New York Battery and Energy Storage Technology Consortium, Inc.

VIA ELECTRONIC FILING

September 10, 2018

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

Dear Secretary Burgess:

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 **New York State Energy Storage Roadmap and the Department of Public Service/ New York State Energy Research and Development Staff Recommendations ("Roadmap").**

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 160 member organizations include: technology developers ranging in size from global energy storage companies to small start-ups, manufacturers, project developers, project integrators, engineering firms, law firms, leading research institutions and universities, national labs and numerous companies involved in the electricity and transportation sectors.

NY-BEST commends the staff of the Department of Public Service ("DPS") and the New York State Energy Research and Development Authority ("NYSERDA") for their significant efforts in developing the Roadmap and in recognizing the comprehensive benefits energy storage can provide to the State's electric grid. We appreciate the opportunity to provide additional information and feedback on the Roadmap findings and recommendations.

NY-BEST and our members have been actively engaged in the State's Reforming the Energy Vision ("REV") initiative and its related proceedings since its inception and we have consistently highlighted the important role that energy storage must play in achieving the Public Service Commission's ("PSC" or "Commission") goal to transform New York's electric industry by creating market-based, increasingly efficient, clean, reliable, and customer-

oriented industry. We also support the goals of the State's Energy Plan and the Clean Energy Standard to generate 50 percent of the state's electricity from renewable sources by 2030 and reduce greenhouse gas emissions by 40 percent by 2030 and 80 percent by 2050. Through our participation and formal comments to the Commission we have continually provided information to demonstrate that a robust amount of highly flexible and responsive energy storage located throughout the state is essential to achieving these goals.

NY-BEST is gratified that the Roadmap 1) clearly illustrates the critical role for energy storage in transforming New York's electric grid, and meeting our renewable energy and climate goals, 2) begins to work towards appropriately capturing the numerous energy, environmental and economic benefits of increased storage deployment, and 3) supports Governor Cuomo's call to deploy 1,500 MW of storage by 2025.

The energy storage industry is excited about the potential opportunities in New York to unlock the benefits of energy storage for New York's electric grid. Importantly, to achieve this potential bold and transformative actions are needed. Several NY-BEST industry members have separately submitted additional comments and recommendations reflective of their individual company business models and experience. NY-BEST's comments attempt to reflect a broad shared view from the industry, balancing competing interests within the industry, while highlighting key focus areas for action. As requested by Staff, our comments on the Roadmap are presented below to correspond with the specific sections of the Roadmap.

General comments

NY-BEST supports Governor Cuomo's energy storage deployment target of 1,500 MW by 2025. The energy storage industry applauds the Governor's commitment and the Roadmap's affirmation of the 1,500 MW storage target. NY-BEST believes the Roadmap analysis also supports the establishment of a further goal of 3 GW of energy storage by 2030 and we urge the Commission to adopt such a goal to send a clear and strong signal to the industry that New York State is the place to invest in deploying energy storage. In conjunction with this action, we urge the Commission to adopt clear, concrete implementation actions from the Roadmap, before the end of 2018, to jumpstart the markets for storage and put New York on the path to achieving its storage deployment target.

NY-BEST supports the general approach and framework used by Staff in developing the Roadmap. We agree that the analytical framework must be grounded in the economics and value proposition for storage and should examine the cost of deploying energy storage

technologies and comparing those costs with potential value streams for specific use cases and business models. As described in more detail below, we support the establishment of a Market Acceleration Bridge Incentive which leverages revenues from existing markets, and fills the gap associated with currently non-monetizable value streams, while also helping to drive growth and standardization to reduce "soft costs" faced by industry.

NY-BEST commends the Roadmap's intent to achieve a cleaner peak and the essential role that storage can play in reducing reliance on fossil fueled generation while ensuring grid reliability to meet peak demand. However, additional measures and procurement mechanisms are necessary to affect this transition. We provide additional comments on this topic below.

NY-BEST recommends that the policies and incentives resulting from the Roadmap be technology agnostic for all non-carbon emitting energy storage technologies (this includes all types of batteries, hydrogen storage, mechanical storage, capacitors, thermal storage (where applicable), and other similarly functioning clean devices. NY-BEST agrees with utilizing lithium ion battery systems as the default to make economic calculations and establish values for economic "gaps"; however, it is important that any energy storage technology that can compete be allowed to do so.

Finally, there is currently tremendous uncertainty within the industry about how the New York Independent System Operator ("NYISO") will value and integrate energy storage in the state's wholesale market. While we agree with the Roadmap's objective to maximize NYISO market-based revenues, it is unclear what revenues will be available at the NYISO level. NYISO is currently proposing to leave very little option for energy storage resources to manage their own state of charge, leaving substantial uncertainty about how to project NYISO market revenues. In addition, NYISO is reevaluating the capacity value of energy limited resources, creating the potential that current assumptions about capacity market revenues may not hold in the future. On a more basic level, NYISO is applying the long-standing definition the "capacity" to energy storage, without taking into account the fundamentally different reliability capabilities that flexible and responsive energy storage capacity can provide to keep supply and demand in balance.

While NY-BEST and the industry will deploy resources and engage in the NYISO, it is important that the final set of policies adopted by the Commission recognize that the NYISO market may provide limited revenue stream for energy storage in the near term.

Modeling and Analysis

NY-BEST applauds the efforts of Staff, Acelerex and E3 for the significant time and effort associated with completing the modeling and analysis incorporated into the Roadmap. The modeling results clearly demonstrate the benefits of deploying 1,500 MW of storage by 2025 and affirm the 2025 target. NY-BEST believes that the analysis also supports Commission action to establish a 3 GW energy storage deployment goal by 2030.

