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STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of Energy Storage Deployment Program	**Case 18-E-0130**

COMMENTS OF THE LONG ISLAND POWER AUTHORITY ON ENERGY STORAGE ROADMAP

I. BACKGROUND

The Long Island Power Authority ("LIPA") submits these comments in response to the NYS Public Service Commission's July 17, 2018 Notice Soliciting Comments on the New York State Energy Storage Roadmap ("ESR") and the Department of Public Service ("DPS") and New York State Energy Research and Development Authority ("NYSERDA") Staff Recommendations (Roadmap) filed in Case 18-E-0130.[1]

The ESR (at p.4) states that energy storage ("ES") will serve many critical roles: (1) as intermittent renewable power sources, like wind and solar, will be providing a larger portion of New York's electricity supply, "storage will be used to smooth and time-shift renewable

[1] Filed on June 21, 2018, in Case 18-E-0130 - *In the Matter of Energy Storage Deployment Program.*

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generation and minimize curtailment (the need to reduce output due to grid limits)"; (2) as the grid becomes "smarter and more decentralized, storage will be deployed to store and dispatch energy when and where it is most needed;" (3) storage will also help "meet [New York's] peak power needs"; and (4) storage can meet multiple system needs that can provide "operational flexibility [that] is especially important as the electric system evolves to become more decarbonized, decentralized, and complex." The Roadmap's primary focus is to identify primary deployment opportunities in three market segments: customer-sited deployments, distribution system deployments and bulk system deployments. The State has adopted a 1,500 MW goal for energy storage systems to help realize the above benefits.

LIPA recognizes the potential benefits that energy storage can provide, as demonstrated by LIPA's contracts for two five-megawatt energy storage systems (along with offshore wind and demand response) to help defer transmission reinforcements on the South Fork of Long Island. LIPA's proposal of additional energy storage initiatives in its June 29, 2018 Utility 2.0 Plan[2] supports locating energy storage where it is most economical and advantageous. Integrating 1,500 MW of Energy Storage Resources must be considered in a holistic and comprehensive manner, together with other state Clean Air, distributed energy resources, and Offshore Wind policy initiatives, to optimize the overall benefit from the State's renewable energy strategy while maintaining electric service that is affordable and reliable.

To facilitate achieving the State's 1,500 MW of ES by 2025 goal, LIPA recommends that DPS and NYSERDA consider a potential alternative to direct utility procurement of energy storage. To the extent that incentives are needed to help start the development pipeline for

[2] Utility 2.0 Long Range Plan 2018 Annual Update Prepared for LIPA by its Service Provider, PSEG Long Island. The 2018 annual update includes an Advanced Storage: Behind-the-Meter Energy Storage with Solar proposal.

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storage, NYSERDA could facilitate the acquisition of storage through central procurement in a manner similar to the Commission's approach for procuring offshore wind, provide a basis for equitable statewide sharing of the cost of such incentives, while assuring that storage is located in the most valuable locations within the State. Such an approach would facilitate achieving the State's 1,500 MW goal by 2025.

The following comments are organized based on the Roadmap's table of contents headings.

II. COMMENTS

Section 1 – Introduction

The ESR states its "analytical framework is grounded in the economics and value proposition of energy storage" (ESR, p. 7). Recommended actions include implementing "direct procurement approaches" by LSEs such as non-wires alternatives ("NWAs") and RECs from renewable resources paired with ES to expand the market (p. 12). Will there be a mandate/schedule, or interim milestones, by which LSEs must show progress towards meeting the ESR goals? Importantly, the methodology by which all LSEs in New York State will be assigned a share of the overall mandate to procure storage needs to be articulated. LIPA believes that a load ratio based *pro rata* share of the mandate is the most fair and equitable approach. As discussed in Section 4.3 below, LIPA also proposes a direct central procurement for storage resources by NYSERDA, similar to the procurement of Offshore Wind Renewable Energy Credits.

