FREEWIRE®

September 19, 2023

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

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

Dear Secretary Golden,

Thank you and the Board of Public Utilities ("Board") for the opportunity to submit our initial response on the above referenced matter in Docket No. QO22080540. As a leading manufacturer of battery-integrated Direct Current Fast Chargers (DCFC), FreeWire is pleased to see the development of energy storage incentives and hopes our unique perspective at the intersection of energy storage and electric vehicle service equipment will be valuable to the Board.

Please find our response enclosed. We appreciate the time the Board has devoted to this Plan and look forward to opportunities to engage further.

Sincerely,

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This RFI contains five sections. The first four sections contain a brief summary of the applicable section of the NJ SIP, followed by questions for that section. The fifth section includes general questions or questions that address multiple topics. The questions are numbered – please number your responses accordingly.

1.0 Utility Ownership/Dispatch Control

The Straw "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?

FreeWire agrees with the direction of the Straw to encourage private ownership and operation of energy storage devices. Ultimate control of energy storage systems should thus be held by asset owners or their designated representatives. Distributed energy storage systems provide a host of benefits to asset owners, including peak load management, back-up power, and, in FreeWire's use case, the ability to charge electric vehicles. All of these benefits add value to the energy storage project as a whole, and the ability for a site host to use their energy management system as they choose makes deployment more attractive to project developers. Instead, the utilities should provide appropriate incentives for responding to their signals that encourage participation organically.

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

Performance-based incentives should be voluntary because the utility will not have the same degree of visibility into site conditions as the site host. Site hosts have a variety of daily operational needs, some of which can be critical to public health, safety, or other essential processes. It is unlikely that utilities will be able to easily identify and weigh the nuances of each individual site host, so they should not make the signals compulsory and should instead allow site hosts to choose whether to respond to utility signals. That said, the performance based incentives should be attractive and communicated sufficiently to site hosts.

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?

While both Grid Supply and Distributed storage can provide many of the same benefits to the grid (especially when Distributed storage assets are aggregated through Virtual Power Plants, only distributed storage can provide site specific benefits such as backup power and energy management. r. For example, batteries deployed at hospitals, schools, or at EV charging stations can power those sites even when the grid is not present. In this way, Distributed storage is uniquely able to facilitate critical public services, emergency shelter locations, and mobility.

Therefore, the exclusivity of the hyper-local site benefits associated with distributed energy storage make it deserving of extra capacity within the capacity blocks in the NJ SIP when compared with grid-scale storage.

FreeWire agrees with the separation of the distributed energy storage and grid-scale storage capacity blocks due to differences in economies of scale that can be achieved with grid-scale energy storage. This ability to achieve economies of scale would likely crowd out investment into distributed energy storage if the technologies were to compete within the same capacity block.

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

Yes. This will help expedite the interconnection process by allowing projects with utility approvals, site acquisition, permits, workforce, supply of components, etc. to be completed more quickly. This policy would incentivize applications that are more developed and prioritize projects based on feasibility. The application process should not require 100% of these elements to be completed before submitting an application for interconnection, but project commitment should be demonstrated.

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?

FreeWire agrees that projects should be required to meet various criteria to reserve capacity in a block. This should help to "triage" applications and prioritize which projects make it into the interconnection queue into the first place - thus reducing delays. The process for distributed energy storage systems should be modified such that these resources be explicitly permitted to provide on-site energy services (without exporting energy to the grid) even if they have not fully completed the interconnection process. This is important because in many cases, distributed energy storage systems could complete permitting and installation before they receive interconnection approval. To the extent that such systems can prove that they will not export power to the grid, they should be allowed to provide valuable resources to site hosts (e.g. enhanced site resiliency) and to the grid (e.g. by offsetting site load during demand response events).

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).

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

No, fixed incentives should not be assignable to an aggregator. The NJ SIP should pay incentives directly to the owner of the energy storage system in order to reduce program complexity and promote customer choice. Once the customer receives the incentive, they can do with it as they see fit (including giving it to an aggregator). It would create unnecessary extra work for the NJ SIP program administrator to track and maintain information related to which customers elect to have their payment directed to a third-party like an aggregator. Further, if the fixed incentive is assigned to an aggregator, it makes it more difficult for the asset owner to switch aggregators.

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?

Yes, distributed energy storage resources should have the ability to opt in to either the Grid Supply or Distributed Storage program for both incentive types. Doing so would appropriately increase the capacity block availability for distributed energy storage projects and would also allow distributed storage operators with real time emissions data to participate in the emission reductions performance incentives of the Grid-Supply capacity block.

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

Distributed battery storage systems should be able to earn Performance-based incentives from both injection of power into the grid *and* reduction in on-site load (through self-consumption through the storage system). This modification is important in order to fully value the unique benefits of on-site storage.

Programs such as the Connected Solutions programs (in Massachusetts, Connecticut, and Rhode Island) award performance based incentives for injecting power into the grid or reducing site load during peak hours. The dispatch events for these programs are based on both “active” dispatches (whereby the storage asset responds to a grid signal) and “passive” dispatches (whereby the storage asset is programmed to discharge on a particular schedule). While Connected Solutions are widely viewed as exemplary programs, FreeWire has concerns about the effectiveness of the “passive” dispatches. These types of dispatches increase the number of battery cycles which can create unnecessary strain on the storage system.

