forward with the use of the PJM Marginal Emission Rate ("MER") signal as a basis for Performance-Based Incentives** for Grid Supply energy storage systems.
- Do not allow EDCs to establish their own PBI. Establish a single, standardized PBI common to all EDCs.
- Allow responses to utility calls for peak demand reduction to be voluntary.
- Do not create a Demand Response program under the Performance Based Incentive.

Overburdened Communities:

- Establish an Overburdened Community ("OBC") **Capacity Block that is 60% of the overall SIP**, divided between Grid Supply and Distributed resources such that in every

energy year, **40% of the Grid Supply procurement** and 20% of the Distributed procurement is available for projects sited in OBCs.

- **Create a $20/MWh adder to the Fixed Incentive for projects located in OBCs**.

Program Caps:

- Do not impose caps on incentives for large or long duration projects.
- Do not impose a cap on the overall program.

The recommendations above are described in more detail below and offered to the Board for consideration. If the state's energy storage program is to begin registration of projects in 2024, recognizing the current PJM interconnection queue backlog, it is realistic that the projects contemplated may not be online for several years. The process of bringing 2,000, 4,000, or even 6,000 MWs of new energy storage capacity under regulatory purview in a prescribed period of time is a complex endeavor that should be simplified, to the greatest extent possible, and only projects with the greatest chance of success with a demonstrated ability to meet the necessary requirements and timelines for coming online be placed in the program.

In addition to the general overview above, below please find the answers and recommendations of Elevate Renewables to specific questions posed by the Board in the RFI.

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

The single most glaring disadvantage to constructing a government-run incentive program in which a public utility controls the energy stored in privately held storage facilities and can remove and use the energy at will is that the storage facilities are privately owned personal property. As such, the storage facility owners are free to make and enforce contracts with other parties to sell or transfer the energy stored within them with all the benefits, privileges, terms, and conditions of a contractual relationship without interference from the government in the form of compulsory calls to provide their private property, stored energy, to a public utility company. The fact that a developer has submitted a project for participation in a government-run incentive program should not affect the developer's ability to freely contract for sales of the facility's energy.

Further, under the Electric Discount and Energy Competition Act ("EDECA"), N.J.S.A. 48:3-49, et seq., Electric Distribution Companies ("EDCs") are not eligible to participate in the activity of producing stored energy for transmission onto the grid (generation services). Under EDECA, EDCs are limited to distribution services and energy storage should not change that paradigm.

However, while EDCs may not own or control energy storage facilities, because of the critical nature of industrial-level storage for a resilient, clean-energy power system, the Board should

support and encourage the EDCs entering into long-term sales agreements with grid-supply energy storage developers either directly through the EDC in a ratemaking process or through commercial, non-regulated EDC affiliates.

Further, although the EDCs should be allowed to "call" on storage facilities' energy during peak demand times, responses to the calls should not be and cannot be compulsory. The EDCs are fully capable of tracking the amount of interconnected storage capacity available in their territories and providing annual reports on the number of calls and responses in a given year. If, in any given year, there is an issue with storage facilities not voluntarily responding to requests for energy from the EDC, the EDC should be able to demonstrate that need to the Board. It is an unlikely scenario that storage facility owners will simply choose not to sell their power to the EDCs during times when the energy is most needed (the prices are highest). The private market is more agile and able to respond to and financially support the rapid development of the energy storage industry in a shorter amount of time than the EDCs, and there is simply no reason to muddy the regulatory waters by allowing the EDCs to own, control, or create compulsory calls for energy. Whether or not those compulsory calls are within the framework of a performance-based incentive program is not material.

It is imperative that the system for calling resources, tracking responses, and providing incentives to SIP participants be a uniform system that applies across the state and across EDC territories, as described in further detail in response to question 3.9 below. Additionally, at **no time during the course of this program or by virtue of participation in the program should the EDCs have control over the SIP Storage facilities' energy.**

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?

Elevate strongly encourages the Board to actively seek, propose, and support an increase in the state's 2,000 MW energy storage procurement target to 4,000 MWs by 2030, and 6,000 MWs by 2035. Grid-scale, dispatchable, in-state storage will be needed to accommodate the vast amounts of planned off-shore wind and other variable generation required to achieve a decarbonized grid by 2035 and to provide much-needed grid resiliency and grid support services. Increased energy storage increases the ability of variable renewable generation to meet state energy goals by reducing instances of curtailment. The more storage that is brought online, the less renewable energy is wasted, and the closer New Jersey comes to achieving its clean energy goals.