As noted in the Roadmap, the modeling uses conservative assumptions which underestimate the values and benefits of storage, and specifically states "Additional benefits from transmission deferral and reliability are not included, since the Acelerex study utilized a fixed transmission model. As a conservative assumption, hard limits were placed on the amount of storage that could provide ancillary services (25%) and in zonal capacity (10%) in the base case." Based upon the Roadmap's conservative modeling assumptions, NY-BEST believes there is ample evidence to support a 3 GW by 2030 energy storage goal.

With respect to the Roadmap analysis examining use cases, NY-BEST appreciates the work that went into the analysis focusing on energy storage in customer-sited, distribution system and bulk system uses cases examining long, medium long, medium short, and short projects by MW and MWh. However, we caution that these use cases be used as a general guide rather than be viewed as "gospel" for the purpose of designing new programs. As noted in the Roadmap "while many uses cases were analyzed, the list was not exhaustive and certain use cases will be become economical sooner or later than what is indicated by the analysis depending upon the specific project economics and cost decline curve. Storage technologies and the electricity system as a whole are evolving and innovating; additional uses cases and applications may emerge over time that this Roadmap did not envision or analyze". Project economics are frequently highly dependent on load profiles, meaning that subsets of applications within a sector may have different economics than those found for general or average load profiles for that sector. As a result, we believe the Roadmap framework needs to provide the flexibility to address this changing landscape. We also recommend that as part of the annual State of Storage Report referenced in the Roadmap recommendations, DPS and NYSERDA reevaluate the optimal energy storage power and energy by zone every two years to accommodate a rapidly changing electric grid.

4.1 Retail Rate Actions and Utility Programs

Delivery Service Rate Design and Commodity and Delivery Costs for Storage Charging and Discharging

The Roadmap appropriately notes that rules for charging and discharging must be re-examined so that desired grid benefits are encouraged (e.g., charging in off-peak periods and discharging on-peak) and it highlights that an appropriate allocation of delivery service costs for discharging energy storage must also be addressed. These issues are applicable for storage systems that are used in behind-the-meter, distribution or bulk system applications.

The Roadmap requests Stakeholder feedback on the appropriate application and implementation of retail commodity and delivery tariffs for energy storage resources providing retail services. NY-BEST members have identified three primary ways that current rate design discourages deployment of energy storage:

1. High fixed charges that often do not align with the costs a customer/battery imposes on the system or the benefits it provides.
2. Demand charges in off-peak hours that exceed the costs that customers or batteries impose when they charge at off-peak times.
3. Contract demand charges that are determined by the greater of what a storage resource exports to the grid, or imports from the grid, without consideration of the reliability needs in that area or the reasons for the export to the grid.

These conditions undermine the economics of developing behind-the-meter and distribution-connected storage projects in New York.

To begin the address these issues, NY-BEST supports the Roadmap recommendation for utilities across the state "to develop an optional rate, built on the current standby rate, that implements a more granular time- and location-varying daily as-used demand rate (similar to Con Edison's "Rider Q" pilot tariff) and include rate certainty during this pilot tariff period (e.g., Con Edison's Rider Q includes a 10-year rate fix)." This recommendation provides customers greater control over their bill and aligns customer costs with the costs each customer's usage imposes on the grid.

More specifically, NY-BEST urges the Commission to approve changing the delivery rate design from block periods to an hourly, location-based model, on an opt-in basis for customers. While we understand this change will require changes to utility processes, we recommend that the Commission adopt it and provide utilities with a limited but appropriate period of time to implement such changes. Importantly, we would like to stress the importance of these rates being optional and that customers should not be required to change tariffs to install storage.

NY-BEST has consistently advocated for rate design that reflects more granular time-based and location-based rates. In New York City, where many networks peak in the evening, the ability to time shift clean renewable energy to when it supports the local distribution grid for peak load reduction will help reduce emissions and costs for all ratepayers. By developing more granular rate structures, the grid efficiency will be enhanced, optimizing the use of renewables and reducing the need to build new infrastructure, and thereby benefiting all customers.

The variable daily demand charge should reflect the coincident peak charges for both the bulk and distribution system which have temporal, locational and seasonal variations. Specifically, demand charges should only be assessed if and when charging occurs in pre-defined hours of grid stress and high demand.

We support Staff's recommendation that these rate structures should be standardized across the state along with the interconnection processes. We urge the Commission to establish meaningful and robust enrollment limits that are aligned with the Roadmap deployment goals for energy storage.

With respect to high fixed charges and rate design, NY-BEST encourages the Staff and Commission to consider the recommendations included in the Regulatory Assistance Project's paper on rate design[1] including the following:

- Metering and billing costs should be covered in fixed charges.
- The variable daily demand charge should reflect the coincident peak charges for both the bulk and distribution system which have temporal, locational, and seasonal variations.
- For distribution-connected resources, the cost of energy to charge a storage system should be based on the locational marginal based pricing that is established by the NYISO.

Regarding contract demand charges, NY-BEST members have raised specific concerns about contract demand charges being applied when utilities procure a Non-Wires Alternatives ("NWA") in a certain area, and effectively penalize a storage resource for providing the exact service the utility is procuring (i.e., export to the grid during a peak period to reduce congestion). For example, an energy storage system providing NWA distribution system support in Con Edison territory would be charged $94,440 per year for each MW it provides. This cost is not assigned to utility solutions creating an uneven playing field. Contract demand charges should only apply to load put on the grid for charging co-incident with local peak load times and should not penalize the DER for delivering power at a higher level when it is supporting the grid by generating. Any grid costs uniquely associated with higher level

[1] Smart Non-Residential Rate Design, December 2017, https://www.raponline.org/wp-content/uploads/2017/12/rap_linvill_lazar_smart-non_residential_rate_design_2017_december.pdf

power output used to support the grid should be captured in the project interconnection process.

