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

Re: In the Matter of the New Jersey Energy Storage Incentive Program, Docket No. QO22080540, Request for Information, filed August 8, 2023

Dear Secretary Golden:

EnergyHub, Inc. (EnergyHub) submits these comments in response to the Request for Information filed by the New Jersey Board of Public Utilities (BPU) on August 8, 2023, concerning the New Jersey Energy Storage Incentive Program Straw Proposal.

EnergyHub is a software technology company based in Brooklyn, NY. EnergyHub's distributed energy resource management system (DERMS) and program services enable utilities and grid operators to turn fleets of customer-owned distributed energy resources (DER) – residential batteries, connected thermostats, electric vehicles, water heaters, and solar PV inverters – into virtual power plants (VPP). EnergyHub's DERMS platform is used by more than 60 utilities and grid operators to maintain reliability and enable higher penetrations of renewable energy through a variety of innovative grid services. Our portfolio of 70+ residential and commercial VPPs bolsters the reliability and sustainability of the electric system while enabling hundreds of thousands of customers to participate in the energy transition.

Introduction

EnergyHub appreciates the BPU's efforts to develop and refine the Storage Incentive Program (SIP) Straw Proposal over the last year. The breadth of the proposed program and the RFI's consideration of the numerous values provided by both grid-scale and distribution-connected ESS is an encouraging indicator of the Program's

eventual success, and will serve to put New Jersey at the forefront of the nation's grid modernization efforts. With these comments, we seek to both express our support for those submitted jointly by SEIA, Advanced Energy United, and the New Jersey Solar Energy Coalition, and speak to the unique perspective of a DERMS provider. These comments are additionally informed by close consultation with distribution-connected energy storage original equipment manufacturers (OEMs) and aggregators.

Below, we respond to a selection of the questions issued in the RFI. Please note that the omission of other questions does not imply any kind of agreement or disagreement, but rather reflects our prioritization of issues in the context of the anticipated Straw Proposal revision.

1.0 Utility Ownership/Dispatch Control

1.1 What are the advantages and disadvantages of utility control versus non-utility control of ESS?

The NJ SIP, as outlined in the original straw proposal, strives to create the foundation for a business model based on the private ownership and operation of storage assets. Consistent with Staff's perspective on the importance of competition in its recently released Demand Response Straw Proposal, we agree with SEIA et al. that unilateral utility ownership and control of energy storage systems (ESS) would deter private investment and create significant operational inefficiencies.

Private ownership and operation of ESS additionally provides many practical benefits. As utilities generally lack the native capabilities (namely, the ability to manage and maintain robust data exchange frameworks with numerous storage developers and thousands of customers) needed to support multi-ESS dispatch and monitoring – especially at the scale that the SIP intends to achieve – ESS providers in comparable programs often work with third-party DER management systems. These systems, also known as DERMS, have the ability to monitor and communicate utility dispatch signals with a broad ecosystem of ESS providers, enabling utilities to leverage such resources where needed while leaving the background operation of the systems in the hands of customers/original equipment manufacturers (OEMs). This construct is advantageous for utilities as the administrative burden associated with the utilization of ESS for system needs is greatly reduced. With a single touch-point utilities can send dispatch signals to thousands of ESS without bearing the

burden of establishing independent data exchange frameworks with each eligible OEM. Customers and OEMs additionally benefit from this construct as they retain the ability to utilize the ESS in a way that maximizes customer value and asset longevity. Finally, third party operators additionally provide programmatic support by furnishing marketing, enrollment, and customer engagement services for program participants, allowing utilities to enroll a large number of customers in a streamlined fashion.

Ensuring that customers and OEMs retain ownership of and control over the operation of the ESS is additionally important in the context of the ESS' warranties. An outside entity's (i.e. a utility) direct control or operation of the ESS may constitute a violation of the warranty covering the asset. In the event of ESS damage under such circumstances, the issue of responsibility for repair and associated costs may prove challenging.

Finally, we support SEIA et al.'s comments regarding the gravity of a departure from the private ownership construct outlined in the initial Straw Proposal. Should the Board decide in its anticipated revision to stray from this model, greater stakeholder engagement and review would be warranted. To ensure that SIP implementation can take place in a timely fashion, we encourage the Board to retain its initial vision of private ownership.

1.2 For distributed resource performance-based incentives, should responding to a utility signal be compulsory or voluntary?

By nature, performance-based incentives rely on voluntary customer participation. The core principle of such a framework is the *incentivization* of customer participation with compensation that reflects the customer's performance over the course of an event. We support SEIA et al.'s comments here, which outline how customer compensation should be tied to the successful dispatch of ESS in response to a utility signal. A voluntary pay-for-performance framework is an important feature of achieving program participation objectives, as it constitutes a more attractive offer for customers interested in retaining independent control over their ESS for the affordability and reliability use cases driving ESS adoption.