Energy Storage Contributes to GHG Reductions

Energy storage will reduce greenhouse gas emissions. For example, one study published by *Nature Communications*,[5] a peer-reviewed, open access, scientific journal published under the *Nature Portfolio*, demonstrated that the deployment of energy storage programs in both California and

[5] Arbabzadeh, M., Sioshansi, R., Johnson, J.X. *et al. The role of energy storage in deep decarbonization of electricity production.* Nat Commun. **10**, 3413 (2019). https://doi.org/10.1038/s41467-019-11161-5

Texas were able to significantly increase the percentage of CO_2 reductions made possible by the renewable energy programs in those states. For example, in California, without energy storage, adding 60 GW of renewable energy to the existing energy load achieves a 72% reduction in current CO_2 levels but, unfortunately, close to one third of the energy from such facilities is regularly curtailed due to hosting capacity and transmission issues. With the addition of energy storage technologies, up to 90% in CO_2 reductions can be achieved from the same renewable facilities with as little as 9% energy curtailment. In depth studies from credible scientific researchers such as these are needed to understand exactly what effect the SIP program will have on GHG emissions in New Jersey. However, results indicate that bringing a significant amount of grid-supply energy storage online has a measurable impact on GHG emission reduction.

Undeniably, as the state moves towards full reliance on intermittently available clean energy sources, a robust, effective, and well-run energy storage program will prove to be the backbone of the entire modernized energy grid. Because achieving the goals of the SuSI, energy efficiency, and demand response initiatives put forth by the state will depend on an expansive, functioning, energy storage infrastructure, it is vital to the achievement of grid modernization and decarbonization in New Jersey that the SIP is structured to incentivize as much energy storage capacity as possible, as quickly as possible. Storage must be put in place *now* to offer these necessary grid support services when the projected megawatts of Offshore Wind and other variable resources arrive.

With the PJM queue backlogs presenting significant interconnection delays, it is vital to the rapid development of an energy storage market in New Jersey that the SIP open to as many qualified applicants and procure as much energy storage capacity as possible at the outset of the program. NJ should gradually step down procurement over time in the years nearing the program's announced sunset. The ability of energy storage to enable the integration of great amounts of anticipated variable renewable energy resources and the ability to provide grid resiliency and support services further underscores the need to have energy storage projects come online as quickly as possible. This in-like-a-lion, out-like-a -lamb approach is the most logical approach for a prime-to-pump program that intends to jump-start, and then enable a sustainable and independently-functioning storage industry in New Jersey.

The Potential Impacts of PJM Interconnection Queue Delays

In order to achieve the greatest amount of installed energy storage capacity by 2030, and to truly endeavor to meet the goals of the Clean Energy Act, the SIP must procure the greatest number of MWs in the first years and decrease procurement in the latter years to combat the potential for project withdrawals and attrition.

Given the PJM queue backlog, and as stated in the SIP Straw Proposal, "[p]rojects that entered before the fourth quarter of 2021 are projected to reach Final Interconnection Agreements by mid-2026. All other projects [are] delayed in reaching Final Interconnection Agreements until mid-to-late 2027."[6]

If you were to consider a six-year program in which the SIP-proposed procurement figures are flipped and larger MW totals procured upfront, for example, 1,320 MWhs registered in the first

[6] *SIP Straw Proposal, page 30.*

year of the program (2024) rather than in the last year of the program (2030), New Jersey **would see a significant portion of the overall energy storage target come online in years 2027 and 2028**. If 800 MWs were to be procured in 2025, those projects can be expected to come online in approximately years 2028 and 2029, and so forth. A program that allows larger grid-supply projects to enter in the first year, by virtue of a requirement to present a PJM Queue number and other program-ready demonstrations, there will be significant amounts of energy storage integrated into the system as a result of these milestone requirements. The addition of a rule that projects must achieve commercial operation six months from the date of completion of all network upgrades required by the facility's executed interconnection agreement further increases the chance of projects in the SIP moving to operation.

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

Yes. The Board should determine specific project maturity requirements similar to the "First-Ready, First-Served" policy adopted by PJM Interconnection, LLC ("PJM").