NY-BEST also recommends that contract demand charges should not apply to exported energy from energy storage systems that are participating in a distribution system relief program, such as an NWA, utility contracted support, or Demand Response ("DR") program. This energy is not consumed by the customer and, thus, is not an end-use load to be assessed retail charges.

This issue extends beyond NWA projects to all projects that are built to export to the grid as a way of providing support to the utilities. Given that the REV initiative envisions a distributed energy system, where customers are both energy consumers and generators it is clear that barriers to exporting energy are not in line with this vision. Under the current rates, project developers are discouraged from building a storage system that can provide maximum benefit to the grid. Demand charges for export should only be applied in extreme cases, where the storage system would pose unique challenges for the utility. Otherwise, the end result for the utility is a reduction in the value that energy storage provides to the grid.

Value Stack (VDER)

NY-BEST has been an active participant in the Value of Distributed Energy Resources ("VDER") Proceeding and Value Stack and Rate design Working Groups. Throughout these meetings we have consistently advocated for energy storage to be properly compensated for the values it provides. One of our primary concerns has been the exclusion of stand-alone storage from the Value Stack tariff, as well as the broader concerns that VDER does not value the services of behind-the-meter resources and self-consumption.

NY-BEST agrees that changes to the Distribution Relief Value ("DRV") and Locational System Relief Value ("LSRV") components of the Value Stack are needed to improve revenue certainty and predictability to finance and build DER projects. We also agree that the VDER tariff should be used to supplement the utilities' DSIPs and NWAs and that a properly designed VDER tariff is essential to deploying DERs which can improve system efficiency and avoid future infrastructure investment and related O&M.

As we have noted in the Working groups, as well as in comments, NY-BEST strongly supports expanding eligibility of the VDER value stack to include stand-alone storage as an eligible resource. We also support increasing the Distribution Relief Value (DRV) rate lock from 3 years to 7 years, and would encourage consideration of a much longer period, as well as incorporating an advanced call-signal for the top utility system hours. Extending the term of the DRV rate lock is particularly critical because it begins to better align the amortization of avoided costs with payment terms, and also helps investors have increased confidence in the

expected return on these 10-20-year capital assets. These changes will improve project economics, reduce financing costs, reduce ratepayer exposure and help jumpstart the market.

While we agree with Staff that the current LSRV compensation mechanism is imperfect, we are concerned with instead relying on the DSIP process, NWAs and Demand Response programs to fill this need, as this approach will not help build a robust DER market and will not maximize the system benefits of DERs. NWA procurements are sporadic and to date have resulted in awards to only a limited number of selected vendors. Beyond the issues regarding NWA transparency and volume of opportunity, there are also challenges with contract length and benefit costs analysis evaluation methodology as detailed in section 4.3 below.

Instead, NY-BEST believes the DRV and LSRV mechanisms should be improved and more appropriately related to NWAs. Utility NWAs and LSRV should effectively complement each other. By placing DER assets in LSRV zones, the size of future NWA procurements can be reduced or eliminated. DERs deployed in LSRV zones act as a load modifier to any future system infrastructure needs. If an NWA is procured in an LSRV zone and there is no further need to install more DERs to address locational constraints, future DER installations would not receive LSRV. However, existing DER installations that are still providing the load modification, and reducing the need for an NWA, would still receive LSRV payment. In this way, the LSRV value maximizes system benefits and reduces costs.

NY-BEST is concerned that by eliminating LSRV, DER providers will not have the appropriate price signals and as a result, will focus on the lowest installation cost locations rather than highest system value locations. In the event that Staff and the Commission decide to eliminate LSRV, NY-BEST recommends that the unused LSRV avoided cost value be added back into the DRV value until a more comprehensive solutions can be implemented. We also recommend that limitations be removed on the ability of DERs to participate fully in VDER value stack and DR or NWA programs. Given that neither the DRV nor the other components of the VDER value stack address locational value, we believe removing any such limitations is appropriate. NY-BEST recommends that , in the spirit of REV, continued efforts be made to improve the LSRV and the fidelity of the price signal.

.

<u>Carbon Reduction Benefits and Shaping the E Value in the VDER Value Stack</u>

In the VDER Working Groups and in comments to Staff, NY-BEST has made the case that stand-alone storage should not be excluded from receiving any environmental or “E” value from the VDER Value Stack. As staff is aware, energy storage produces no on-site emissions.

Energy storage does not inherently increase or decrease emissions—near term emissions impacts depend upon storage operations and the marginal generating unit emissions when storage is charging as well as discharging. As a result, NY-BEST believes that the E value should be based on marginal carbon emissions. When storage is coupled with solar, we recommend the ability to net out the daily energy stored, and time- shifted via the battery based upon a summation of building load, solar production, and storage operations to capture the emissions value of time-shifted solar energy. However, this calculation – both the marginal emissions used and tracking or controls for ensuring charging and discharging timing - must be done in a simple and predictable way. Too much complexity will further add to current billing calculation transparency issues with the Value Stack and to investor concern and uncertainty which would reduce any added value.

