MSSIA
MID-ATLANTIC SOLAR & STORAGE INDUSTRIES ASSOCIATION
Mid-Atlantic Solar & Storage Industries Association
Rutgers Eco-Complex, Suite 208-8
1200 Florence-Columbus Road, Bordentown, NJ 08505 | info@mseia.net

December 9, 2022

Secretary of the Board
New Jersey Board of Public Utilities
44 South Clinton Avenue, 1st Floor
Trenton, NJ 08625

Via email to:
secretary@bgu.nj.gov

Re: Docket No. QO22080540
IN THE MATTER OF THE NEW JERSEY ENERGY STORAGE INCENTIVE PROGRAM

Dear Acting Secretary Diaz:

The Mid-Atlantic Solar & Storage Industries Association (MSSIA) is pleased to present these comments in regard to the above-referenced request for comments.

MSSIA is a trade organization that has represented solar energy companies in New Jersey, Pennsylvania, and Delaware since 1997. During that 25-year period, the organization has spearheaded efforts in the Mid-Atlantic region to make solar energy a major contributor to the region's energy future. Its fundamental policy goals, which were recently expanded, are to: (1) grow solar energy and storage in our states as quickly as practicable; (2) do so at the lowest possible cost to ratepayers, while delivering the greatest possible benefit as a public good; (3) preserve diversity in the market, including opportunity for Jersey companies to grow and create local jobs, and (4) encourage policy to bring the benefits of solar energy to overburdened communities and households (https://mssia.org/fundamental-policy-objectives/).

After some general discussion, MSSIA presents its core recommendations for the Storage Incentive Program, with further discussion specific to each recommendation.

Increasingly, storage is seen as a necessary addition to the development of renewable energy in the state. Already, on sunny days during some parts of the year – spring and fall, mostly – MSSIA estimates that solar power systems located within the state can supply more than 33% of the state's power from 11:00 AM to 3:00 PM! This level of in-state solar power deployment will increase greatly by 2030, and even more so by 2035, according to the Energy Master Plan. At these levels, although there are many short term and inexpensive methods we can suggest to keep the grid stable and reliable, storage will be vital tool.

Generally, MSSIA's feedback from the energy storage market is that potential distributed generation projects abound in the state, and many are being discussed and planned. Some are in the midst of procurement processes that are already well underway. Activity is especially intense in the development of renewable energy-centric microgrids that play multiple roles in the communities they serve.

Costs for large-scale solar systems, according to anecdotal reports, are much higher than the costs presented in the Notice for this Docket. This is confirmed by multiple reports from the federal government. NREL, for instance, in its report entitled *"U.S. Solar Photovoltaic System and Energy Storage Cost Benchmarks, With*

Minimum Sustainable Price Analysis: Q1 2022", reports that the modeled market price ("MMP") for a standalone commercial Li-ion battery storage system (based on a 300 KW, 4-hour system) is $671.67 per KWH.

The Energy Information Agency report, *"Battery Storage in the United States: An Update on Market Trends"* reports a weighted average price for large-scale lithium-ion battery storage as $589 per KWH.

These reports roughly correspond to market feedback MSSIA has gotten. They stand in contrast to the $350 figure shown in graphical form in the Notice.

The good news is that the more cost-efficient distributed battery systems have access to potential market revenue from PJM for ancillary services to the grid transmission system; potential behind-the-meter savings on electric bill demand charges; and according to the Notice, potential utility-provided revenue in exchange for providing needed services to the distribution system. These revenue streams can offset the capital and operating costs of storage systems greatly.

1. Allow projects to get an incentive base on megawatt-hours of energy capacity, regardless of the number of hours of storage or the power capacity.

This will naturally favor longer-duration energy storage, which will be of importance to the development of a high-penetration renewable future. The power capacity, which is also of some importance, can be expected to follow naturally, according to the system designs that are the most cost-effective in the market.

For commercial-sized, distributed systems, battery system operating entities have informed MSSIA that as a general rule of thumb three hours of storage is an economic optimum in order to maximize market revenue per unit of system cost. This example points out that an incentive design pushing projects toward a four-hour design – if they want to maximize incentives - may not result in the greatest cost-efficiency in the program.

If one assumes that a three-hour optimal design average is what the market delivers during the program period, then the 2,000 megawatt goal for storage power capacity in the Clean Energy Act would equate to 6,000 megawatt-hours of storage energy capacity. After accounting for the 77 MW of storage currently installed (not counting the Yard's Creek pumped hydro facility, which was built in 1965), the remaining 1,923 MW of storage to be built would deliver 5,769 MWH of energy capacity, or about 825 megawatt-hours of energy capacity per year on average during the seven years of the program period.

