IN THE MATTER OF THE NEW JERSEY ENERGY STORAGE INCENTIVE PROGRAM REQUEST FOR INFORMATION

Docket No. QO22080540

Comments of Rockland Electric Company
September 19, 2023

Rockland Electric Company ("RECO" or "the Company") submits these comments in response to the Request for Information ("RFI") dated August 8, 2023 issued by the Staff of the Board of Public Utilities ("BPU") requesting responses regarding the New Jersey Energy Storage Incentive Program ("NJ SIP").

The State of New Jersey has one of the most ambitious storage targets in the Nation, with a statutory mandate to achieve 600 megawatts ("MW") of installed energy storage by 2021, growing to 2,000 MW by 2030. New Jersey must ramp-up its deployment of energy storage to meet the State's ambitious 2030 goals.

RECO supports the State's efforts to encourage energy storage deployment. Electric Distribution Companies ("EDCs") have an important role to play in achieving the State's energy storage goals. The EDCs' have extensive expertise and experience in operating the electric grid and are uniquely situated to unlock the benefits that energy storage can provide. To further bolster the State's ability to meet its storage goals, the BPU should permit EDCs to own energy storage assets as a means to kick start the market, and to take advantage of the EDCs' expertise in operating the electric grid and unlocking the benefits that energy storage can provide. At the same time, the BPU can leverage another business model that third parties can participate in,

In addition, RECO recommends that the BPU approve full and timely recovery of the incremental costs that EDCs incur for energy storage related activities. Moreover, incentives paid to third parties to own and operate energy storage must be properly structured to encourage optimal deployment while minimizing ratepayer bill impacts. To accomplish this, incentives should account for other value streams earned by the energy storage asset owner and should be tied to the benefits provided to the electric grid. Receipt of incentives and penalties via the NJSIP should be tied directly to the performance by storage asset owners when called upon to perform.

The Company submits the following responses to the RFI, which correspond to the RFI numbering of the questions.

1.0 Utility Ownership/Dispatch Control

The Straw Proposal "does not propose to allow for utility ownership or operation of devices," but notes that "EDCs will play a key role in building the grid infrastructure necessary to enable the effective dispatch of energy storage devices." This proposal was intended to encourage private ownership and operation of energy storage devices and the development of a robust energy storage sector in New Jersey's restructured competitive market.

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

The advantage of having utility-controlled energy storage systems ("ESS") is the EDCs have the ability to utilize fully the flexible nature of energy storage and maximize the real-time benefits to their electric systems. RECO disagrees with the Straw Proposal's recommendation to not permit EDCs to own and operate ESS. Because of the EDCs' insight into system operations, EDC ownership will allow for easier system integration and real-time control and operation for reliability and resiliency purposes. EDC ownership would also allow the EDC to prioritize developing projects based on system need and operate deployed batteries more efficiently for real time emergent system needs. Finally, any net revenues realized from EDC-owned energy storage deployment (e.g., wholesale market revenues) could be credited back to ratepayers to minimize bill impacts.

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

Under the performance-based incentive program, when the resource owner is contractually obligated to respond to a utility call, the resource owner's response should be compulsory. However, there may be periods when the response is voluntary. For example, under one scenario there may be a contractual obligation for the behind-the-meter ESS to be available and respond to a maximum number of utility signal calls in a given time period for local distribution load relief. When called on during the contractually obligated period, the responses should be compulsory, and penalties should be imposed for non-performance.

However, if there is no remaining obligation between the ESS and the grid operators (*e.g.*, during the shoulder months), the resource owner's response should be voluntary. This would allow for the resource owner to develop operational plans to maximize their benefits based on other market opportunities (*e.g.*, demand reduction, energy arbitrage, marginal emissions).

Allowing flexibility in the EDC and resource owners contractual agreement will allow the market to evolve and provide maximum benefits to both support the operation of the electric grid and to maximize the resource owner's return on investment.