In addition, NY-BEST recommends improving the E value calculation to compensate for the environmental benefits associated with avoided local criteria pollutants (ie., SO2 and NOx), as well as avoided emissions in environmental justice areas that are currently disproportionately affected by the environmental impacts of fossil-fueled generators.

Dynamic Load Management (DLM) Program Improvement

NY-BEST supports the recommendations in the Roadmap for improving Dynamic Load Management ("DLM") Programs. We are especially supportive of the recommendation to establish an option for a multi-year DLM program participation where terms of participation remain unchanged for a longer period of time. A longer-term agreement and pricing option could stimulate increased battery deployment and DLM participation. In determining the length of the term, we recommend that customers with batteries be eligible for the same seven-year pricing lock as suggested under VDER/DRV value, based on the same rationale described above regarding the life of the asset.

NY-BEST members recommend that Staff and the Commission exercise caution against making major changes to the existing program structures so as not to disrupt programs that are functioning well. We also urge Staff to engage with Stakeholders before utilities file changes to DLM programs to ensure that the changes are fully explored and avoid unintended consequences..

Residential Programs

Although the Roadmap does not have a specific section dedicated to solely to residential use cases, NY-BEST offers these comments and encourages the Commission and NYSERDA to adopt measure that support residential storage deployment.

Residential solar + storage is an important component to achieving the State's storage, clean energy, and emissions reduction goals. A recent GTM article[2] highlights the demand for residential storage as prices go down and more people become aware of the benefits, of adding energy storage. . The article also points out that residential installations recently outpaced commercial deployments and that customers are increasingly seeking out energy storage as a resiliency measure as it provides a cleaner alternative to traditional backup generation. However, the upfront cost of capital continues to be an impediment to customers adding battery storage to their solar systems. Eliminating this barrier would provide residential customers with the access to clean backup generation options they desire, while contributing to the state's clean energy goals, and creating additional opportunities for system aggregation to provide significant grid benefits.

NY-BEST supports a tariff-based procurement approach like that proposed by PSEG-LI for behind-the-meter ("BTM") storage programs. The program provides clear market rules and up-front pricing to DER customers, developers, and aggregators through tariff mechanisms that offer an efficient and expedient means to integrate cost-effective DER solutions to meet short-term and long-term grid needs. A tariff-based mechanism can procure BTM solar-plus-storage solutions, including residential aggregations, on an expedited basis and facilitate rapid market development. It can also incentivize greater customer adoption of solar-plus-storage and enable the critical mass of customer participation necessary to effectively integrate DER-based grid solutions to achieve the State's storage and clean energy goals. We encourage the Commission and NYSERDA to consider developing similar programs statewide.

4.2 Utility Roles

NY-BEST believes that energy storage presents a significant, and as of now largely untapped, opportunity for improve utility distribution systems. To address this, we urge Staff and the Commission to incorporate energy storage into all distribution planning, accelerate and improve NWA procurement, establish robust system Earnings Adjustment Mechanisms ("EAM") targets with explicit inclusion of energy storage, move beyond demonstration projects and better integrate storage with the Clean Energy Standard.

[2] https://www.greentechmedia.com/research/report/u-s-energy-storage-monitor-q3-2018#gs.PUF3fls

Earnings Adjustment Mechanisms

Since the REV track 2 Order was issued and first adopted the concept of Earning Adjustment Mechanisms, NY-BEST has been urging Staff and the Commission to more holistically examine how EAMs are being leveraged to improve load factors, shave peaks and improve overall system efficiency statewide. NY-BEST agrees with the Roadmap finding that energy storage is uniquely qualified to improve load factor, as it increases off-peak load and decreases peak load, and can make the most significant improvements to load factor per unit of any technology. Also, since load factor is based on annual peak, storage can also contribute to meeting other EAMs (i.e., peak demand reduction).

We agree with the Roadmap recommendation to require a new EAM for each utility that incentivizes the improvement of the distribution-system-wide load factor, calculated by percentage improvement in load factor and with additional protections to avoid unintended consequences that could provide earnings without commensurate benefits. We also urge the Commission to explicitly include storage in the EAM. This type of EAM would align utility actions with the delivery of system value to ratepayers.

EAMs have been negotiated on a case-by-case basis in utility rate cases resulting in variations between utilities. Although values and some properties of EAMs need to be designed for each rate case, there is a need for greater uniformity between utilities particularly in how outcomes are measured and evaluated.

IOU Business Model

NY-BEST supports the Roadmap premise that competitive ownership of storage is core to the principles of REV and we agree with the recommendation that existing limitations on utility ownership should be maintained.

Facilitating NWA Projects on Utility-Owned land

NY-BEST supports Staff's recommendations in the Roadmap regarding facilitating access to utility-owned land for NWAs. Several NY-BEST members offered these suggested improvements in the initial Stakeholder sessions held in the development of the Roadmap. Given that siting and interconnect costs, as well as access to appropriate land for deploying storage projects can play a significant role in the total costs of a storage project, the recommendations included in the Roadmap will help to facilitate storage projects and significantly reduce these "soft" costs.

Optionality in the Benefit-Cost Analysis

NY-BEST has previously advocated that Staff and the Commission build the value of Optionality into the utility DSIP and Non-Wire Alternatives processes. As noted in the

Roadmap, energy storage provides flexibility in terms of modularity, potential for multi-use applications and mobility and provides a cost-effective hedge against uncertainties in load forecasting.

