Wednesday, December 18, 2024

via email: board.secretary@bpu.nj.gov

Ms. Sherri Golden
Secretary of the Board
State of New Jersey, Board of Public Utilities
44 South Clinton Ave., 1st Floor
PO Box 350
Trenton, NJ 08625-0350

Re: BPU Docket No. QO22080540

Dear Secretary Golden:

NJR Clean Energy Ventures Corporation ("NJRCEV") appreciates the opportunity to submit the following comments regarding the Storage Incentive Program (SIP) straw proposal (2024). NJRCEV is a leader in New Jersey's clean energy markets, having invested more than $1.2 billion in solar since 2010, primarily in the New Jersey market. This level of commitment has created more than 1,000 local jobs, supported energy cost savings for our customers, and advanced New Jersey's decarbonization initiatives. We are committed to clean technology investing and look forward to playing a continued role in New Jersey's clean energy future.

We commend Staff's efforts in evolving the program design since the 2022-SIP straw, specifically:

- A reconsideration of the payment structure that acknowledges the practical challenges in implementing emissions-based performance payments without effective day-ahead data from PJM.
- Clarifying that the SIP targets private ownership and operation of energy storage systems, with a central enabling role for EDCs in interconnecting and leveraging distribution storage resources in grid operations.

However, we remain concerned that the program will be challenged to stimulate market development over the coming years:

- Current available revenue opportunities for energy storage include PJM's service markets (capacity and ancillary) and retail/wholesale energy arbitrage – none of which, even in combination, are sufficient to make energy storage economic.
- While improving, energy storage costs remain at a premium relative to market values available in energy and grid services markets, requiring sustained incentives to bridge the

economic gaps – a challenge in an environment of budgetary constraints and mounting ratepayer concerns over energy affordability.

- Multi-year PJM interconnection delays remain, with recent PJM capacity market rule changes derating the value of the 4-hour batteries targeted in the program. In 2025/26, out of 137GW cleared in the capacity market, only a meager 14MW were battery storage projects.[1]
- Uncertainties and risks in federal policy remain unresolved– including prospective changes to Inflation Reduction Act provisions and trade/tariff policy – making it challenging to design prescriptive rebates and operating incentives today (December 2024).

To address these concerns, NJRCEV offers the following recommendations to accelerate project completions, reduce costs, and pursue new pathways to market development:

1. Increase Capital Cost Assumptions to Drive More Accurate Incentive Requirements

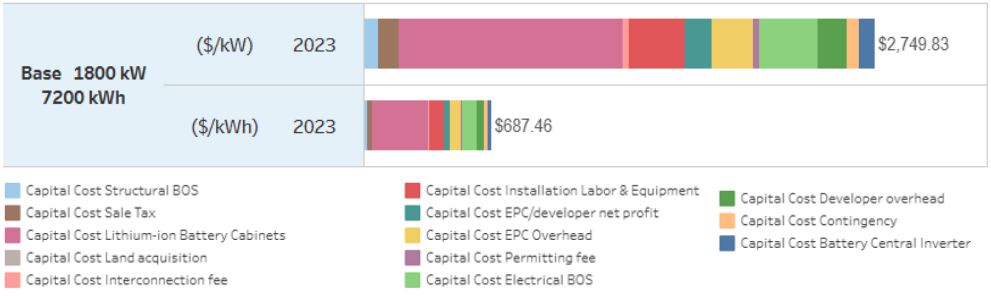
According to the straw, Staff designed the proposed storage incentives to subsidize 40% of the total capital cost of a project. These stated incentives range (on a Net Present Value-basis) from $150-$300/kWh based on project size, with "adders" for projects built in underserved communities.

Taking the >500kW project segment - at a proposed incentive of $150/kWh, this implies a capital cost used of $375/kWh ($150/40% = $375). Carrying those assumptions forward, for a 1.8MW x 4-hour battery (NREL's model "commercial" project), Staff's current incentive calculations would assume this project to have a total capital cost of ~$2.7 million.

By contrast, the National Renewable Energy Laboratory (NREL) would assume a capital cost of ~$4.95 million (over 80% higher) for that same system– and that is without specific-considerations made for New Jersey, one of the most space-constrained, highest labor-rate states in the nation.

NJRCEV believes that 40% of capital cost is a valid target for storage incentives. To implement that methodology effectively, we urge Staff to do a thorough review of their assumptions, to ensure incentive calculations are properly matched with current storage economics.

Figure 2. Cost details for commercial building-scale battery systems (1800-kW, 4-hour duration)



Source: https://atb.nrel.gov/electricity/2024/commercial_battery_storage

[1] BNEF, "US Grid Pays Top Dollar for Backup Power Amid Tight Supply," Aug 2024

2. Preferential Treatment for Energy Storage on Existing Solar Facilities

NJRCEV recommends that the program provide preferential treatment to energy storage assets installed on the same site as existing grid-connected solar facilities whether they are coupled hybrid or co-located resources. These storage projects can accelerate deployment timelines by leveraging existing interconnection points, infrastructure, and potentially take advantage of PJM rules where sites with existing solar may be able to participate in PJM's Surplus Interconnection Service. In addition, placing energy storage assets next to intermittent resources such as solar have shown to increase reliability to the grid and reduce congestion. By utilizing existing solar facilities, energy storage assets can be deployed in a more cost-effective and efficient manner.