Elements of a First Ready, First Serve Approach

First, the Board should adopt the following project registration criteria:

- A non-refundable solicitation participation fee of $1,000 per MW of nameplate capacity;
- A description of the project, including storage technology type and discharge capacity in MWh;
- Evidence of site control, consistent with the standards used by PJM;
- A site plan signed and sealed by a licensed professional engineer;
- Demonstration of financial capability of the owner or project investor(s) to finance the project; and
- Evidence of PJM Queue position and projected Final Interconnection Agreement date.

Second, in the interest of administrative ease and clarity for the development community, it is strongly recommended that the Board adopt two additional processes:

(1) Allow all Grid-Supply projects with a PJM queue number and demonstration of the above-referenced eligibility criteria to enter the program with an accompanying rule that any project that falls out of the PJM queue will also have their SIP registration canceled and participation fee forfeited.

The suggested rule is simple and easily understandable by all parties, which allows for the First-Ready, First-Served policy adopted by PJM to be replicated in the NJ SIP registration process. This could provide an alternative to the Board expending countless resources to develop such a process from scratch.

(2) All Projects should be given a Commercial Operation Deadline that is six months from the date of completion of all network upgrades required by the facility's executed interconnection agreement if it's a Grid-Supply project that is conditionally registered under the SIP Program

by virtue of demonstrating it has an active PJM Queue number and progressing through the interconnection queue.

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?

Interconnection delays cannot be avoided or minimized, but they can be planned for and integrated into the SIP Program such that project completion is relative to the PJM or EDC interconnection timelines provided to the developers.

Eliminate Option to Renew Proposal

While the Straw Proposal acknowledges the commercial risk that strict adherence to program deadlines creates, the proposed 'option to renew' is, at best, an imperfect solution to the problem. Because the option to renew forces developers to accept a lower incentive rate and restarts the three-year project deadline clock, kicking other projects out of line, which may have been waiting significant amounts of time to secure their position in the program; it should be seen only as a last resort for projects in dire need of program assistance. Most projects will not fall into this category.

The bulk of projects that run up against time constraints due to supply chain, permitting, or interconnection issues will be able to address those issues within a six- or twelve-month extension period. These projects should not be financially penalized because a municipal permit took three months longer than expected, a vital facility component was on backorder, or because of another similar delay-causing issue. Simply allowing deadline extensions in six-month increments by way of application and explanation to the Board or the Board's program administrator is more likely to encourage project completion than creating a single extension that may be viewed by program participants as a disincentive.

It is important to note that developers are already strongly incentivized to finish their projects from a purely financial perspective. Most developers' projects are undertaken with the financial backing of investors who have calculated a return on their investment based on the projected commercial operation date of the facility. When a project goes over that anticipated timeline, there may be legal and financial ramifications for the project beyond that imposed by the Board.

Any state incentive program designed to attract private capital and to support the development of a private industry should not make imposition of program deadlines a primary concern, nor does the strict imposition of program deadlines affect the market conditions developers face. Rather, if the Board is concerned with promoting the deployment of private capital through the establishment of a stable market structure that attracts low-cost capital, the Board should create safety nets for developers and their investors that ensure that projects will maintain their incentives at the levels anticipated in the financial models of the projects, even if project completion occurs two, three, or five months after initially expected.

Recommendation 1: All Grid-Supply projects should be given a Commercial Operation Deadline that is six months from the date of completion of all

network upgrades required by the facility's executed interconnection agreement.

Recommendation 2: The Board should adopt the proposed grid modernization rules that require the EDCs to update their hosting capacity maps.

Recommendation 3: The Board should allow up to two six-month extensions of the COD deadline for both Grid Supply and Distributed resources prior to enforcing the 'option to renew' solution proposed in the SIP Straw Proposal.

3.0 Incentive Structure

3.1 Incentives are meant to cover a portion of the fully installed cost of an energy storage system. What is the fully installed unit cost (in $/kWh) for energy storage systems at present, and estimated to be each year through 2030? How do New Jersey-specific costs vary from these estimates? Please provide links to your references.

