New York Battery and Energy Storage Technology Consortium, Inc.

VIA ELECTRONIC FILING

August 23, 2021

Hon. Michelle L. Phillips
Secretary to the Commission
New York State Public Service Commission
Empire State Plaza, Agency Building 3
Albany, New York 12223-1350

Re: PSC Matter Number 14-01299 – PSEG LI Utility 2.0 Long Range Plan – 2021 Annual Update

Dear Secretary Phillips:

The New York Battery and Energy Storage Technology Consortium ("NY-BEST") is pleased to submit these comments for consideration in the above referenced case in relation to the **Utility 2.0 Long Range Plan - 2021 Annual Update** ("2021 Plan") filed by PSEG Long Island ("PSEG-LI") on July 1, 2021.

INTRODUCTION

The New York Battery and Energy Storage Technology Consortium ("NY-BEST") is a not-for-profit industry trade association with a mission to catalyze and grow the energy storage industry and establish New York State as a global leader in energy storage. Our 175 member organizations include: technology developers ranging in size from global energy storage companies to start-ups, manufacturers, project developers, project integrators, engineering firms, law firms, leading research institutions and universities, and numerous companies involved in the electricity and transportation sectors.[1]

NY-BEST and our members have been actively engaged in the State's Reforming the Energy Vision (REV) initiative, as well as the development and implementation of the State's Energy Storage Roadmap. We supported the enactment of the State's Climate Leadership and Community Protection Act[2] and its nation-leading goals to:

[1] NY-BEST comments reflect the position of the organization as a whole and do not necessarily represent the position of our individual members. Our membership has diverse interests and NY-BEST seeks to represent the broad interests of the energy storage industry.
[2] New York State Climate Leadership and Community Protection Act, Chapter 106 of the Laws of 2019 https://www.nysenate.gov/legislation/bills/2019/s6599

- reduce greenhouse gas emissions by 40 percent by 2030 and achieve net zero greenhouse gas emissions economy-wide by 2050;
- deploy 3 GW of energy storage on the electric grid by 2030;
- deploy GW of solar by 2025 and 9 GW of off-shore wind by 2035; and
- achieve 70 percent renewable energy by 2030 and zero emission energy by 2040.

NY-BEST participates on the Power Generation Advisory Panel of the Climate Action Council (CAC). The Panel has made several recommendations[3] to the CAC for achieving the CLCPA goals that are worthy of consideration by LIPA and PSEG-LI. NY-BEST is firmly committed to achieving these goals and stands ready to assist in their implementation.

General Comments on the 2021 Plan

NY-BEST recognizes PSEG-LI for its efforts in developing the Utility 2.0 Long Range Plan - 2021 Update and for its stated commitment to achieve the State's renewable energy and greenhouse gas reduction goals. NY-BEST acknowledges that PSEG-LI has made important incremental strides over the past five years toward the goals envisioned under the State's Reforming the Energy Vision (REV) initiative.

NY-BEST also acknowledges PSEG-LI and LIPA for its recent bulk energy storage RFP, its Dynamic Load Management program aimed at deploying behind-the-meter (BTM) solar and storage resources, and efforts to develop a Non-Wires Solutions (NWS) playbook that will facilitate utility-scale storage projects. We also commend PSEG-LI for its new and on-going electric vehicle initiatives and Make Ready program.

While these are notable initiatives, when compared to the State's now-mandated climate and clean energy goals, these initiatives are simply insufficient in scope and pace to clean and modernize Long Island's electric grid to meet the State's mandated goals. Unfortunately, as we have noted in past comments on previous years' Plan Updates, the 2021 Plan continues to take a narrow, incremental and conservative approach and fails to provide a clear path to the future which aligns with and supports the State's goals.

NY-BEST recognizes that LIPA has also kicked-off its Integrated Resource Plan (IRP) which includes a more comprehensive examination of Long Island's electric grid system. We remain hopeful that the IRP process will take a wholistic approach to examining Long

[3] Power Generation Advisory Panel Recommendations to the CAC, May 10, 2021, https://climate.ny.gov/-/media/CLCPA/Files/2021-05-03-Power-Generation-Recommendations.pdf

Island's future electric grid needs and give full consideration to the essential role of energy storage in achieving a clean resilient and reliable grid.