3. Maximize Benefit of ITC by Adding a Performance-Requirement to Up-Front Incentives

The ITC offers a significant opportunity to reduce costs for energy storage projects; however, if the SIP's upfront incentive is structured as a rebate or grant without accompanying performance requirements, it could be classified as a "purchase price adjustment," requiring an ITC basis reduction under federal tax rules. This classification would require developers to deduct the incentive amount from their ITC-eligible capital expenditures (CAPEX), reducing the overall value of the federal benefit.

To avoid this outcome, New Jersey should design the SIP with performance-based incentives tied to operational benchmarks. This approach ensures that projects can capture the full ITC benefit while maintaining accountability for delivering reliable and efficient energy storage solutions. Adopting this framework would align with best practices, such as those implemented by NYSERDA's programs, which prioritize ITC maximization while ensuring program efficacy – and will ensure that those participating in the SIP program will effectively manage and maintain their storage assets to the benefit of the electric grid and New Jersey electric customers.

4. Expand Grid Segment to include FTM-Distribution Connected Projects

As written, the SIP will support small, behind-the-meter (BTM) systems connected to EDC distribution and large, front-of-the-meter (FTM) systems connected at the PJM-transmission level – overlooking a key segment of the storage market that is midsize (500kW - 5MW) projects, which are in front of the customer meter, but interconnected at the EDC-distribution level (69kV and below). In the New York program, these projects are referred to as "Retail Offsite" projects.

<u>Recommendations on Incentive Structure for this New Market Segment:</u>

- Following the design of the other segments in the SIP straw proposal, these projects should receive an upfront-incentive (paid by the NJBPU), coupled with ongoing performance-oriented revenue opportunities (paid the EDCs), for the services they will provide to the distribution grid.
- Given that these projects are grid-connected, NJRCEV recommends keeping the market construct the same for all larger, front of the meter assets by establishing the up-front incentive

for this market segment as a competitive solicitation. In all cases, the goal of this incentive should be to subsidize project development to cover the economic shortfalls between the high costs of the storage and the currently available limited revenue streams. The upfront incentive for this segment should be competitively bid, rather than administratively determined, to reflect the cost and policy uncertainties in establishing a prescriptive incentive today. Solicitation-driven pricing will drive competition to ensure cost-effective use of program funds, as well as matching incentives to the unique needs of each project.

- As for the performance-oriented incentive, these distribution-level grid projects would not be PJM market participants; and therefore, will need to be compensated with performance payments made by the EDC for the services they are providing – primarily reducing PJM capacity cost allocations, which have skyrocketed by ten-fold in the past year. These projects would also provide additional benefits to the local distribution systems, including non-wires alternatives to capacity upgrades, local circuit resiliency, and supporting the continued growth of distributed energy resources.
- The performance payment is not an incentive or subsidy - but rather, designed compensation for the value provided by the storage assets.
    - The value of the payment should be designed as a discount to alternative costs the EDC would incur. This could include capacity costs ($269/MW-day) or the costs of new entry for new peaking units (combustion turbines currently about $250/MW-day).
    - Given the immaturity of the storage market in New Jersey today, these payments should be fixed over the life of the project. This would be consistent with the proposed performance payments to behind the meter projects recommended in the 2022 straw proposal and would significantly reduce the risk exposure of grid storage projects to capacity prices.
    - Consistent with capacity market pricing norms, this compensation should be based on a capacity basis – prices quoted on $/kW-year (nameplate) are recommended.
- As FTM resources, which are not PJM market participants, EDCs will need to provide a special tariff providing LMP prices to this class of storage projects - similar structure to what is offered to large C&I customers today.
    - While the primary purpose for the batteries is a capacity resource that will be called upon infrequently, project owners should be encouraged to use the batteries to generate revenues to arbitrage energy prices, particularly during the summer months when “duck curve” dynamics and price-differentials will encourage storage. Capturing these revenues will reduce the need for up-front incentives from the State, which can be reflected in competitive bids.
    - We also note that while not optimized for emission reduction, NJRCEV conducted an analysis of 2023 data from PJM’s locational marginal emissions profiles, which indicated a correlation between high electricity prices and high emissions. By optimizing charge and

discharge cycles based on real-time price and demand signals, a 1MW x 4-hour battery could reduce emissions by approximately thirty-three tons of CO2e annually.

We appreciate the opportunity to contribute to this important stakeholder process. A well-designed storage incentive program will play a critical role in achieving New Jersey's clean energy goals, enhancing grid reliability, and reducing costs for ratepayers. NJRCEV looks forward to continuing to work with the Board and other stakeholders to develop a program that supports robust, sustainable storage deployment across the State.

Respectfully,

Steve Oborne, Jr.
Sr. Corporate Strategy Analyst

cc: Larry Barth, Managing Director – Corporate Strategy
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Mark Valori, Vice President – Clean Energy Ventures
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