NY-BEST appreciate that Staff incorporated the concept of Optionality into the Roadmap and we agree that utilities should be directed to incorporate the value of optionality into the Benefit Costs Analysis ("BCA"). However, we believe that more direction is required from the Commission to ensure that this value is appropriately captured in the BCA. Furthermore, it is important that the value of optionality is fully considered as NWA's evolve from simply deferring a traditional solution to being part of the long-term solution. In the comparison of an Energy Storage NWA to a traditional utility solution, incorporating optionality in the BCA for the storage, although important, may not be sufficient if optionality is not considered in the initial cost comparison between storage and the traditional solution. In that monetary comparison, lack of optionality is actually a hidden cost of the traditional solution. NY-BEST encourages Staff to follow-through on the Roadmap suggestion for a technical conference to explore this topic more fully and to develop a real options valuation methodology appropriate for utility capital planning.

4.3 Direct Procurement

IOU Procurement Through NWAs and Term Extension

NY-BEST believes that NWAs can be a successful mechanism to competitively procure DER solutions that can meet electric system needs more cost effectively than a traditional solution. However, the energy storage industry believes that a broadening of the scope and scale of NWA is required to fully realize the benefits of storage. Further based on industry experience to date, the NWA RFP construct has been very slow. The utilities have proposed very few formal, project-specific procurements in the 1-5 MW range and without significant changes, the NWA process will not result in deployment of storage – and corresponding saving to ratepayers – in amounts and timeframes specified in the Roadmap.

Based on feedback from NY-BEST members who have evaluated existing NWA RFPs and participated in NWA processes, we recommend the following improvements:

- How the volume of NWAs is derived from the Marginal Cost of Service Studies (MCOSs) should be clarified, and the load forecasts driving the MCOSs should be standardized, go out a minimum of 10-15 years, and align with state energy mandates and energy plan goals regarding electrification and decarbonization. There should then be increased transparency on the planned procurement of the resulting NWAs.
- NWA RFPs should detail the cost of the traditional solution to allow developers to make rational decisions about which competitive procurements to bid on.

- Utilities should consider NWA options as long-term or permanent solutions, as well as for limited duration asset deferral.
- NWA contract terms should be at least for seven years, if not 10-20 years and align with the amortization period of the avoided costs. Energy storage assets are able to fully avoid these costs and so should be compensated for them. In addition, these assets typically have useful lives of 10-20 years, so if the revenue that those assets will receive is only certain for 1-3 years, it is extremely difficult for storage projects to obtain financing and be developed. Given that these NWA storage assets are replacing T&D investments, it is appropriate that they are treated more akin to T&D investments, which have long-term revenue certainty. Utilities should also build these longer contract lengths into the NWA RFPs that align with avoided costs amortization and application of the BCA evaluation process.
- Each utility should be required to publish transparent calculation of the benefits and the costs (for instance, the ConEd BCA Handbook).
- Each utility should create a Benefit Cost Analysis spreadsheet that developers can use to see how their project's Services Agreement compares.
- NWAs should include a mandatory extension option at the end of life of the contract.
- NWAs should clearly define that a project's interconnection will exist after the Services Agreement ends.
- NWAs should have very clear credit and liquidated damages requirements in the original RFP such that the developer knows in advance if the project can be financed.
- Utilities should inform developers of projects that are not selected of the final rationale, including any specific reasons why those projects were not selected.
- NWAs should clearly delineate that the developer retains all future revenue streams in the wholesale and environmental markets.
- Prior to the release of RFPs for NWAs, utilities should update hosting capacity maps and consumption statistics available for particular feeders/substations. We also recommend that utilities consider utilizing the NWA to increase hosting capacity as discussed in the NWA+ section below.
- The time period of NWAs should be clearly specified in RFPs.
- The NWA RFP should clearly specify daily timeframe of output required (duration of storage needed).
- System data in relation to NWAs should made readily available.

As described in more detail above, NY-BEST urges changes to the application of contract demand charges on distributed energy resources participating in a utility Non-Wires

Alternatives in a specified area which currently effectively penalizes a storage resource for providing the exact service the utility is procuring (i.e., export to the grid during a peak period to reduce congestion). NY-BEST believes contract demand charges should only apply to load put on the grid for charging co-incident with local peak load times and should not penalize the DER for delivering power at a higher level when it is supporting the grid by generating.

In conjunction with addressing the above listed NWA challenges, NY-BEST strongly supports the Roadmap recommendation to establish an NWA+ program. In addition to potential participation in wholesale markets, which may not occur for a number of years and, importantly, may place constraints on operation that reduce overall benefits, NY-BEST recommends that the Commission create replicable transparent mechanisms for utilities to contract for the "plus" part of the NWA. For example, this could be a long-term contract for additional capacity that reduces utility capacity purchase obligations in the NYISO market.

The NWA+ program also provides a good opportunity to increase renewables integration and resource adequacy. Particularly, energy storage can increase hosting capacity of a circuit for the deployment of clean energy resources. Incorporating an increase to hosting capacity into an NWA so that the storage system provides dual function of relieving grid overload and increasing hosting capacity will increase the cost effectiveness for both. NY-BEST recommends that utilities incorporate hosting capacity increase into NWA opportunities by combining utilities' hosting capacity analyses with utilities' MCOS analyses to establish both the amount of storage and the value of storage (fixed or financeable duration of time) to incentivize development of energy storage at it most valuable points on the grid.