2. Allocate more capacity in the first three years, and allocate most of the capacity to distributed storage

MSSIA recommends the following allocations for the first three years:

Table 1: Total Grid Supply and Distributed NJ SIP Allocations

Energy Year in which Awards are Made	Proposed Procurement Quantity (MWhs)
2023/2024	300
2024/2025	400
2025/2026	500

Table 2: Grid Supply and Distributed NJ SIP Allocations

Energy Year in which Awards are Made	Proposed Grid Supply Procurement Quantity (MWhs)	Proposed Distributed Procurement Quantity (MWhs)
2023/2024	100	200
2024/2025	150	250
2025/2026	175	325

MSSIA further recommends that if storage project development falls short of the program allocations for the first years, then the leftover capacity in any given year should be added to the allocation for the following year.

It can be seen that the totals for the first three years, while higher than those in the straw proposal, are still well below the average yearly development needed to achieve the program goals. There will still be plenty of space to accelerate the pace of development for the ensuing four years, which would need to average about 1,150 MWH per year.

MSSIA's recommendations put the majority of the program in distributed generation. This is for two reasons.

First, we believe that the distributed storage segment is poised to deliver large amounts of storage capacity quickly, to help achieve the goals of the program. MSSIA member feedback from the market is that there are some very large behind the meter projects under development around the state, along with a number of medium-sized projects and many small projects.

This is especially true of renewable microgrid development. In the wake of Hurricane Sandy, many institutions in the state, including state, municipal, and public authority entities as well as some private entities, began planning microgrids to add greater resiliency to their mission to provide critical services to the communities they serve. A great deal of grant money was made available for such project, including large amounts from several federal agencies. Further federal funding opportunities recently arose from the passages of the Bipartisan Infrastructure Law and the Inflation Reduction Act.

Environmental groups and local citizen groups have been very vocal in advocating for these microgrid projects turn toward renewable energy and storage instead of fossil fuels to the greatest degree possible.

The current economic drivers for such projects, especially those in the Inflation Reduction Act, can be expected to deliver many more projects at the state and municipal levels, and further to the neighborhood level – places such as supermarkets, hotels, bank branches, gas stations, and the like to maintain normalcy as much as possible during power emergencies. Thus, storage projects at every level, from world-class large-scale projects down to small commercial ones, are set to accelerate in the distributed sector.

3. MSSIA recommends that het BPU consider total value delivered to the public, along with raw cost, in making allocations and setting incentive levels.

Distributed storage projects deliver several unique benefits not delivered by grid supply projects, or not to so high a degree.

Chief among them is returning the incentive dollars to New Jersey citizens in the form of direct revenue and electric bill savings from the storage projects – savings that can go directly to homeowners or that go to institutions that serve the public. This can be looked at as ratepayers getting their money back directly.

Distributed storage projects also provide jobs right in communities, and as discussed here elsewhere can largely be expected to provide resiliency during power emergencies.

The value of these and other unique societal benefits should be accounted for in allocations and incentive designs.

4. MSSIA recommends providing both an added up-front incentive and, at least for the first two years, a dedicated capacity allocation to overburdened communities

In line with MSSIA's new fundamental policy goal to focus programs on overburdened communities, we believe that an up-front adder would give a needed boost to the economics of building storage in overburdened communities. Furthermore, a dedicated capacity block such as 75 MW in the first program year and 100 MW in the second year would help ensure that a reasonable amount of time will be allowed for developers to meet the challenges of developing these projects.

5. MSSIA recommends that BPU consider using PJM market participation, as well as participation in the planned utility performance-based program, as a proxy for determining the performance payment.

Markets set up by PJM such as demand response and frequency regulation are intended to ensure reliability for the transmission system, and by extension the distribution system. Demand Response is by its basic design made to call for resources during the very most stressed times of the year. Frequency regulation has a natural tendency to call during stressed periods as well. These will also be the times of greatest carbon intensity. Using participation in these already-existing market mechanisms would be a good proxy for carbon intensity, reliability enhancement, and cost-efficiency simultaneously. Total market revenue earned by the system would be a good proxy for value, and easy to track.

MSSIA thanks staff for the opportunity to provide input on this matter.

Sincerely,

Lyle K. Rawlings, P.E.
President