As mentioned in the SIP Straw Proposal, the U.S. Department of Energy's National Renewable Energy Lab ("NREL") regularly produces a cost-of-storage report, *Cost Projections for Utility-Scale Battery Storage: 2023 Update*[7] (the "NREL Storage Costs Report"), which provides projections of the overall capital cost for the development of 4-hour utility-scale lithium-ion battery systems, based on its review of the authoritative literature on the subject and their own developed projections. These projections form the basis for NREL's Annual Technology Baseline report and are used in NREL's capacity expansion models, including the Regional Energy Deployment System (ReEDS) (Ho et al. 2021) and the Resource Planning Model (RPM) (Mai et al. 2013). According to the NREL Storage Costs Report, the projected cost of storage in 2030 at the low, median, and highest possible values is projected to be $245/kWh, $326/kWh, and $403/kWh in 2030.

As stated in the SIP Straw Proposal, the fixed portion of the NJ SIP incentive "is intended to cover approximately 30% of the total fully installed cost of the project." *SIP Straw Proposal*, p. 15. In order to account for the rising cost of storage[8] due to supply chain,[9] inflation, rare earth element scarcity,[10] and other development issues and costs, the Board should, as policy, take the highest projected value for the fully installed cost of storage as issued in the most-up-to date NREL Storage

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[7] Cole, Wesley, and Akash Karmakar. 2023. *Cost Projections for Utility-Scale Battery Storage: 2023 Update*. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A40-85332. https://www.nrel.gov/docs/fy23osti/85332.pdf.

[8] Arora, Neeraj, et al. *The Rise of Energy Storage*, Morgan Lewis, Mar, 08, 2023, https://www.morganlewis.com/pubs/2023/03/the-rise-of-energy.storage#:~:text=The%20increased%20demand%20for%20batteries,2021%20to%20%241%2C993%20in%202022.

[9] *Top Ten Energy Storage Trends in 2023*, BlombergNEF, Jan. 11, 2023, https://about.bnef.com/blog/top-10-energy-storage-trends-in-2023/

[10] Kim, Tae-Yoon. *Critical Minerals Threaten a Decades Long Trend of Cost Declines for Clean Energy Technologies*, May 18, 2022, https://www.iea.org/commentaries/critical-minerals-threaten-a-decades-long-trend-of-cost-declines-for-clean-energy-technologies

Costs Report and calculate 30% of that value. The resulting cost would be the fixed portion of the incentive. This incentive amount should be announced to program participants prior to the start of each energy year.

The ability of energy storage to mitigate fuel shortages, reduce reliance on dual fuel operations, avoid load shedding, reduce peak demand costs and generation demands, provide back up in instances of blackouts and brownouts, and to facilitate the continuous use of intermittent renewable resources in conjunction with the short duration of the storage incentive program provides ample justification for the use of the highest-value projected cost over and above any other figure provided in the report.[11]

$150 kW/h Fixed Incentive Payment Recommended Over a 10-Year Period

Fixed-Incentive Level Required to Cover 30%
of Fully Installed Cost of Storage per NREL 2023 Cost Projections
***all values provided in U.S. dollars / kWh**

Year	NREL Cost Projections	Fixed Incentive Required to Cover 30% of the Cost to Install
2024	503	150.9
2025	496	148.8
2026	477	143.1
2027	459	137.7
2028	440	132
2029	422	126.6
2030	403	120.9

As the Board is aware, an adequate upfront fixed incentive payment will be necessary to galvanize a sustainable energy storage market in New Jersey and provide the reliability measures required of a thriving clean energy grid, as well as the social and environmental justice benefits that storage provides.

If the SIP Program is to open to new applicants in Energy Year 2024, the Fixed Portion of the Incentive should be $150/kWh. Elevate supports the Staff's proposal to make the Fixed Portion of the Incentive payable annually over a 10-year period.

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

No, fixed incentives should not be assignable to an aggregator.

[11] *See* the NYSERDA Energy Storage figures which project that the energy storage program in that state will provide roughly $3 billion in gross benefits, avoid more than 2 million metric tons of CO2 emissions, and create approximately 30,000 jobs. https://www.nyserda.ny.gov/All-Programs/Energy-Storage-Program/Energy-Storage-for-Your-Business/Demand-Response-Programs

Fixed incentives should be assignable to related legal entities, such as from a parent company to an affiliate, an affiliate company to a parent, or an affiliate to affiliate, but incentives should not be transferrable or assignable to unrelated, third-party aggregators.