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

With Grid Supply resources providing support as a clean capacity resource or for distribution load relief, responses to market signal should be mandatory, and penalties should be imposed for non-performance. If an energy storage asset does not meet 95 percent of its contractual obligations to respond when called upon, the incentive, including both the performance and non-performance-based components, should be reduced accordingly with the potential forfeiture of the entire incentive for the year. In addition, RECO recommends that resources that fail to meet the 95 percent response as described above for multiple years should be derated and their annual incentive should be decreased accordingly. Moreover, if an asset fails to meet the 95 percent performance metric for three years or if during any one year, the asset's performance falls below 70 percent, the

asset should be removed from the NJSIP. To enable a program where storage assets provide benefits, EDCs will need to execute contracts with storage asset owners to set forth the specific needs of the EDCs and detail the requirements to be part of the NJ SIP. The BPU should establish standards (reporting, proof) for storage owners to determine the availability of an asset.The Straw Proposal also proposes to provide a performance-based incentive for Grid Supply storage resources designed to encourage the operation of storage assets in a manner that maximizes environmental benefits and supports the electric grid during times of operational stress. RECO cautions that if Grid Supply ESS resources are used for other performance-based incentives (*e.g.*, marginal emissions reductions) this could reduce the availability of the unit for capacity and distribution load relief. The BPU must take this into consideration as it develops the rules for Grid Supply performance incentives.

2.0 Installed Storage Targets, Deployment Timelines and Capacity Blocks

The Straw set annual installed energy storage targets that increase over time (see section V. D. of the NJ SIP Straw Proposal for details).

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?

RECO supports the declining block incentive that was proposed by the Straw Proposal, with its parameters of annual block sizes and declining incentives. RECO also supports the 3 to 1 ratio of Grid Supply to Distributed Supply ESS incentives. The energy storage market is still in the early stage of development and volatility in market revenues and equipment costs may cause additional strain on an energy storage project's economics. A fixed, declining block incentive will inject certainty into the third-party ownership model.

Additionally, RECO supports the BPU's ability to perform periodic reviews of the incentive structure and allow for the modifications to the block targets and incentives as needed to achieve the State's energy storage goals at the most economical costs.

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

RECO supports the change to a "First Ready, First Serve" application process. This approach should be consistent and in coordination with the approach being developed in the New Jersey Grid Modernization proceeding. This would allow for an efficient queue process and maximize the deployment of ESS systems, along with facilitating the EDC's planning and forecasting requirements.

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?

RECO supports the integration of energy storage into each EDC's specific queue management system. To minimize interconnection delays, queue management policy as proposed in the Grid Mod N.J.A.C revision should be leveraged to identify energy storage projects that meet minimum standards and are likely to meet their anticipated in-service date. Eliminating energy storage

projects that do not have the proper permits in place will free up incentive dollars for other more viable energy storage projects. An energy storage project seeking SIP funding for the upcoming year should have local permits and a siting plan approved in order to participate in the NJ SIP. The interconnection process should be revied in the appropriate technical working group to optimize for energy storage projects.

3.0 Incentive Structure

The NJ SIP incentives are proposed to be comprised of two incentive payments, a Fixed Incentive and a Performance-based Incentive (see section V. E. of the NJ SIP Straw Proposal for details).

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 described in the Straw Proposal, according to studies performed by the by US Department of Energy's National Renewable Lab ("NREL"), the 2025 estimated total capital cost of four-hour lithium-ion battery storage systems are in the range of $200-$300/kWh and is projected to drop to $150-$250/kWH by 2030.

We believe the estimated capital costs provided in the NREL study are lower than what can be expected in the Northeast region. Based on several recent projects in RECO's parent company Orange and Rockland Utilities, Inc. ("O&R") service territory, the total capital costs for Lithium-Ion battery storage systems have exceeded $600/kwh.

3.2 What are the best public data sets for energy storage costs?

Along with the NREL report described in the Straw Proposal, some other public data sets for energy storage costs include the following:

- DOE Office of Efficiency & Renewable Energy's 2022 Grid Energy Storage Technology Cost and Performance Assessment - 2022 Grid Energy Storage Technology Cost and Performance Assessment | Department of Energy; and
- BloombergNEF – Top 10 Energy Storage Trends in 2023 - Top 10 Energy Storage Trends in 2023 | BloombergNEF (bnef.com).

3.3 Should Fixed Incentives be assignable to an aggregator?[1] Why or why not?

RECO supports the concept of allowing fixed incentives to be assignable to an aggregator. This would provide an alternate competitive market mechanism and further promote the installation of ESS resources. Having multiple ESSs controlled through an aggregator could result in an efficient deployment of the ESS resources. Under this scenario, the aggregator should be responsible for dispatching the resources when called upon and should be under the same terms and conditions as if there were a single ESS resource. The incentive and performance-based incentives would go

[1] An aggregator is a third party that has an agreement with the owners of multiple energy storage systems to manage the energy storage systems on behalf of the owner.

directly to the aggregator who would provide the aggregation participants with benefits through separate contractual arrangements.