While NY-BEST supports many of the components of the 2021 Plan, we are concerned that the 2021 Plan continues to fall short in major areas, especially with the scope, scale and timing of initiatives related to energy storage. We describe these in more detail below and provide recommendations to address these shortcomings.

Energy Storage Deployment

NY-BEST is disappointed that the 2021 Plan continues to take an incremental approach to examining Long Island's electric grid system needs, especially in light of the State's mandated clean energy and GHG emission reduction goals.

NY-BEST disagrees with PSEG-LI's overall approach to its energy storage deployment goals. In the Plan, PSEG-LI states that they seek to install approximately 188 MW of storage by 2025 and derive that number by taking Long Island's share of the statewide peak load (12.5%) and applying it to the State's 2025 storage target of 1500 MW. Rather than taking this limited approach, NY-BEST continues to urge LIPA and PSEG-LI to comprehensively examine how Long Island's electric grid could benefit from energy storage and determine the optimum amount of storage – both bulk and distributed energy storage - that should be strategically deployed on Long Island to support the State's renewable energy and carbon free emission goals.

Importantly, the statewide 1500 MW by 2025 target and subsequent 3 GW by 2030 energy storage goal were established *as minimum amounts of energy storage needed to put the State on track to meet the State's* ***former*** *50 percent renewable energy by 2030 goal*. These energy storage targets/goals do not reflect an analysis of the optimum amount of energy storage needed to enable the more recently established statewide goal of 70 percent renewable energy by 2030, nor are they correlated to the zero-emission electric grid by 2040 goal.

The Power Grid Study[4] commissioned by the State and released in January 2021, examined the State's system needs to meet the 2040 zero-emission grid goal. Among other important findings, the Study found that the State will need more than 15 GW of 4-hour duration energy storage by 2040 statewide –of which 7,300 MW will need to be located in New York City and

[4] Initial Power Grid Study, January 19, 2021, prepared by DPS and NYSERDA staff, Brattle and Pterra https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={E41D6A17-1EA5-47D3-90E8-A4E981705FE3}

Long Island-- and a similar amount of longer duration energy storage is needed to achieve a zero-emission grid.

To address this, NY-BEST encourages PSEG-LI/LIPA to conduct a comprehensive analysis of the Long Island electric grid to determine the need for energy storage and the benefits storage could provide on Long Island. An analysis, similar to the work done by NYSERDA and its consultants for the Statewide Energy Storage Roadmap, that is focused on specific considerations for Long Island, would enable a thoughtful and informed plan for modernizing Long Island's grid and achieving the State's clean energy goals.

Energy storage can provide numerous benefits to Long Island's grid while also enabling the State's goals, including:

- Peaker replacement
- Off-shore wind integration
- Renewables integration – reduced curtailment
- Resilience
- Transmission and distribution asset
- Load pocket relief and load management
- Enhancing Hosting capacity
- Empowering customer

A comprehensive storage roadmap for Long Island would closely examine the role for storage and help unlock the many benefits storage could provide. It would also likely identify needs for storage well above the 188 MW identified in the 2021 Plan. NY-BEST anticipates that such a study would likely recommend energy storage deployment levels for Long Island on the order of 1 GW or greater of energy storage by 2030.

With respect to energy storage bulk procurements specifically, we are pleased that PSEG-LI released an RFP in 2021 to procure 155-175 MW of energy storage--a major step forward for the Long Island grid and for the industry. However, we were disappointed that it was delayed from 2020 and that the procurement did not include a third-party ownership model – consistent with the Public Service Commission's previous directives concerning utility ownership of energy storage – and we urge PSEG-LI and LIPA to include such an option in future procurements. We further urge PSEG-LI and LIPA to plan additional bulk energy storage procurements in the near future.