Large Scale Renewables Procurement

In previous proceedings before the Commission, NY-BEST has continually emphasized the critical role for energy storage to achieve the State's goal of 50 percent renewable energy by 2030 , 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, as well as firming and smoothing renewables output and effects on the grid, 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.[3]

[3] See NY-BEST comments in PSC Proceeding 15-E-0302 as well as comments at the May 26,2016 Technical Conference

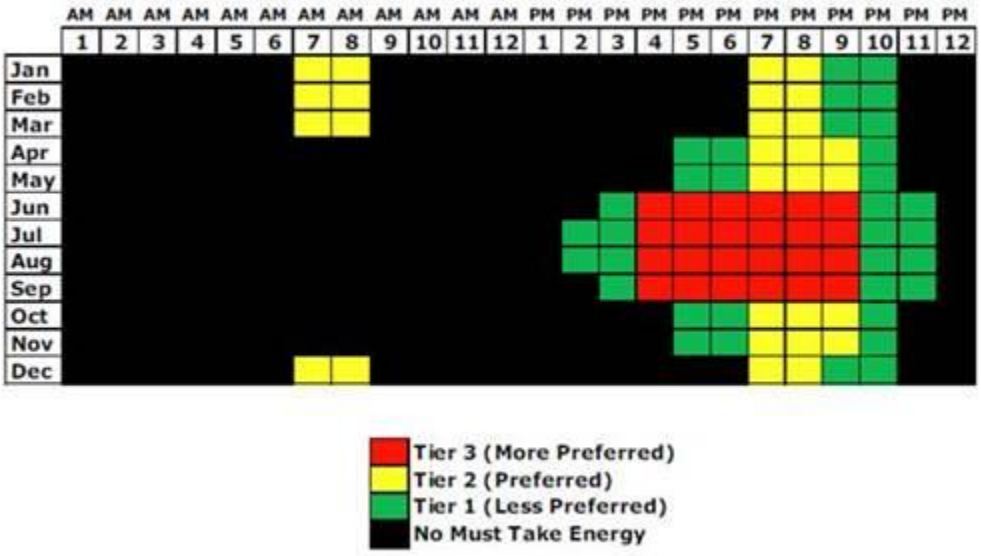
NY-BEST believes that additional measures than those included in the Roadmap are needed in the near term to better incorporate energy storage into the Large-Scale Renewables procurement program. The LSR six-point adder for storage is still in the early phases, however, we do not believe that it is sufficient to result in a meaningful increase in renewables paired with energy storage, as these points are not monetizable.

NY-BEST members have expressed an interest in having the State establish a direct procurement mechanism to stimulate the development of renewables + storage that will reduce or meet peak demand, strengthen reliability and resiliency, and avoid the need for fossil generation. Our members have identified potential mechanisms described below**:**

One approach that has been suggested is that NYSERDA establish desired "clean hours" similar to what Arizona Public Service ("APS") did for a recent RFP (example below) to establish higher compensation levels for resources that can line up well with these hours.[4] In APS's case these were more based on reliability needs, but a similar program based on relative economic value is also possible. NYSERDA could also consider implementing it in a way that also captures the carbon reduction attribute.

Appendix A

Time of Day Relative Net Load Heat Map



[4] https://www.businesswire.com/news/home/20180426006990/en/APS-Issues-RFP-Peaking-Capacity

A second option proposes that New York State implement a program to provide a real valuation for storage within the LSR procurement. NYSERDA's most recent LSR procurement incorporated the approach of providing additional points for storage in the project selection process. We believe that responses to that solicitation could help inform further improvements to the State's LSR procurement program. NY-BEST encourages NYSERDA to analyze the specific additional benefits provided by pairing renewables with storage and create appropriate valuation mechanisms that properly compensate LSR projects that pair storage with renewables for the additional values they provide. Such an evaluation should consider benefits such as avoided curtailment, avoided GHG emissions, avoided local criteria pollutants, avoided transmission, etc.

New York State Leading By Example

NY-BEST agrees with the recommendations of the Roadmap regarding leveraging the New York Power Authority (NYPA) the NYS Office of General Services (OGS), and the State University of New York (SUNY) to deploy energy storage projects. The State and municipal facilities owned, managed, and accessible by these entities represent a significant untapped market for energy storage that can provide important "proving grounds" for energy storage and opportunities for developing rules and strategies for integrating with distribution utilities and NYISO markets.

NY-BEST encourages the State to ensure that fair, open and transparent processes exist for project developers to participate in the initiatives or procurements undertaken by these entities and that such opportunities not be limited to a small and limited pool of providers.

4.4 Market Acceleration Incentive

NY-BEST supports the creation of a market acceleration bridge incentive and we fully concur with the rationale and justification that the incentive is necessary to promote near-term deployments that will provide the basis for a self-sustaining market for the future; and accelerate the decreasing cost curves of the technology, along with accelerating soft cost declines and increased market learning mechanisms.

NY-BEST believes that the $350 million in funding recommended in the Roadmap should be viewed holistically and, in determining how the funds should be allocated, consideration must be given to the other Roadmap actions being implemented in order to optimize each of

the markets for energy storage. Importantly, NY-BEST believes bridge incentive funding should be available for projects in all market segments with the expectation that established line-of-sight cost declines enable the project to be deployed based on cost and market opportunities alone within the next three to five years.

We believe that allocation of these funds should be based on economic analysis, such as the use case analysis framework in the Roadmap and should be used to fill the gap of "missing money" left after leveraging existing available revenue streams and taking into account higher soft costs in the near term. To do this, the Market Acceleration incentive will need to avoid creating restrictive operational requirements that limit access to market revenue streams and undermine the basic economic analysis of the Roadmap.

NY-BEST urges the Commission and NYSERDA to structure the incentive in a manner that allows storage owners to deploy the systems as needed to maximize revenues associated with market participation. If NYSERDA and the Commission wish to incorporate additional policy considerations, such as incentivizing longer duration systems or locating systems in particular areas, we recommend that this be done through "adders" or additional programs rather than incorporating these requirements into the base incentive.