For behind-the-meter, or Distributed projects, monitoring and enabling FERC Order No. 2222 will be essential for the success of this sector. FERC Order No. 2222 should enable the aggregation of smaller storage assets, thereby facilitating their participation in and financial benefit from the wholesale market.

3.4 Should a Distributed energy storage resource that can provide grid services have the ability to opt in to either the Grid Supply or the Distributed storage program, for both the Fixed and Performance-based incentives?

Distributed Energy resources that can provide both grid services and earn performance based incentives should have the ability to opt-in to either the Grid Supply program, or Distributed storage program, but not both. If the resource owner opts-in to the Grid Supply program, the operation of the ESS must be prioritized as a capacity resource and distribution system relief.

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?

RECO supports the long-term initiative of utilizing ESS resources to replace fossil generation as a variable resource to reduce greenhouse gas emissions. However, RECO believes that the operation of ESS resources based on the PJM MER should not be implemented until the program is more fully developed and the MERs become less volatile and more predictable. Under present PJM MER conditions, there is a potential for an ESS trying to optimize greenhouse gas ("GHG") reductions to be charging during times of high energy demand which could place a strain on the electric grid. It also could reduce the availability of the ESS as a capacity resource or for distribution load relief. In addition, the round-trip inefficiency of the ESS may result in increased GHG emissions.

RECO recommends that, prior to adopting this standard, the BPU should monitor MERs more closely to understand the relationship between energy storage optimization for MER and how it affects an EDC's daily system reliability and operation.

For these reasons, RECO recommends that performance-based component for a Grid Supply be focused primarily on electric grid benefits and not on GHG emission reductions as proposed in the Straw Proposal.

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

RECO recommends that the BPU explore the use of ESS for NWA projects in which utilities identify electric grid needs and solicit the market for ESS and other DER resources to defer and/or offset more traditional grid investments. This value stream is performance-based and can reduce the need for non-performance-based incentives. Pairing energy storage with traditional electric

grid investments to add flexibility and resiliency can provide benefits to all ratepayers when operated in a manner that supports decreased traditional electric grid investments.

3.7 If a Peak Demand Reduction program were to be developed, how should it be structured? What other states have similar programs that New Jersey should use as a benchmark?

RECO recommends that an NWA program with the ability to incorporate utility owned storage into strategic locations in our system (*e.g.*, substations) should be developed similar to New York's program developed under the Reforming the Energy Vision (REV) Track 1 Order.[2]

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

This would be dependent on the location and contractual obligation of the ESS. For example, an ESS providing distribution system load relief under a NWA arrangement may operate more frequently than one that is only being utilized only as a PJM Capacity resource.

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?

RECO recommends that the BPU establish a standard framework across the State but allow flexibility for individual EDC site-specific performance incentives. The standard framework should define the standard incentive categories and implementation procedures. The EDCs should have the flexibility to modify the performance incentives based on each utility's distribution system needs. This would result in an efficient program that could maximize benefits to both the resource owners and the EDCs.

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?

This should be site specific and dependent on whether there is a contractual agreement for distribution load relief with the connected EDC. If an ESS is located behind-the-meter and has no obligation to provide distribution load relief, then there no need for utility control.

3.11 How should incentives be structured for thermal storage systems?

The program should be technology agnostic and the incentives should be no different for any proven and approved ESS technology.

3.12 Under what circumstances, if any, should Distributed resources be able to opt in to Grid Supply Performance-based Incentives?

RECO recommends that the ESS should be given a one-time option to opt-in to Grid Supply Performance incentives at the commencement of the unit's operation. For systems that could

[2] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Adopting Regulatory Policy Framework and Implementation Plan https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={0B599D87-445B-4197-9815-24C27623A6A0}

provide local electric distribution support, the resource owner and the EDC could negotiate the operating parameters needed for electric grid system support. The contractual obligations would then be integrated into the resource owner's business plan.

In addition, there may be cases where local distribution support services are not needed, but the ESS could provide benefits to the PJM electric grid. These systems should also be provided the opportunity to opt-in to the Grid Supply performance incentives if the investment shows better opportunities for return under the Grid supply performance incentives.

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?

To allow for ESS diversity along with spreading ESS resources across all of the EDC service territories, RECO recommends that incentives be capped at reasonable size limits based on capacity. This would result in the incentives being spread across multiple projects and service territories and lower the operational risk of a large project not being available when called upon (*i.e.*, putting all our eggs in one basket).

