Battery and Energy Storage Technology Consortium, Inc.

VIA ELECTRONIC FILING

January 10, 2017

Hon. Kathleen H. Burgess
Secretary to the Commission
New York State Public Service Commission
Empire State Plaza, Agency Building 3
Albany, New York 12223-1350

Re: CASE 15-E-0302 - In the Matter of the Implementation of a Large-Scale Renewable Program and a Clean Energy Standard

Dear Secretary Burgess:

The New York Battery and Energy Storage Technology Consortium (NY-BEST) appreciates the opportunity to provide comments on the Clean Energy Standard (CES) Phase 1 Implementation Plan Proposal submitted by New York State Energy Research and Development Authority (NYSERDA) staff and Department of Public Service (DPS) staff.

NY-BEST is a not-for-profit industry trade association that serves as the voice of the energy storage industry for more than 160 member organizations. Our membership covers the full span of activities related to research, development, production and deployment of energy storage devices, and currently includes technology developers ranging in size from small start-up companies to global corporations, leading research institutions and universities, national labs and numerous companies involved in the electricity and transportation sectors.

NY-BEST supports the goals of the Reforming the Energy Vision (REV) to build a clean, resilient, and affordable energy system for all New Yorkers, including regulatory reforms to integrate clean energy into the core of New York State's energy system and programmatic redesigns to complement and unlock private investment in clean energy. We also enthusiastically support the Clean Energy Standard mandate to increase renewable energy resources to 50 percent by 2030 ("50 by 30") and the State's goals to decrease greenhouse gas emissions by 80 percent by 2050.

NY-BEST - General Comments on the CES Phase 1 Implementation Plan Proposal

NY-BEST appreciates the efforts of NYSERDA and DPS staff to put forward a detailed Implementation Plan for Phase 1 of the CES. Our primary concern is that the implementation plan for the CES does not specifically identify the need for additional flexible resources in the form of energy storage to be added to the State's grid to support the CES.

NY-BEST continues to assert our position that energy storage is essential to achieving the CES and the State's aggressive greenhouse gas emission reduction goals. We refer to our comments of August 12, 2015 on the Large Scale Renewable Options Paper, our April 21, 2016 comments on the CES White Paper, presentations of NY-BEST and our members at the May 26, 2016 DPS Technical Conference on energy storage, and our June 9th, 2016 Supplemental Comments on the CES.

NY-BEST has continually emphasized the critical role for energy storage to achieve the 50 by 30 goal, as well as the State's larger greenhouse gas emissions reduction goals. Storing the energy produced by renewables for use at a later time when it is needed is essential to optimizing the renewable energy and ensuring the reliability and efficiency of the electric grid, especially as we add increasing amounts of renewable energy to the system. Energy storage enables the operational flexibility of renewable energy resources, and addresses the rapid fluctuation in output from renewables along with resulting ramp-rate issues.

Energy storage is key to creating a cleaner, more resilient and flexible grid system. Energy storage greatly enhances the integration of renewable energy sources on the grid at all levels by time-shifting the energy generated, by firming generator output, and by providing ancillary services such as frequency regulation and spinning and non-spinning reserves. In addition, energy storage resources also provide relief from transmission congestion and reduce the possibility of wind curtailment in high renewable scenarios. Strategically located energy storage can also optimize high renewable generation levels and minimize load pocket congestion. Energy storage paired with solar systems in constrained areas of the distribution system can enable the system to accept higher amounts of solar than would otherwise be possible without significant costly interconnection upgrades or curtailment of the resource.

While some may argue that Canadian hydropower resources will be sufficient to meet the State's increasing needs for flexibility on the grid, energy storage provides needed

flexibility for renewables at **all levels** of the system and, as a result, avoids the need to build additional transmission lines, substation upgrades and other distribution infrastructure upgrades that will likely be required to support Canadian hydropower or needed to support renewable energy integration in ways that remote sources like Canadian hydropower do not impact.

In addition, storage greatly reduces the reliance on fossil-fueled peaker plants to supply the additional flexibility needed to support an increasing amount of renewable energy and, as a result, supports the State's environmental goals. Energy storage also provides enhanced optionality with the ability to add storage capacity to meet system needs without significant cost.