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?

We support SEIA et al.'s recommendations concerning the separation of transmission, distribution-connected FTM, BTM non-residential, and residential blocks.

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

Generally speaking, linking application approval to the determination of 'first ready' may increase stranded asset risk, and would require independent Board evaluation of what constitutes 'readiness' on a project-by-project basis, as part of what may become a burdensome, slow process.

Under the originally proposed 'first come, first served' framework, we recommend removing the collateral requirement for residential projects under 'VI. Project Maturity Requirements'. Here, project applications must include the demonstration of conditional approval of a developer's utility interconnection request, in addition to the payment of a non-refundable solicitation participation fee of $1,000/MW of nameplate capacity. The collateral requirement is largely inconsistent with performance-based incentive model, which rests on the principle of voluntary participation. The degree to which an OEM may benefit from performance-based SIP participation depends upon the number of ESS it can enroll in the program, rendering the payment of a collateral fee redundant. The negative repercussions of under- or non-performance by an OEM in the SIP are borne by the OEM itself in the form of lost revenue, such that the payment of an additional upfront collateral fee constitutes a barrier to participation, not a minimum guarantee of service delivery.

3.0 Incentive Structure

3.3 Should fixed incentives be assignable to an aggregator? Why or why not?

Incentives should be assigned to a third-party operators (or DERMS), who can work with customers and OEMs to determine the appropriate division of earned incentives. As discussed in our response to question 1.1, the third-party operator will be the single touchpoint between the utility and the customers. This simplifies and streamlines the billing process for utilities, removing unnecessary administrative burden. Assigning incentives to the third-party operator is additionally important because it opens the door to novel ESS financing mechanisms – a core feature of fostering the robust

energy storage market envisioned by the BPU in its original proposal.

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?

As the original straw proposal recognized, several models of effective peak demand reduction programs that leverage energy storage have been established in other northeastern states. ConnectedSolutions in Connecticut and Massachusetts, for instance, has achieved great success and is favorably viewed by both customers and OEMs. Under ConnectedSolutions, customers retain ownership of the ESS, and the utility contracts with the customers to call events (through a third-party operator, or DERMS) during regional demand peaks. Customer participation is incentivized with $/kW values tied to either successful system dispatch within a defined window, or capacity during peak seasons. Recreating this program in New Jersey would eliminate the need for time and resource incentive program development efforts, and would eliminate the benefits of offering a programmatic structure which with OEMs are already familiar.

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

The Massachusetts Clean Peak Standard (MA CPS) program may serve as a good model for the BPU in its consideration of objectives for peak demand reduction. As noted in the original Straw Proposal, under this program, a minimum percentage of distribution connected clean peak resources dispatch or discharge electricity onto the grid during seasonal peaks, and are then compensated with certificates for their performance. Important to note here is the fact that the MA CPS framework has made value stacking challenging for some grid supply resources, so the Board's consideration of resource access to, for instance, ancillary service markets, would be critical to the successful replication of this framework.

As noted by others in the initial SIP stakeholder process, the PJM Marginal Emissions Rate has not yet reached a level of maturity that would warrant its operationalization in the context of the SIP, as it does not accurately reflect real-time emissions (instead, the MER relies on an extrapolation of annual averages for a variety of traditional generation sources). PJM has also recommended that the MER not be used to demonstrate compliance with regulatory requirements.

To avoid burdensome measurement and verification processes and the potentially distorting effect of weak emissions signals, linking incentive payments to locational marginal pricing (LMP) may facilitate the Board's goal of both reducing system peaks and GHG emissions. The LMP may be a suitable proxy for period of high peak-generation activity, and therefore may more accurately reflect the value of ESS dispatch in a given area than region-wide peak.

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?

Given that BTM ESS can provide grid value today through in a variety of ways (including participation in PJM energy, capacity, and ancillary markets, and dispatch during local-transmission zone coincident peaks), utilities should ensure that their offerings minimally account for this 'value stack', and do not mitigate or block access to it.

In line with SEIA et al.'s comments, we support the utilization of a common methodology for the creation of utility-specific incentives, while additionally allowing for the development of individualized incentive levels that reflect unique utility system needs.

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?

For ESS in the performance-based incentive program, we support SEIA et al.'s comments that the criteria to establish and maintain incentive eligibility should be the same. For those that only receive fixed incentives, an annual report should be sufficient to demonstrate continued eligibility, and to ensure a minimally burdensome participation process.

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

As stated in response to several of the previous questions, we are supportive of the Straw Proposal's pay for performance framework. There are several principles to keep in mind when structuring performance incentives to promote value and stacking and to prevent double compensation, as outlined below.