The fixed incentive offered under the SIP program is offered for the express purpose of covering 30% of the fully installed cost of developing and constructing the storage facilities that are participating in the program. Such development and construction costs are not born by an energy aggregator and there would be no purpose for an aggregator to assume the value of the fixed incentives other than an investor-developer or affiliate relationship.

3.5 The Straw proposes the use of the PJM Marginal Emission Rate ("MER") signal as a basis for Performance-based Incentives for Grid Supply energy storage systems. Is or will the PJM MER be sufficiently developed to use to calculate NJ SIP Performance-based Incentives?

Yes, availability of storage units as tracked by PJM using the MER signal is sufficient as the basis for the performance-based portion of the incentive. The Board should consider this option as far superior to attempting to develop a Peak Demand Reduction program, as discussed below.

3.6 Is there a different methodology that can be used to determine Performance-based Incentives, such as a Peak Demand Reduction Program?

No, the Board should not create a Peak Demand Reduction Program. Demand reduction is embedded in and inherent to energy storage bidding characteristics – batteries respond to pricing signals. Batteries are incentivized, through the market, to buy power when there is excess (when electricity is cheapest) and to discharge during peak demand events (when purchase prices are the highest). If the Board was to create a Peak Demand Reduction Program within the SIP, it is possible that such a "shadow market" would perversely create incentives for facility owners to bid in ways that are outside of the existing market parameters. This scenario would disrupt the natural price fluctuations that the industry has come to operate within and expect.

3.8 What degree/percentage of Peak Demand should be targeted for reduction? What effect would such a program have on GHG emissions?

It is not clear that a Peak Demand Reduction Program would reduce greenhouse gas emissions in New Jersey. The Wisconsin Department of Administration Division of Energy conducted an in-depth study in which peak demand and greenhouse gas reduction measures were compared. The results found that peak demand reduction in that state was in direct opposition to energy goals related to the reduction of greenhouse gas emissions.[12] The Wisconsin Division of Energy concluded:

[12] *See* Erickson, J., et al, *Peak Demand Reduction vs. Emission Savings: When Does It Pay to Chase Emissions?*, produced by the Wisconsin Department of Administration Division of Energy. https://www.aceee.org/files/proceedings/2004/data/papers/SS04_Panel5_Paper08.pdf

> The analysis behind this paper was designed to provide information to policy makers and program designers to aid them in deciding whether and (if yes) how to target energy efficiency measures to achieve emissions reduction. We created a model and approach for estimating the conditions under which an energy efficiency measure would produce more value from emissions savings than from demand reduction. In Wisconsin, public benefits programs are charged with saving energy, improving system reliability (which brings with it the goal of reducing peak demand), and mitigating the environmental impacts of energy use. Our emissions model demonstrated that energy savings in off-peak hours and particularly winter off-peak hours produce the highest emissions savings in Wisconsin. This places the objectives of demand reduction and emission savings in direct opposition.

While further, in-depth studies would be needed to determine the effect that a Peak Demand Reduction program would have on greenhouse gases in New Jersey, it is not necessary to assume such an undertaking in the implementation of the SIP program. As currently proposed, the use of the PJM MER will allow the Board to track GHG reductions based on availability of the units and will be effective in lowering emissions.

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?

The EDCs should not be permitted to establish their own Performance-Based Incentives ("PBIs"); the incentives should be standardized and common to all EDCs. Elevate has experience with the implementation of a rule in which utility companies were given the ability to create individualized incentives in the state of Connecticut. Elevate's comments below reflect that lived experience. Elevate strongly urges the Board against implementing such a rule.Primarily,the EDC-specific incentive could create competition among developers with regard to the most market-favorable EDC territory based on the EDC's PBI. This potential outcome could present the following disadvantages:

(1) Disparities may arise between similarly situated projects whose only or main differences lie in the EDC territory in which they are located;

(2) The Board's efforts to direct development in areas designated as historically overburdened ("OBCs") may be undermined as developers may choose to seek out the most desirable EDC-specific PBI over any OBC credit offered by the Board;

In addition to misplaced competitive practices, an EDC-specific incentive structure can create market confusion. When EDCs are allowed to create individualized programs, inequities and lack of program and financial certainty can result. Such a lack of conformity may add to the complexity of the program.

Contrarily, the benefits of standardized PBIs include:

(1) Providing reliability and dependability to the market;

(2) Ensuring uniform treatment of projects despite their location within the state; and

(3) Providing clarity of the amount and nature of the incentive to the market.