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Section 4.1.2 – Commodity and Delivery Costs for Storage Charging and Discharging

The ESR advocates re-examining charging/discharging rate designs for ES resources and seeks input from stakeholders on these issues. As discussed below, LIPA has proposed rate structure changes to facilitate behind-the-meter (BTM) energy storage. LIPA looks forward to participating in such discussions with DPS, NYSERDA, NYISO and other stakeholders on this topic.

Section 4.3 - Direct Procurement

LIPA believes that a potential alternative to direct utility procurement would be for NYSERDA to centrally procure energy storage resources in a manner similar to its approach to procuring offshore wind.[3] This likely would expedite the acquisition of storage, provide a basis for equitable cost sharing, and ensure a consistent and manageable deployment schedule.[4]

Section 4.3.3 – Large-Scale Renewables Procurement

The ESR (at p. 46) explains that New York's Large-Scale Renewable ("LSR") programs, led by NYSERDA and NYPA, encourage energy storage development in conjunction with intermittent renewable generation. The aim is to promote the addition of flexible storage assets in the bulk system as New York State increases the amount of intermittent resources. One of the ways that the State will encourage storage is by "…incorporating storage into criteria for large scale renewable energy procurements…" The ESR notes that "…NYSERDA's LSR evaluation

[3] *Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement*, Case 18-E-0071 - *In the Matter of Offshore Wind Energy* (issued September 4, 2018).

[4] For example, to maximize efficiencies, NYSERDA could elect to financially support energy storage in areas of the State where it would have the most value. The Commission would assign to LSEs statewide a *pro rata* share of the amount that NYSERDA pays to incent such energy storage development – e.g., through a mechanism similar to ORECs for offshore wind.

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criteria give[s] additional consideration (currently up to six additional points) to bids committing to develop energy storage…"

Coordination with the affected utility on siting ES resources – *e.g.*, in conjunction with NYSERDA's offshore wind RFP – will help to ensure that consideration of storage options in particular proposals is reasonable and appropriate in terms of location, use case, amount, cost, system impact to the affected utility.

Recognizing that ES may also address distribution and transmission system needs, we look forward to working with DPS, NYSERDA, NYISO and/or other stakeholders to share our experiences in developing, implementing and integrating ES resources in the LIPA service area.

Section 4.4 – Market Acceleration Incentive

Recommended actions include using "market acceleration bridge incentives" to accelerate market development. Staff recommends establishing a $350 million incentive and that NYSERDA work with the investor-owned utilities and LIPA to develop a framework for the managing the incentive. Staff estimates that the program could lead to significant amounts of storage on the system by 2021-22.

LIPA recommends that incentives be conditioned on locating storage projects in the most valuable locations on the grid. By using a competitive, central procurement of "storage attributes" including the value of DER services via the value stack (i.e., those attributes that are not fully monetized in the NYISO market or in utility dynamic load management (DLM) programs), NYSERDA could assure that the most optimal projects are selected, thus maximizing the results from limited incentive funds.

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Section 4.5.4 – Data Access

The ESR notes that "improving data access and identifying high need areas is essential…" and that "…increasing access to distribution system data would facilitate planning and siting." It also recommends that a number of data sets be made available within 12 months following Commission action. The data sets include detailed monthly capacity and production data, hourly load data – actual and forecasted, and specific types of distribution system data, such as substation location and equipment ratings, location and ratings of distribution circuits and equipment.

How will security concerns, data accessibility, and data retention issues be addressed in the process of data exchange? There will be a need for a vetting process, including data protection and confidentiality requirements, before developers can receive sensitive customer or utility system data.

Section 4.6 – "Clean Peak" Actions

The ESR notes (at p. 63) that conventional generation units in NYISO Zone J and Zone K (*i.e.*, New York City and Long Island) may be replaced to some extent by ES.

Market sizing estimates reflect an equal distribution of MWs (500 MWs each) among three sectors, *i.e.*, customer, distribution, and bulk electric system. While this is presented as "one path" for reaching 1500 MWs by 2025, the ESR notes that it was informed by project economics and sizing estimates prepared by E3 (*i.e.*, a consultant to NYSERDA) and the Accelerex energy storage study. Sector sizing should ultimately reflect market needs in each LSE's service territory and not be predetermined.