The CES Phase 1 Implementation Plan Proposal appears to recognize the need for operational flexibility in the CES in that it includes "Operational Flexibility and Peak Coincidence"[1] in the proposed ranking and weighting criteria for proposed CES projects and allocates 10 percent of the project weight to this attribute. While NY-BEST views this is a positive step, it is insufficient to ensure that the requisite amount of flexible resources are being acquired and moreover, it continues to fail to recognize the larger issue that is missing from the CES planning – there has been no analysis of the amount of additional flexible assets that the State needs to support the CES.

The amount of storage needed in New York in the presence of high renewables penetration is very much dependent upon the detailed energy mix in the state and the changing intricacies of the grid infrastructure. NY-BEST has provided the Department with modeling and analysis[2] on this issue and has specifically advocated for the Commission to adopt "no regrets" targets for energy storage on the State's electric grid of **1 GW of multi-hour storage by 2022 and 2 GW by 2025** as conservative near-term achievable targets that could be adopted and used to establish energy storage procurement targets in the state. We strongly believe that measures should be put in place now toward achieving these interim targets as well as achieving a goal of 4 GW of multi-hour storage by 2030.

[1] CES Phase 1 Implementation Plan Proposal, October 31, 2016, p. 25

[2] See NY-BEST supplemental comments in Case 15-E-0302, June 6, 2016 and testimony at May 26, 2016 DPS Technical Conference on Energy Storage

In its Order adopting the CES, the Commission stated "Storage is a critically important component of the energy system that is both distributed and increasingly reliant on intermittent resources. Unlike other resources, the load shifting and fast response capabilities of various forms of storage resources allow them to provide simultaneous value as an energy and reliability resource. Storage can also provide value to the distribution based retail and bulk power markets. The Commission agrees with the view expressed by NYBEST that it is important for utilities to gain understanding of the capabilities of storage through direct hands on experience. For those reasons and in order for storage to gain its appropriate place as a resource that provides network value to the distribution system provider, the Commission has allowed utilities to invest in storage to support integration of renewables and is looking for the best mechanisms to value fast acting firming resources on the distribution grid in the development of pricing for DER. The Commission has specifically directed the utilities to consider the impact of storage as part of their DSIPs. It is expected that the value of storage to be accurately monetized in the development of the retail markets for energy efficiency and the utility EAMs for system efficiency…. However, as a reliability support and system optimizing resource, storage is not properly characterized as a standalone renewable energy. That being said, if the various mechanisms that the Commission is pursuing to ensure storage takes it rightful place as a critical resource for the modern grid prove insufficient, this topic will be revisited."[3]

NY-BEST notes that, to date, the utilities' DSIPs, Supplement DSIP and System Efficiency EAMs do not embrace energy storage as a critical resource for the grid and do not create clear pathways to a transactive market for storage. As a result, we urge the Commission to take proactive measures to support the CES and promote system efficiency and re-consider our proposal to establish energy storage targets in the near term.

By undertaking this effort now, the State will be better able to articulate specific goals for storage and in turn enable LSEs, storage providers and markets to respond by planning and implementing projects with sufficient lead time to support increasing levels of renewable energy. Although storage can be deployed more quickly than other types of resources, it can take approximately 18-24 months to complete a storage project due to lengthy interconnection, siting and related issues. Storage deployed in the near term will also

[3] PSC Order Adopting Clean Energy Standard, August 1, 2016, p. 104-105

provide additional benefits to the grid in the form of increased asset utilization, peak load shaving and improved resilience.

Conclusion

NY-BEST appreciates the efforts of NYSERDA and DPS staff in preparing the CES Phase 1 Implementation Plan Proposal. We strongly urge the Commission to more fully acknowledge and incorporate a specific role for energy storage in supporting the State's renewable energy goals by adopting, as part of the CES mandate, a specific requirement for energy storage. NY-BEST welcomes the opportunity to assist in that effort.

Should you have questions or need additional information or assistance, please feel free to contact us at 518.694.8474

Sincerely,

Dr. William Acker

Executive Director
NY-BEST