Role for Energy Storage in Replacing Peaking Units on Long Island

LIPA has an old and aging fleet of peaking generation and will be the host for significant amounts of variable renewable energy resources (Offshore Wind and Solar). Given the State's mandated goals to achieve carbon free electric grid by 2040, as well as the Department of Environmental Conservation's NOx regulations limiting NOx emissions from peaking generations units, it is clear that the State must require PSEG-LI and LIPA to develop and implement a comprehensive, environmentally sound plan for the future of these units. Energy storage can and should play a pivotal role in that plan.

NY-BEST was pleased to read the following in Appendix C of the 2021 Plan:

> "PSEG Long Island sees a role for large-scale energy storage systems in managing peak demand on Long Island. With changes in environmental rules for gas emissions, PSEG Long Island expects that it will become more critical to deploy alternatives to fossil fuel-based peaker units, which provide most of the peak generation capacity on Long Island."

However, NY-BEST is concerned that the 2021 Plan Update fails to address this issue again this year, especially given DPS staff comments from 2018 that were reiterated in 2019, where they stated the following:

> *"DPS recommends that in the next Utility 2.0 filing, PSEG LI and LIPA report on their consideration of pairing energy storage solutions with peak generation resources at specific peaking units to meet evolving New York State energy and environmental goals and regulations. For example, energy storage may reduce the environmental impact of aging generation resources in furtherance of the Department of Environmental Conservation's proposed NOX regulations and a study may be performed in conjunction with that process. PSEG LI should also continue to consider the potential impact of T&D infrastructure deferral or avoidance by pairing energy storage with existing peak generation resources and at the receiving sites for offshore wind as well as new system needs that begin to arise such as ramping resources to firm solar energy which energy storage could provide. To the extent a study can be expanded, it should also evaluate various scenarios that reflect increasing the MWs of storage installed on the system and analyzing storage goals exceeding 300MW. In accordance with the foregoing, the Department recommends that PSEG LI pursue installation of the battery at Miller Place,*

and continue the Company's efforts to evaluate the peaking generation fleet's ability to include greater amounts of renewable resources including energy storage solutions."[5]

In October 2020, NY-BEST, in conjunction with Strategen, released a Study[6] examining the role of energy storage in replacing fossil-fueled peaking generation on Long island. The Study found that more than 2,300 MW of fossil fueled peaking power plants on Long Island can be cost-effectively replaced with energy storage over the next decade, saving Long Island customers more than $390 million over the next ten years and significantly reducing harmful air pollutants.

The Study examined the operations of Long Island's aging fleet of fossil-fueled peaker plants, those power plants that operate primarily only during high demand or peak times. The analysis showed that it is technically feasible and cost-effective to replace more than 2,300 MW of Long Island's 4,300 MW fossil-fueled peaker plants with energy storage over the next decade. It also found that approximately half of the peaker plants, around 1,100 MW, could be retired and replaced with energy storage by 2023. The remaining 1,200 MW could be replaced by 2030, in conjunction with New York State's plans to increase solar energy, energy efficiency measures, and offshore wind resources.

Given that the majority of the peaking units and fossil generators are located in or near disadvantaged communities, NY-BEST strongly urges that the phase-down of these units be accelerated to reduce the negative environmental impacts these units continue to impose on these communities.

We urge LIPA and PESG-LI to review the NY-BEST/Strategen study and consider it in the development of a detailed plan for phasing out the fossil-fueled peaker fleet on Long Island.

We further recommend PSEG-LI/LIPA begin to procure strategically located storage to initiate replacing 1,100 MW of peakers on Long Island. The peakers have low capacity factors and the DEC NOx rules will require investment to maintain the fleet. Our proposed approach would advance the State's zero emission energy goals, reduce regulatory risk, increase the flexibility of the system, improve fuel independence and reduce the total costs to customers.

[5] DPS staff comments on PSEG-LI 2018 Utility 2.0 Plan Update, November 2018, p. 14
[6] Long Island Fossil Peaker Replacement Study, October, 2020, NY-BEST and Strategen
https://cdn.ymaws.com/ny-best.org/resource/resmgr/reports/ny-best_lipa_peaker_replacem.pdf

NY-BEST also encourages LIPA and PSEG-LI to begin piloting long duration energy storage solutions (8+ hours) that can be leveraged to replace fossil-fueled generation and increase systemwide reliability on Long Island. As the electric grid evolves to become the high renewable and carbon free grid of the future, load shapes will change and a portfolio of short and long duration energy storage will be needed to manage the energy from an increasing amount of intermittent resources. Deploying a mix of storage resources now will enable the clean grid of the future.