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"Clean Peak" considerations include the proposal to develop a differentiated "E" value in the Value of Distributed Energy Resources ("VDER") value stack to reflect time of day/season marginal carbon emissions. There is also a recommendation to develop a methodology for analyzing peaker units' operational and emission profiles on a unit by unit basis to determine candidates for hybridization, repowering or replacement by ES resources.

There are significant ramifications of these recommendations to peaker units, dependent on implementation timing, methodology, and restrictions. Development and shaping of the "E" value should involve utility participation, study and agreement among the affected entities.

The ESR (at p. 65) states "Con Edison and LIPA to collaborate with DPS Staff, and any other appropriate entities, to produce a Peaking Unit Contingency Plan that incorporates results from the Reliability and Operational Assessment Studies to be submitted to the Commission by July 1, 2019." The Reliability and Operational Assessment Studies, as well as the Peaking Unit Contingency Plan, should factor in other major state policy initiatives (such as developing 2,400 MW of offshore wind) that will likely stress and impact the interconnecting downstate electric systems. LIPA is prepared to work with Con Edison and DPS on these plans.

General Comments

- It is important that energy storage goals, and operational and cost impacts, be considered/evaluated in a broader context that includes market and grid changes due to offshore wind development, changing environmental regulations (*e.g.*, NOx and carbon), and other policy and technology goals.

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- The 2018 PSEG LI Utility 2.0 Annual Filing includes an **Advanced Storage: Behind-the-Meter Energy Storage with Solar proposal**, that contains the following key program elements:
    - PSEG Long Island proposes to implement an innovative, open solicitation program opportunity for third-party aggregators to install residential batteries paired with new or existing solar for eligible customers. The goal of this pilot program would be to catalyze the local availability of energy storage for the commercial and residential market while providing load relief, especially in those defined areas of the electric grid where peak demand needs are most critical. The program plans to utilize a tariff-based incentive for verifiable reductions in customer load, coordinated through third-party aggregators, who execute participation agreements. The program will be device and supplier agnostic to allow full market participation.
    - The residential energy storage program is a 10-year tariff incentive program proposed by PSEG Long Island to meet the following goals:
        - Provide PSEG Long Island controlled load modification tariff in constrained locational system relief value (LSRV) zones to alleviate overloading conditions.
        - Accelerate the residential storage market to engage suppliers, installers, and third-party aggregators. Utilize the expiring Investment Tax Credit (when installed with new or existing solar panels) while it is available.
        - Drive increased engagement with eligible customers, drive energy literacy and increase customer satisfaction.

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- Support residential energy storage growth to contribute to meeting state energy goals while allowing all aggregators to participate.

- PSEG LI staff is developing a Solar plus Battery Storage Calculator to model behind the meter (BTM) demand customer project economics. The calculator will utilize 15-minute demand interval data to determine the cost/benefits of using battery storage for peak shaving to reduce customer demand charges for demand customers who are considering solar plus battery storage. The analysis of expected cost/benefits would take into account the interaction of other sources of other savings/incentives (DLM, VDER, TOU, and Resiliency). The analysis will help define bridge incentive values.

III. CONCLUSION

The Commission should support locating energy storage in locations where is it is most economical and advantageous. The approach to integrating 1,500 MW of Energy Storage Resources needs to be holistic and comprehensive, considering other state energy policies including REV, the Clean Energy Standard, Clean Air, distributed energy resources, and Offshore Wind initiatives, to optimize the overall benefit from the State's energy and renewable energy vision while maintaining affordable and reliable electric service for all electric customers.

To facilitate achieving New York State's 1,500 MW ES goal by 2025, DPS and NYSERDA should consider NYSERDA's central procurement of energy storage resources in a manner similar to the Commission's approach for procuring offshore wind energy credits (ORECs). This likely would optimize the acquisition of storage, provide a basis for equitable cost-sharing among the various utility customers, and ensure a consistent and manageable deployment schedule.

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Respectfully submitted,

LONG ISLAND POWER AUTHORITY

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