RECO further recommends that the annual targets be allocated among the State's four EDC service territories based on a load share ratio. This structure will offer the opportunity for deployment of energy storage assets throughout the State so that all residents can enjoy the benefits that energy storage offers.

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.

The BPU must exercise caution so that projects are not over incentivized. Third parties should not recover the entire cost, including operating and maintenance expenses, via incentives. Rather, they must be responsible for maximizing all revenue streams.

By supporting the nascent energy storage market in New Jersey without fully incentivizing the energy storage assets, the BPU will encourage the development of a stand-alone market for these assets whereby third parties can deploy and finance these assets while minimizing ratepayer bill impacts. RECO supports a structure that places appropriate caps on incentives to manage customer bill impacts and streamlines the administrative responsibilities (and associated costs) of both the BPU and the EDCs. RECO also recommends a periodic review by the BPU of the incentive structure, targets, and incentive levels offered, as well as the various value streams available to energy storage projects.

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?

As stated in Section 1.3 above, RECO recommends that Grid Supply resources providing support as a clean capacity resource or for distribution load relief, responses to market signal should be mandatory, and penalties should be imposed for non-performance. If an energy storage asset does not meet 95 percent of its contractual obligations to respond when called upon, the incentive,

including both the performance and non-performance-based components, should be reduced accordingly with the potential forfeiture of the entire incentive for the year. Moreover, if an asset fails to meet the 95 percent performance metric for three years or if during any one year, the asset's performance falls below 70 percent, the asset should be removed from the NJSIP.

3.16 How can BPU structure NJ SIP Performance-based Incentives to both promote value stacking and prevent double compensation?

Incentives paid to ESS resource owners must be properly structured to encourage optimal deployment while minimizing ratepayer bill impacts. To accomplish this, incentives should account for other value streams earned by the energy storage asset owner and should be tied to the benefits provided to the electric grid. Receipt of incentives via the NJ SIP requires mandatory action by storage asset owners when called upon to perform.

Energy storage can provide benefits to multiple stakeholders across a variety of applications:

(i) Customer services: provide and enhance customers' peak load management capabilities, including demand charge reduction and bill management, and increase reliability and resiliency through backup power. This may be possible through time-of-use bill management and the coupling of onsite solar photovoltaics with energy storage to increase solar generation consumption at the premise.

(ii) Wholesale services: provide value-add services to the electric grid through wholesale markets including energy arbitrage, frequency regulation, voltage support, black start, and spin/non-spin reserve services.

(iii) Utility services: unlock system bottlenecks by enabling system upgrade deferrals, providing transmission congestion relief, and increasing resource adequacy (*e.g.*, utilization of renewable and/ or clean energy, microgrids). Storage can also be used to provide benefits to key demographics, for example by reallocating energy usage to times and locations that benefit low- to moderate-income communities.

It is critical that New Jersey develop various markets that will help realize the value proposition of energy storage for customers, wholesale markets, and EDCs. This becomes increasingly important with the acceleration of electrification of the heating and transportation sectors, as energy storage will help reduce the strain on an increasingly burdened electric system.

The BPU and the EDCs will need to collaborate with PJM to enable market participation of energy storage and clearly define rules and parameters for registration, interconnection, metering, operations, billing and settlement for an energy storage asset participating in the wholesale market. Rules and regulations will need to be established to allow for dual participation (*i.e.*, benefiting distribution system and earning wholesale revenue at the same time) that would prohibit dual compensation. The BPU will need to assume a leadership role in this coordination effort with PJM.

4.0 Overburdened Community Incentives

The Straw proposed three methods to support OBCs with energy storage incentives.

- **An incentive adder in kWh**

- **A separate incentive block**
- **An additional up-front incentive**

RECO recognizes the important benefits that energy storage can provide in overburdened communities. Leveraging funding from non-ratepayer sources, such as a Green Bank or State grants, can encourage deployment in these areas by increasing the financial support the energy storage project receives. Stakeholder outreach with impacted municipalities can encourage a joint effort to site energy storage assets in these communities at locations that provide greater benefits.

RECO recommends that distributed energy resource that support OBCs be provided with an additional up-front incentive. This would encourage developers to locate projects in areas that would directly benefit OBCs. However, once the systems become operational, the rules and regulations for the operation, metering, billing and settlement should be consistent across all ESS projects.

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?