PSEG-LI Should Pursue Additional Benefits of Storage in the 2021 Plan

NY-BEST is also concerned that the 2021 Plan update does not consider additional ways storage can strengthen Long island's grid while enabling the State's clean energy mandates. These include:

Offshore Wind Integration – New York State has a statutory goal to deploy 9,000 MW of Offshore Wind (OSW) by 2035. Much of this will be connecting on Long Island. PSEG-LI, LIPA and other state agencies must develop a holistic plan for integrating these OSW resources and energy storage is a key element to those plans. Planning for the deployment of storage jointly with OSW can facilitate OSW integration, enable PSEG-LI/LIPA to strategically plan for necessary grid upgrades, and mitigate curtailments by strategically procuring energy storage. NY-BEST recognizes that the costs of integrating OSW resources should not be borne solely by LIPA ratepayers, as the benefits of the OSW are experienced by the entire state. However, given PSEG-LI/LIPA's operational responsibility and knowledge of the grid system on Long Island, PSEG-LI will need to be involved in designing technical and economic solutions.

Storage as a T&D Asset

NY BEST urges LIPA and PSEG-LI to recognize the value of **proven cost-effective** new technology alternatives to traditional T&D solutions. Grid-scale energy storage is a cost-effective alternative to traditional infrastructure investments, capable of being deployed to optimally meet the needs of the grid and enhance the utilization of existing infrastructure. This includes:

- *Greater renewable energy utilization (i.e., to reduce curtailments and increase renewable power delivery to LIPA customers)*
    - Energy store can be deployed as a transmission or distribution asset, mimicking the operation of conventional infrastructure to increase system headroom and energy deliverability for renewable energy,

resulting in less curtailment and increased renewables delivery. Transmission planning for increased renewable energy generally looks at relieving congestion and allowing energy to be transported. As renewable energy becomes a greater portion of our energy production, there will be times of over-generation when simply relieving transport constraints will still not allow the energy to be utilized. Energy storage assets can both relieve congestion and ensure that energy produced at times of over-generation is utilized. NY-BEST recommends that "Transmission" be broadened to "Energy Delivery" in the IRP study.

- *Streamlined renewable energy project deployments to deliver benefits more quickly*
  - Energy storage is capable of being deployed months to years faster than traditional grid infrastructure, matching the rapid deployment speed of renewable energy projects. That deployment speed can increase capacity for renewable energy on the T&D system more quickly, leading to increased savings for LIPA customers.
- *System expandability to interconnect renewable generation and value of optionality*
  - Grid-scale energy storage is a modular, low-impact solution with limited footprint compared to conventional T&D poles and wires. Energy storage resources can be scaled to meet growing renewable generation demand and expand with the grid as needed, as opposed to the often "lumpy" and large-scale up-front investment needed to expand conventional transmission and distribution infrastructure. The ability to incrementally expand the system allows planners to address multiple growth scenarios efficiently with lower risk of under-utilized or insufficient investment resulting from large, long time horizon projects. NY-BEST recommends that the IRP study consider the value of optionality in evaluating multiple load and renewable energy deployment scenarios.
- *Improved system flexibility to manage intermittent resources*
  - Energy storage is proven to provide increased flexibility to the grid through grid services.
- *Firmness of renewable generation projects that would be facilitated by the proposed local transmission and distribution investments*
  - Grid-scale energy storage's modular deployment capability ensures investments match known requirements rather than projected future scenarios. Energy storage limits the need for "firmness of renewable generation projects" as it can be deployed in small increments as specific renewable project developments become

more certain. Conventional T&D infrastructure requires long-term projections of generation, increasing uncertainty and the odds of underutilized infrastructure.