First, it is important to neatly delineate the products each utility is offering to ensure that incentive structures align with wholesale markets. This will be critical to facilitating a SIP that does not eventually conflict with FERC 2222 rules prohibiting double dipping, which may bar resource eligibility for participation in PJM markets.

As an example, utilizing ConnectedSolutions as a model, aligning program design with eligibility for forward capacity markets will be critical to attracting diverse ESS OEMs. The ConnectedSolutions program benefits the system by decreasing long-term capacity needs, and is structured such that participation in any market product that would 'double-count' that capacity contribution is prohibited. However, the active forward capacity market in ISO-NE does not account for this capacity contribution, and therefore, resources are eligible for participation in both ConnectedSolutions and the forward capacity market. Essentially, we recommend that the utilities coordinate with PJM on opportunities for wholesale market participation such that the ESS can capture the full value stack they provide.

Finally, as outlined by SEIA et al., the recreation of tariffs similar to those used in New York under the VDER umbrella may also contribute to the Board's achievement of its goals related to the discouragement of double counting.

5.0 Other questions

5.2 How will 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?

While FERC Order 2222 generally promised to expand opportunities for storage and other DER resource owners to participate in wholesale energy, ancillary, and capacity markets, PJM's proposed implementation of Order 2222 has left something to be desired. Among other things, PJM has proposed to limit aggregations of DERS to component resources within a single pricing node (while still requiring aggregators to meet a minimum 100 kW aggregation threshold), to prohibit NEM-participating resources from participating in PJM's capacity markets, and to prohibit storage resources that are co-located with NEM-participating resources behind a single customer meter from participating in energy and capacity resources (PJM has explained that because the RTO does not have visibility into which resource is injecting into the grid – the NEM-participating resource or the battery – it has to exclude all injection from wholesale market participation). To the extent that the SIP

can expand standalone storage within a given pricing node or incentivize parallel metering or batteries, it will maximize the remaining opportunities for storage owners.

5.6 Should energy storage be compensated in the Triennium 2 EE/DR proceeding as an allowable DR 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?

Yes, ESS should be compensated in the Triennium 2 EE/DR proceeding as an allowable DR resource. The original Straw Proposal holds that private owners should be allowed to participate in various DER aggregation services, and the demand response programs currently being developed by the utilities are a clear example of that sort of opportunity. The Proposal goes on to highlight that this will facilitate the owners' ability to 'stack' revenues, and to utilize BTM resources to actively manage system usage at the distribution level. In their demand response pilot or program filings which allow for the participation of multiple device classes, utilities should be directed to include tariffs that delineate options for ESS receiving SIP funding. Several models for this exist; utilities may choose to utilize a temporal or seasonal division of access to demand response incentives, a tariff that separates wholesale market value from local distributional value, or a structure that allows for the day- or week-ahead determination of system needs and the dispatch of distinct events that serve distinct purposes.

5.7 How should ESS be metered and measured? Can an inverter serve this function? What role should AMI play in the NJ SIP?

ESS performance should be measured at the device inverter level. Advanced inverters can meter and measure ESS charge and discharge more accurately than AMI, which lacks the ability to disaggregate the export of electricity from solar or storage. AMI additionally lacks the ability to distinguish between on-site and grid export. Utilization of AMI meters for measurement and verification purposes requirements the utilization of complicated and often inaccurate baseline methodologies, which are unnecessary, as inverters have attained a settlement-grade level of measurement accuracy.

5.8 Please provide any other comments on the NJ SIP.

In addition to the above comments, we encourage the Board to consider and adopt the following principles in its revised Straw Proposal, which reflect the breadth of our experience with similar programs in other jurisdictions.

- Through its performance-based incentive structure, the SIP should be open to both new and already deployed ESS.
- As described previously, customers should be compensated for the entirety of the services they provide to the grid, such that SIP enrollment is attractive to all prospective participants.
- Enrollment in the SIP should be streamlined and focused on an OEM or aggregator hosted in-app experience, which should be facilitated by the Board's bifurcation of SIP application and upfront incentive reservation processes. This will ensure that the additional documentation required for incentive reservation does not slow or complicate the customer application process, directly facilitating the achievement of the Board's enrollment goals.
- Utilities should establish processes that provide participants with advanced notice of events. This is an important feature of achieving high levels of event participation. As discussed previously, scheduling events using a day-ahead or week-ahead forecast would support the achievement of this objective.
- Utilities should consider establishing a minimum and maximum number of annual events – a decision which will depend on the final program design. A minimum number of events will guarantee access to a minimum amount of compensation for those customers who participate fully, and a maximum number of events will limit customer attrition by ensuring customer access to sufficient ESS capacity.

In conclusion, we reiterate our appreciation of the Board's attention to this important program, and look forward to the publication of the revised Straw Proposal. Should the Board have any outstanding questions related to these comments, we are available to provide further context by email or phone.

Sincerely,

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