3.13 Large projects and long duration projects have the potential to qualify for significant incentives. Should incentive caps be applied in this program? If so, how (for example, by customer, project, developer, duration, or meter), or other method?

No. Placing an incentive cap on large projects and long duration projects would only decrease the number of projects participating in the program and limit the number of developers willing to do business in the state of New Jersey. As noted at the outset, New Jersey consumes approximately 75 TWh of electric energy every year. In 2021, renewable energy, mostly comprised of solar generators, accounted for a mere 8% of New Jersey's total in-state electricity generation. And currently, the Board has 3.7 Gigawatts of approved offshore wind power generating capacity and is set to solicit another 1.2 Gigawatts this year. Storage is inextricably linked to the success of the transition to clean energy and, as one group of analysts noted, energy storage is "the technology that will cash the checks written by the renewable energy industry."[13] Restricting the size of energy storage facilities that are eligible for incentives, or restricting the amount of incentives any one facility can receive, is highly counter-productive to achieving the state's clean energy goals and to the success of the SIP. **The Board should focus on ensuring the most reliable projects mature to commercial operation to offer the expected benefits to the state, the utility, and its customers.**

3.14 Should a cap be set such that the sum of federal and state incentives does not exceed a certain amount? If so, please provide details.

No. While Elevate is continuously mindful of the effect that the introduction of clean energy infrastructure has on ratepayers, a cost cap is not necessary for the Storage Incentive Program at this time. In the first instance, it is important to recognize that **the cost cap imposed on the Cost-Cap Applicable Programs under the ADI and other solar programs was established under direct statutory authority. No such statutory authority exists in this instance.** Secondly, it is also worth noting that the Cost-Cap Applicable Programs have not yet seen a year in which the cost cap has been approached, let alone exceeded, which is an indication that the Board's incentive programs are not creating a situation in which ratepayers are paying excessively to support them. Further, as discussed below, **locating grid-supply energy storage facilities on existing thermal facilities yields cost *savings* to ratepayers by utilizing existing infrastructure and capacity interconnection rights of the existing thermal generating facility.** For all these reasons, there is no need to impose a cost cap on the Storage Incentive Program at this time.

[13] Arora, Neeraj, et al. *The Rise of Energy Storage*, Morgan Lewis, Mar, 08, 2023, https://www.morganlewis.com/pubs/2023/03/the-rise-of-energy.storage#:~:text=The%20increased%20demand%20for%20batteries,2021%20to%20%241%2C993%20in%202022

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 overtime?

The Board should consider adopting the Clean Energy Program post-construction certification package approach for monitoring, reporting, and project evaluation.

- The Board should adopt the use of the milestone reporting forms used in the solar programs for the SIP. Milestone reporting forms are straightforward, and many developers and Board administrators are already familiar with using them.

- Evaluation of project completion should also mirror the various solar programs of the Clean Energy Program in which post-construction certification packages are submitted, which would include a final "as built" technical worksheet; digital photographs of the site and the completed facility; an estimate of the electricity storage capabilities of the facility; documentation of compliance with all applicable federal, state, and local laws, including eligibility for any tax incentives or other government benefits; and a copy of the EDC or PJM approval to interconnect the facility. Once the post-construction certification packages are submitted and reviewed, the facility would either be inspected by the SIP program manager or the inspection would be waived, and a certification for the SIP incentive would be issued.

4.0 Overburdened Community Incentives

4.1 Staff is considering establishing both an adder and a capacity block for OBCs. What size should the capacity blocks be over time as a percentage of the overall Distributed segment? How much should the adder be in 1) $/kWh or 2) as a percentage of the base incentive?

The Board Should Adopt an OBC Block That is 60% of the Overall Procurement and a $20 Adder to the Fixed Incentive Amount

The OBC capacity block should be 60% percent of the overall procurement strategy for the program**.** In any given year, **40% percent of the OBC MW procured should be targeted for Grid Supply projects and 20% percent of the OBC MW procured should be reserved for Distributed projects.** In order to prioritize clean energy investments in overburdened communities in New Jersey, the SIP should target 60% of the yearly procurement of storage project MWs to come from projects developed and deployed within OBCs. In any given year, if any capacity blocks are underfilled, the remaining capacity should be eligible for another block, as determined by the Board.