- *T&D deferment*
  - Energy storage can defer T&D expansion and stack wholesale value streams (energy + ancillary services), reducing the total cost to the customer. NY-BEST encourages PSEG-LI/LIPA to move forward with the North Fork Non-Wires Alternative (NWA) project , as described by the RFI that was released on April 10, 2020. NY-BEST also encourages LIPA/PSEG-LI to evaluate similar opportunities for T&D deferment in other congested regions of Long Island.

- *Load pocket reliability*
  - Storage can address load pocket reliability on Long Island. Long Island has over a dozen on-island load pockets. Expansion of traditional transmission and distribution systems to address these load pockets may be challenging [7] and costly. Energy storage offers a technically sound, flexible approach with the additional benefit of "optionality" to address future changes in intermittent energy supply and load. In particular, energy storage can support non-coincident peak loads, such as those found on the east end of Long Island.

Customer-Sited Energy Storage

PSEG-LI's BTM Storage with Solar program is aimed at third-party aggregators installing batteries paired with new or existing solar for residential PSEG-LI customers. The program uses a Dynamic Load Management (DLM) tariff-based incentive through which third-party aggregators and participants are compensated for verifiable load reductions. According to PSEG-LI, through 2020, there were 495 battery storage installations behind customer meters, but none have enrolled in the DLM tariff. PSEG-LI attributes low enrollment to the

[7] See LIPA LTP Page 16. https://www.psegliny.com/aboutpseglongisland/-/media/79B97BB8DD7F4A4F9B3B146A26E620FF.ashx

costs associated with aggregation and enrollment outweighing the compensation they would receive through the tariff.

Given the important benefits that energy storage can provide to Long Island's electric grid, NY-BEST encourages PSEG-LI to continue to work with the energy storage industry to identify improvements to the DLM program and tariff-based incentive to remove barriers, reduce costs and increase program benefits under this program and potential future initiatives. NY-BEST would be happy to facilitate industry dialogue with PSEG-LI on this and other topics.

Non-Wires Solutions

NY-BEST is disappointed that the 2021 Plan does not include any specific NWS projects for 2021. As the Public Service Commission has noted on numerous occasions, NWS projects are essential to ensuring the intelligent investment in transmission and distribution upgrades. Given PSEG-LI's experience with NWS projects to date particularly in the South Fork, we expected that the Plan would identify additional projects for 2021.

NY-BEST recognizes that the 2021 Plan Update contemplates the completion of a Non-Wires Solution (NWS) Playbook which will include a formalized, replicable, and transparent process for identifying, selecting, procuring, and deploying NWS for T&D-level deferral opportunities. We support this effort to establish a process that will include defining market solicitation principles; developing templates for solicitation, bid screening, and contracting; and developing a funding mechanism to enable PSEG Long Island to properly charge NWS solution costs without lengthy budget reappropriation efforts or postponement to future budget cycles.

NY-BEST encourages PSEG-LI and LIPA to develop and implement the Playbook process promptly to avoid costly T&D upgrades being needlessly passed on customers. We strongly encourage that the Playbook be developed through an open and transparent process and seek input from industry and other stakeholders to better ensure its success when implemented.

Further, we strongly encourage PSEG-Li and LIPA to prepare new NWS opportunities as the Playbook is developed so as not to delay these opportunities any longer.

Increasing Hosting Capacity Study

The 2021 Plan includes a proposal to fund a Hosting Capacity Study to identify cost-effective approaches to increasing circuit hosting capacity to allow for increased adoption of DER on constrained circuits. NY-BEST supports this proposal and we strongly encourage that the study examine the role for energy storage in increasing hosting capacity on the LIPA system.

Conclusion

NY-BEST appreciates the opportunity to provide these reply comments on the 2021 Utility 2.0 Plan Update. We encourage DPS staff to advise PSEG-LI to incorporate these comments into its Final Plan actions and implementation. NY-BEST welcomes the opportunity to continue working with staff at PSEG-LI to provide additional information on energy storage technologies and how we can unlock its many environmental, energy, and economic benefits on behalf of Long Island's electric grid.

If you have any questions about these comments or need additional information, please contact us at 518-694-8474 or by email at info@ny-best.org

Thank you.

Respectfully Submitted,

Dr. William Acker
Executive Director