In addition to expanding the NY-SUN program to encourage deployment of storage with solar, NY-BEST recommends that the storage bridge incentive be provided in a similar manner to NY-SUN with incentives available statewide and in declining blocks over time. For storage only projects, we recommend that that the Commission establish a NYSERDA-administered Energy Storage Program (separate from NY-SUN) to provide a front-weighted "installed energy capacity (Wh)" payment. We recommend that in setting the incentive levels, Staff and the Commission review the project economics at the utility territory and regional levels, and based upon that analysis, establish incentive levels at either the statewide, regional or utility territory level. We also recommend that incentives be available for customer-sited, distribution-connected, and bulk level projects.

While NY-BEST ultimately supports a more detailed economic gap analysis, for purposes of informing the Roadmap process, we have outlined some potential incentive values based on a more broad-brush analysis, taking into consideration ConEdison's Demand Management Program and California's SGIP program values for customer-sited BTM projects and industry feedback. This suggests that incentive levels in the range of $0.25 to $0.35 per watt-hour (Wh) will be effective in catalyzing the market place for small systems (<1 MW). Using this

range as a guide, we have presented in the table below a potential declining bridge incentive that begins with an initial value of $0.35/Wh of installed energy capacity for the first tranche of MWh, with declining incentive amounts for each subsequent MWh block of projects. We encourage the Commission and NYSERDA to study the economics of larger energy storage projects (>1MW) to determine if a reduced incentive may be appropriate for larger scale projects.

Tier	Payment Installed Energy Capacity ($/Wh)
1	$ 0.35
2	$ 0.30
3	$ 0.25
4	$ 0.20

In the interest of administrative simplicity and to support project financing, NY-BEST recommends that incentives be paid on an upfront basis, after a project has been fully deployed and has received permission to operate from the utility. NY-BEST also recommends that reasonable application requirements be established to ensure that serious projects are awarded funding and that the program produces the desired results. We also encourage the Commission and NYSERDA to make projects constructed after January 1, 2019 eligible for the incentive to send a strong signal as soon as possible to storage developers.

Once a project has reserved incentives, NY-BEST recognizes that it is important that project developers are well-motivated to implement their projects timely and, to the extent a project is unable to come to fruition, the incentive money subscribed by the project be put back into the funding pool for use by other projects. To that end, NY-BEST recommends projects must receive permission to operate within 18 months of receiving confirmation of their incentive reservation in order to remain eligible for the incentives. However, recognizing that project development timelines are not entirely within the control of project developers or customers, NY-BEST recommends that the program build in the ability to grant 6-month extensions to account for factors beyond the developer's control that may cause delays in project implementation. For projects undergoing NYISO interconnection where a Class Year process is used, it may be appropriate to allow for a longer window (up to 36 months in some cases) for permission to operate before revoking incentives.

For larger scale systems we suggest the Commission and NYSERDA use the Market Acceleration Incentive funding to provide projects with a revenue stream that still enables them to participate in the NYISO markets, including the capacity market. This requires structuring the incentive to ensure the incentive revenues are included in the buyer side mitigation test. Below in the section on a Clean Peak Actions we propose creating Clean Reliability Program and associated Clean Reliability Credit, which we believe could be structured to avoid buyer side mitigation issues. It would rely on a competitive auction process to maximize the amount of energy storage that is deployed. This program can be funded in a manner similar to the REC program and is ultimately intended to be a longer term self-sustaining program. However, we believe there is likely "bridge "activity necessary for larger system especially while wholesale market rules and participation are being developed. These "bridge" activities may include market gaps associated with NWA+ programs and bulk markets. We propose part of the Market Acceleration Incentive funding be utilized to support these programs. In the event that our recommendations are not adopted, we urge Staff and the Commission to ensure the alternative programs or mechanisms are adopted to support deployment of large-sale systems.

NY-BEST also urges the Commission to adopt a program that is technology-neutral with respect to energy storage in its eligibility. More specifically, while we support the use of lithium ion battery technology to form the basis of the economic analysis, we believe it is important to allow all forms of energy storage, including, hydrogen storage to be eligible for the incentive funding.

For solar + storage projects, NY-BEST supports the Roadmap recommendation to create an adder in the NYSERDA NY Sun Program. We believe that the adder should incentivize solar providers to boost their solar value proposition by adding storage and be provided an increase to the front-weighted $/MW solar based on the installed energy capacity of the energy storage; and for administrative ease, should be paid in conjunction with the rest of the MW Block program.

4.5 Soft Costs

NY-BEST appreciates and supports the Roadmap's emphasis on reducing soft costs and urges the Commission and NYSERDA to remain vigilant in their efforts. NY-BEST appreciates the opportunity to have worked alongside many stakeholders, including NYSERDA, to tackle soft costs associated with deploying energy storage.

Our members have expressed their most pressing concern with soft costs relate to siting and interconnection and they note that if these concerns are not properly resolved in an expeditious manner, the rest of Roadmap will be moot. NY-BEST is aware of the tremendous efforts of a variety of stakeholders, including the CUNY DG Hub, NYSERDA, FDNY and NYC DOB to publish siting requirements that will facilitate siting and permitting in a safe manner. NY-BEST actively participates in and strongly supports that initiative and looks forward to requirements being finalized as soon as possible. As staff is keenly aware, the lack of concise requirements is a major barrier to the widescale deployment of energy storage in New York City, in particular.

