

December 12, 2022

Response from Fermata Energy to the New Jersey Bureau of Public Utilities' Request for Comments on the New Jersey Energy Storage Incentive Program Straw Proposal (Docket No. QO22080540)

Fermata Energy appreciates the opportunity to respond to the New Jersey Bureau of Public Utilities (NJ BPU) Staff request for comments on the New Jersey Energy Storage Incentive Program (NJ SIP) Straw Proposal, Docket No. QO22080540.

Fermata Energy is a leading provider of Vehicle-to-Everything (V2X) services, which includes Vehicle-to-Grid (V2G) and Vehicle-to-Building (V2B). Fermata Energy has multiple V2X deployments across the country, enabling electric vehicle (EV) owners to discharge power from the batteries onboard their EVs for onsite power. Our V2X technology benefits our users, transforming EV charging from a cost to a revenue-generating, grid-supporting asset.

Overall, we commend Staff for assembling a thoughtful Straw Proposal that considers review of energy storage project deployment rates and costs to revisit the NJ SIP design, specifically to re-examine block size and incentive for Grid projects, and incentives for energy storage deployment in overburdened communities. This flexibility will ensure value for NJ rate payers that accounts for changing battery material and project costs.

We recommend Staff consider alternative ownership models for energy storage projects. V2X technology enables utilities to access battery storage onboard EVs anywhere the utility can own and control a bidirectional EV charger. Allowing utilities to own and operate this infrastructure may achieve two goals for NJ: accelerate transportation electrification and accelerate the deployment of battery energy storage on the grid to support grid decarbonization. Allowing these alternative ownership models, particularly in overburdened communities, can boost EV access and energy storage deployment, as we will discuss further in our comments.

Fixed Incentive

Staff proposes to use a declining block market design to set the fixed portion of the NJ SIP incentive. The initial level is intended to cover 30% of the total fully installed cost of the project. The fixed incentive would be paid annually to Grid Supply and Distributed projects for a fixed term of years as long as the resource meets up-time performance metrics.

Staff believes incentive levels via a declining block provides more certainty to project developers than a pay-as-bid structure, while still allowing for incentive levels to react to the market. However, Staff welcomes comment if stakeholders believe that a pay-as-bid system is preferable.

Fermata Energy supports the declining block structure, recommending Staff consider revisiting block sizes and value based on initial market response.

Initial Block Incentives, Decreases, Mechanics, and Reset Mechanism

Staff seeks comment on the initial annual incentive amount should be in \$/kWh of storage capacity for both the Grid Supply and Distributed programs. Staff suggests 10 annual payments of \$20/kWh of storage capacity for the grid supply program and \$40/kWh of storage capacity for the distributed program for the first-year incentive block. If the data shown from Staff that NREL projections of Li-Ion to

drop to \$150-\$250/kWh by 2030, this is 25% to 33% of cost. While accurate based on data available at the time of NREL's forecast, this forecast is nonetheless speculative given lithium resource demands from the transportation and power infrastructure sectors that may drive prices up over time.

Staff research that draws upon NREL projections of 2030 Li-Ion prices being \$150/kWh - \$250/kWh seems reasonable at this time, however Staff should consider revisiting this value at a future date as demand for Li-Ion and battery components are expected to increase. Li-ion value is speculative at this time, and demand for battery components will increase, possibly increasing, rather than decreasing, the cost to deploy storage projects. Given competing demands from transportation electrification goals and grid decarbonization goals that call for battery energy storage to better integrate intermittent renewable generation, it is possible that the price of Li-Ion may increase.

Decrease between declining blocks

Staff recommends a \$2/kWh decrease in annual payments between each block. By starting with relatively small blocks, Staff believes that the NJ SIP can protect against excessive rate impacts, while moving quickly to deploy the storage program. The IRA and other federal tax policies may warrant moving incentives up or down, Staff seeks comments on where initial incentives should be set.

Fermata Energy agrees with Staff, that over the course of the SIP it should review drivers affecting the cost to develop and operate energy storage projects to inform the payment difference between blocks. We agree that the proposed \$2/kWh decrease is a suitable starting point for decrease between procurement blocks.