RECO recommends that an additional up-front incentive only be provided to Distributed supply ESS resources installed in OBC's. This would provide additional incentives to developers to install ESS at facilities located in OBCs. RECO would not recommend that a capacity block be carved out for OBCs. Some of the EDC's have limited OBCs in their service territories and this could limit the distribution of ESS resources throughout the State. RECO further recommends that the allocation of capacity blocks be allocated among the State's four EDC service territories based on a load share ratio so that all residents can enjoy the benefits that energy storage offers.

4.2 How can BPU assure that the incentive structure chosen will in fact provide benefits to OBCs?

Distributed ESS resources located behind the meter in an OBC will provide direct benefits to customer located in the OBC. In addition, depending on the site, the ESS may provide distribution system benefits that would improve resiliency and directly impact the OCB.

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?

Effective rate design can support the increased deployment of ESS resources. Coupling rate design with the utility's ability to deploy assets economically can bolster the adoption rate. It is important that rates reflect the fair value of all the benefits the ESS will provide to the electric grid and encourage siting in locations that provide the most benefits.

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?

For behind-the-meter, or Distributed energy projects, monitoring and enabling FERC Order No. 2222 will be essential for the success of this sector. FERC Order No. 2222 should enable the aggregation of smaller storage assets, thereby facilitating their participation in and financial benefit from the wholesale market.

RECO believes that the potential benefits provided through FERC 2222 from the wholesale market should not have any impact on the NJ SIP program. Resource developers would take all of the potential benefits into account as part of their decision process to develop and implement their ESS program.

5.3 Are modifications to the NJ SIP needed to maximize the ability of energy storage developers to access federal investment tax credits or other federal incentives?

The BPU should consider resource developers' access to federal investment tax credits or other federal incentives in their determination of the NJ SIP incentive levels. Federal incentives can supplement the incentives needed to encourage development and lower the amount of incentives that will be funded by the State's ratepayers.

5.4 What provisions, if any, should be established for interconnection of zero-export energy storage facilities (that is, energy storage facilities that do not inject power back into the grid and only supply power to on-site load)?

RECO recommends there be no extra provisions for zero-export energy storage facilities. Zero-export Distributed supply resources that are located behind the meter can still provide the same benefits as ESS systems that export power. When the zero export ESS system is discharging, it is still reducing the demand on the system along with providing other potential benefits (*e.g.*, demand reduction, distribution system relief).

5.5 What specific best practices regarding rates and tariffs from other states should be incorporated?

RECO recommends that the BPU consider a framework for New Jersey that is simple to administer, is easy for developers and customers to understand, provides market compensation for net injections (with no change to consumption rates), and provides the appropriate market signals to foster the development of ESS resources. The program must be transparent and be designed in a way that resource owners are not double compensated for electric grid benefits.

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?

RECO does not recommend the incorporation of energy storage into the Triennium 2 Energy Efficiency/Demand Response proceeding. Incentives for ESS resource should be kept separate

from those provided in the Energy Efficiency/Demand Response program. This would simplify the administration and reduce the potential for double compensation.

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?

Revenue grade interval metering installed on the consolidated input/output of the inverter(s) would be the best method to monitor the performance of the ESS. This would provide the most accurate measurements of the energy being consumed and injected solely by the ESS resource. These meters should be capable of interval metering and have AMI capabilities to allow the EDC and/or the program administrator access the load data. For behind the meter resources, having an independent meter located on the consolidated input/output of the inverter(s) would eliminate the difficulty of measuring the ESS performance from the customer's service meter due to the mixing of the building load and the ESS load.

5.8 Please provide any other comments on the NJ SIP.

RECO supports the Straw Proposal as an incentive program that is critical to activate the energy storage market. However, the exclusive reliance on third-party development may result in limited deployment of energy storage. Therefore, the BPU should allow EDC ownership of energy storage as part of its overall effort to meet the State's energy storage goals.

EDC ownership of energy storage assets would not be unique to New Jersey and the PJM market. Indeed, EDC ownership aligns with industry trends, as EDC ownership is either in place or under development in markets and by EDCs across the Nation. Proceedings in New York, Arizona, Texas, and California either have allowed or are considering EDC ownership as part of their clean energy future plans – California is expecting more than 30 percent of deployed energy storage to be EDC-owned. Further, several large, investor-owned utilities are developing EDC-owned energy storage projects such as Georgia Power (1,000MW), We Energies "WEC" (100+MW), Florida Power and Light (400+MW), and Entergy (30MW). Across the Country there is a broad recognition of the benefits of EDC-owned energy storage in meeting clean energy goals and benefitting ratepayers.