The recommended percentage of the overall SIP program and recommended percentage to be dedicated to the Grid Supply portion of the SIP program is warranted. Carbon-free resources, like energy storage, located in OBCs work to improve public health outcomes and create job opportunities for the community residents.

Benefits of Grid-Supply Storage Located on Brownfields in OBCs

The Board has a unique opportunity with the Storage Incentive Program to make a pivotal decision about the placement of grid-supply energy storage facilities in the state. Distributed systems can make a small impact on overburdened communities, but Grid-Supply, and particularly Grid-Supply Energy Storage sited on Brownfields and existing energy infrastructure sites, are at the heart of the climate change issue and will be the difference between taking modest, incremental steps toward achieving the state's clean energy goals and taking the significant steps required to create long-standing, structural change in traditional overburdened and environmental justice communities.

The Board should consider the placement of grid-supply storage facilities on brownfield sites in OBCs as an opportunity to:

1. **Achieve emission reduction goals by targeting existing energy infrastructure with adjacent, carbon-free output facilities;**

2. **Walk in lock-step with the goals of the Brownfields and Contaminated Site Remediation Act ("The Brownfields Act");**

3. **Positively affect public health outcomes in OBCs by reducing the need to utilize fossil-fuels at their "peak"; and**

4. **Allow the economic benefits (tax base) of energy infrastructure to remain in the OBCs and allow the jobs created by the new, clean infrastructure to be filled by the people of the community.**

The Board's Storage Incentive Program must prioritize clean energy investments in OBCs and strongly incentivize Grid-Supply storage located on Brownfields in OBCs. The Board should target traditional energy infrastructure sites with the purpose of addressing the unwanted public health outcomes associated with them and ensuring that the local economies that have depended on the presence of industrial fossil-fuel powered plants are included in the clean energy transition. Without this kind of targeted evolution, the Board risks incentivizing the construction of grid-supply clean energy systems in communities that have historically received the benefit but not the burden of traditional energy infrastructure and leaving overburdened communities without a new economic market to replace the fossil-fuel plants that will eventually be closed in them. The SIP Program has an opportunity to begin incentivizing this transition and to guarantee that grid-supply energy storage facilities are brought online in these locations by 2030

Ratepayer Savings from Avoiding Infrastructure Upgrade Costs

In addition to reducing public health burdens, locating energy storage facilities on existing thermal facilities yields cost savings to ratepayers by utilizing existing infrastructure and capacity interconnection rights of the existing thermal generating facility, as well as accelerating development and deployment of energy storage that will actually materialize to meet the state's energy storage procurement goals. Developers of storage on these sites already possess site control

and scarce transmission infrastructure is already present. This will allow for prioritizing carbon-free, clean energy investments in overburdened communities.

As the state's largest grid-supply energy storage developer, Elevate submits that there are two models that depict options for energy storage resources to locate on existing thermal generating facilities:

(1) **Co-location**. Addition of a new battery to an existing power plant whereby each operates independently and has its own interconnection.

(2) **Hybridization**. Addition of a new battery to an existing power plant site whereby the assets operate in a coordinated fashion. The assets will share the same point of interconnection.

The benefit of the hybridization approach is that it reduces the runtime of the existing thermal plant and ramps up the operations and run time of the carbon-free energy storage output thus more succinctly reducing the emissions of the existing thermal plant.

Elevate strongly encourages the Board to build the grid-supply portion of the OBC block into the SIP because of the many reliability, health, and societal benefits these projects confer on the general population which are discussed above.

Elevate Recommends a $20 Adder to the Fixed Incentive for Projects Located in OBCs

The Board should provide a $20 adder to the fixed incentive for projects located on OBCs, brownfields, and landfills. **The $20 adder value would be easily adopted by the Board administrative staff and the development community because the $20 adder for public entities is a familiar aspect of the SuSI Program.** Coincidentally, there is significant overlap and exchange of information between the solar and storage development communities.

CONCLUSION

Elevate thanks the Board for the opportunity to elaborate on its comments regarding the New Jersey Storage Incentive Program and is happy to discuss these suggestions, and any other topics, as applicable, with the Board.

Thank you for your attention to this matter. Please contact the undersigned if you have any questions.

Sincerely,

Tonja Wicks
Vice President, Regulatory Affairs
Elevate Renewables

Cc: Eric Cherniss, Elevate Renewables

September 19, 2023