Overburdened communities and distributed storage

Staff seeks comment on the best way to ensure that Distributed storage resources locate in overburdened communities, including the following options:

1. Establishing an adder of to be determined value per kWh of energy storage capacity to the fixed portion of the incentive for projects located in overburdened communities; or
2. Establishing a separate Capacity Block limited only to customers in overburdened communities; or
3. Adding an additional up-front incentive for projects in overburdened communities to help defray the initial cost of installation

Of these three options, the best incentives lie in #2 and #3 but do not guarantee resources will be deployed in overburdened communities. As Staff notes, the Grid Supply NJ SIP incentive prioritizes locating in areas with the highest carbon emissions, which tend to be overburdened communities, however this on its own does not guarantee project deployment in overburdened communities.

Fermata Energy recommends Staff consider alternative business models for the distribution utilities to implement—utility ownership of energy storage, that will allow utilities to own, develop, and operate projects that serve overburdened communities; pathways to accelerate utility upgrades of infrastructure in overburdened communities to reduce the cost for developers to deploy in these energy storage interconnection, such that project developers seeking to interconnect to the substations and circuits in these areas may be certain there is substantive hosting capacity available and the projects do not incur grid upgrade costs; partnered ownership between utilities and the storage developers to share the cost

to develop, deploy, and operate assets in overburdened communities may also accelerate deployment in these areas.

Performance metrics

Staff seeks feedback on how to assess Grid Supply availability and Distributed Resource performance. Fermata Energy agrees that Grid Supply availability should be assessed in the same fashion used by PJM for consistency for operators who are participating in the SIP and PJM market.

Fermata Energy recommends the resource be sized per the inverter size that connects the resource to the grid. Whereas Staff presents how a stationary battery's capacity can be prorated based on inverter size and duration it can dispatch to the grid, V2X resources may switch out a low state of charge battery for a fully charged battery to continue dispatching at full inverter rating.

Regarding baselines, Fermata Energy recommends Staff consider the potential for the proposed rolling baseline of site electricity consumption to be gamified such that customers are rewarded for increasing electricity usage on non-event days to boost their calculated event day impacts. Alternatives include measured dispatch, however this method excludes the value of "virtual batteries", however idle batteries do not provide the same value as discharging batteries. Idle EV batteries or EV charge curtailment under V1G management and idle water heaters present an absence of load on the grid. While reducing loads is valuable during system peaks, it is not equivalent to providing the service of dispatching service to the grid so would not show up as a measured service to the grid. A possible alternative that eliminates gamification and can reward "virtual batteries" is to use a control group, as presented in a February 2022 CAISO study¹, however Staff will need to create the process by which to define "control" customers to serve as a counterfactual to customers who are providing energy storage services to the grid.

Fermata Energy agrees with Staff's proposal to exempt Distributed storage projects from availability requirements. Exempting Distributed Resources from availability requirements would be consistent with rules in New York, Massachusetts, Connecticut, Rhode Island, and other States that allow Distribution customers to connect their energy storage resources to the grid to participate in utility managed demand response programs. Customer incentives are calculated per their participation in demand response events, such that their total incentive payment is prorated based on the percentage of time they dispatch their resource in response to the utility signal.

We also agree with Staff's criteria for EDC Pay for Performance systems: maximize environmental benefits of storage deployment, minimize distribution investment, and minimize stress on the local distribution system and reduce operating costs. We recommend the EDCs and Staff evaluate the New York Value of Distributed Energy Resource tariff and Connected Solutions programs deployed in Connecticut, Massachusetts, and Rhode Island for program designs that incentivize the deployment of Distributed storage projects.

In closing

Fermata Energy appreciates the opportunity to respond to the BPU's request for comments. We welcome the opportunity to share our experience in designing, deploying, and operating V2X projects to

¹ CAISO. "Analysis of Open-Source Baseline and Comparison Group Methods to Enable CAISO Demand Response Resource Performance Evaluation" (http://www.caiso.com/Documents/Demand-Response_Advanced_Measurement_Methodology_updated_Feb_2022.pdf)



assist BPU in its consideration of designing the NJ SIP. Our Director of Grid Solutions and Strategic Partnerships, Melissa Chan (melissa(at)fermataenergy(dot)com), may be contacted to further discuss our response. We would be happy to provide a complete briefing.