Another program worth mentioning is New York’s Commercial Managed Charging Program (CMCP) which is specifically designed to incentivize electric vehicle charging outside of peak hours. The CMCP grants performance based incentives based on an EV charging site’s ability to reduce EV charging load during peak hours. The CMCP encourages grid-beneficial charging behavior and creates a path to recognizing value for energy storage systems deployed

with EV charging. Importantly, the NY CMCP calculates the performance based incentive on the delta between the EV charger's input power and the charger's nameplate output capacity (to EVs). This incentive structure encourages the deployment of load management technologies, like EV chargers with co-located or integrated energy storage.

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 incentives established in this program should be standardized and common to all EDCs in order to maximize the ease with which customers can participate. Many of FreeWire's customers want to deploy distributed energy storage solutions at multiple locations within the state, but often the sites are in different EDCs. With an incentive that varies by EDC, site analysis then becomes onerous, slower, and less certain for customers, leading to fewer deployments over time given the difficulty customers will face in assessing the value of incentives across their portfolio of sites.

It is preferable for the NJ BPU to reduce the overall program complexity of the SIP vis a vis establishing consistent incentive levels across jurisdictions. The increased speed, repeatability, and confidence of customers' analyses in that scenario will lead to greater program uptake and greater distributed energy storage deployment resulting from the program.

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?

Utility control should not be a requirement for customers to receive incentives through the program. Customers should have the choice to opt-in to utility control to reduce their operational complexity, if needed.

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.

According to the 2021 NREL Storage Futures Study - Distributed Solar and Storage Outlook: Methodology and Scenarios, the least cost scenario for grid capacity is dramatic growth in grid energy storage, and a key barrier to the upper limit of adoption is due to the length of payback periods and their translation to maximum market potential.[1] As such, no cap should be set on the sum of federal and state incentives. FreeWire believes that strong investment into energy storage devices will bring a host of benefits to the grid and ratepayers, and that scaled investment into these technology solutions will help the grid operate more efficiently and at a lower cost for ratepayers. Ultimately, energy storage deployment is a crucial near term strategy, and it is reasonable for these incentives to approach 100% of project costs or even exceed 100% of project costs in order to bring these assets online and accrue their benefits.

[1] Prasanna, Ashreeta, Kevin McCabe, Ben Sigrin, and Nate Blair. Storage Futures Study: Distributed Solar and Storage Outlook: Methodology and Scenarios. Golden, CO: National Renewable Energy Laboratory. NREL/TP-7A40-79790. https://www.nrel.gov/docs/fy21osti/79790.pdf.

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?

Reporting requirements for the distributed energy storage assets should be structured for simplicity to reflect that they are distinct from Grid-Supply assets. FreeWire recommends against requiring onerous telemetry requirements and suggests monthly reporting within this capacity block. More stringent reporting requirements may be appropriate for the Grid-Supply capacity block, but for the distributed storage block, simplicity and ease of reporting is preferable.

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?

The biggest hurdle to deployment for distributed energy storage customers is the upfront capital investment associated with the necessary hardware and software. The NJ SIP should include upfront incentives to overcome this hurdle, and customers should be able opt-in to receiving their annual fixed payments as an upfront incentive instead. Recognizing that the program's enforcement mechanisms are tied to the annual fixed payment incentive, the BPU should create an alternate structure, such as a clawback mechanism, to recoup the upfront incentive in the event that energy storage facilities are in non-compliance. Allowing distributed energy storage customers to opt-in to an upfront incentive, rather than an upfront incentive being the default, will provide additional flexibility for smaller developers and lead to greater program adoption.

Energy storage can provide significant value in the deferral of transmission and distribution (T&D) upgrades, but this value has not been well captured in existing energy storage value stacks. Therefore, the BPU should initiate a proceeding or begin to investigate methodologies to quantify avoided or deferred costs associated with grid upgrades, and consider providing all of or some portion of those savings to site hosts to further accelerate energy storage deployment. It is important to balance the desire to establish location- and project-specific avoided costs with creating a value stream that is quantifiable in advance and without further burdening the EDCs.One approach would be to make this value based on an average avoided T&D value.

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)?

The interconnection of zero-export energy storage facilities should be quick and simple, and in the event that zero-export facilities eventually aim to become export facilities, they should be permitted to operate as zero-export facilities as soon as possible, which in some cases, will be before the interconnection process is complete. Said another way, storage should be able to begin operating as a zero-export facility while awaiting full interconnection approval. .
Zero-export energy storage facilities provide both grid and site benefits, such as peak demand shaving and on-site resilience, that are valuable in the near term.

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

Demand-based rates motivate customers to manage their electric consumption, including by installing technology solutions like energy storage.

Tariff solutions such as demand charge waivers (often seen in the context of commercial electric vehicle rates), rates based on load factors, or rates composed primarily of volumetric charges undermine the economic case for installing energy storage. These rate and tariff based solutions will limit the success of the NJ SIP and may increase in the incentive amount needed for customer's to install storage.

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?

Data from inverters should be sufficient for measurement and verification purposes. A lack of AMI meters should not preclude program participation, especially given that inverters can provide much, if not all, of the required information.