NY-BEST actively participates in the distribution system Interconnection Policy and Interconnection Technical Working Groups co-led by NYSERDA and DPS staff. These groups have made good progress in addressing interconnecting energy storage. However, there are still some remaining issues that must be addressed to avoid an interconnection bottleneck as the Roadmap policies are implemented. We recommend that the interconnection working groups prioritizes energy storage interconnect this fall.

Beyond the interconnection and permitting challenges, energy storage project developers in New York are facing a rapidly changing electric grid where the value propositions for a project may vary by time, location, and utility service territory. Given that the Roadmap will result in new policy and regulatory changes for the energy storage industry, efforts to educate and inform the industry and project developers must continue. NY-BEST has worked extensively with NY-BEST members and non-members alike in this area and has identified a knowledge deficit among companies as they attempt to build projects in New York. This deficit is especially pronounced among developers who move to New York after building projects elsewhere in the nation, and then find that the state's markets are fundamentally different. NY-BEST recommends continued focus on industry outreach and education to ensure that the energy storage industry is aware of, and familiar with, the opportunities for storage in New York State.

In addition, NY-BEST believes there is a need for increased cooperation between the utilities and energy storage project developers. Given that energy storage is a relatively new technology on the grid-scale, it is vital that storage companies interface with the utilities to identify the best use cases and facilitate utilities incorporating, in a meaningful way, energy storage in their system planning processes. Based upon our experience to date, there is a large variation among the state's utilities in their acceptance of energy storage as a valuable resource. NY-BEST recommends continued efforts in this area to ensure effective installation of projects in all utility service territories.

4.6 Clean Peak Actions

The Roadmap highlights that "there are over 3,000 MW of conventional generation units in Zone J and Zone K (i.e., New York City and Long Island) that have low utilization (generating electricity less than 5 percent of the year); are approaching an average of 50 years of age; and are generally used for meeting periods of high electric demand or for reliability purposes. These units primarily provide "peaker" services: capacity to meet NYISO locational and system capacity requirements, and other, more local (i.e., utility-level) reliability- based services such as contingency reserves. Many of these downstate peakers are dual-fuel and may be required to burn oil or kerosene in the winter due to reliability rules and/or fuel constraint concerns to relieve demand on the natural gas system."

As illustrated by the Roadmap and the E3 analysis of these peaking units, as well as NY-BEST and Strategen's analysis of the role for energy storage in replacing New York's peaking units,[5] many have high operating costs, run less than 4 hours per start (with some units running even less), produce significant NOx and SO2 emissions, are located in environmental justice areas, and generally operate during extreme weather events producing local emissions that exacerbate asthma and public health impacts.

The Roadmap recommendations suggest creating a multi-stakeholder process and conducting in depth Reliability and Operational Assessment studies examining replacement opportunities associated with the peaking plants. While we agree that a deeper independent assessment would be valuable to better identify the specific operating requirements and reliability issues presented by these plants, NY-BEST believes there is sufficient information and justification for the Commission to leverage its authority to accelerate the replacement of some of these units with energy storage and other clean energy resources.

There are a number of recent examples of energy storage being deployed in lieu of fossil-fueled generation to meet reliability needs. A recent analysis by PG&E in California has shown that a portfolio of hundreds of megawatts of energy storage projects was more cost-effective for meeting a local reliability need at the Moss Landing location than re-contracting

[5] New York City's Aging Power Plants: Risks, Replacement Options and the Role of Energy Storage", by the New York Battery and Energy Storage Technology Consortium (NY-BEST), in partnership with Strategen Consulting, September 2017,.https://www.strategen.com/reports-1/09-20-2017/new-york-best

with existing gas peaker plants.[6] Another example is Nevada where NV Energy requested approval for 100MW/400MWh of energy storage systems coupled with solar resources at prices as low as $6.11/kW-mo for online dates in 2021 to support the retirement of a 522 MW coal generator.[7] Hybrid energy storage systems are also being deployed in California. Southern California Edison is pioneering the first commercial application in the United States of a hybrid energy storage and peaking gas turbine[8] to provide spinning reserves, fast ramping, emissions reductions, reduced fuel use, other operational efficiencies and improved risk management against natural gas constraints.[9]

NY-BEST asserts that the State should undertake a serious effort to reduce New York's reliance on costly, dirty and inefficient energy infrastructure. To achieve this objective, new efforts are needed to retire some of the existing aging and inefficient fossil power plants operating largely downstate and to encourage their replacement with appropriate amounts of energy storage and other non-emitting sources. Among these actions, we urge the NYS Department of Environmental Conservation to act swiftly to propose and implement pending regulations to place limits on NOx emissions from these peaking generating units. Once adopted, we expect that this regulation will result in some of these peaking resources being retired.

However, unlike the surrounding regions, New York does not have a capacity market that has supported new entry in the past, due to the lack of a long-term price signal. The uncertainty surrounding the capacity market and the lack of a long-term price signal means investors do not have the long-term revenue certainty to raise capital to finance a project. Until NYISO implements a capacity market that provided the forward price signal and multi-year revenue certainty that will support investment in new clean capacity, NY-BEST believes that additional State action is needed to facilitate the deployment of new, zero-emitting resources to ensure reliability.

NY-BEST proposes the creation a **Clean Reliability Program** and associated **Clean Reliability Credit**, representing the beneficial attributes of a MW of non-carbon-emitting resource which is able to take energy from the grid and store it for later use. The program we propose would be similar to the framework of the State's Clean Energy Standard and REC

[6] Pacific Gas and Electric Company's Reply to Protests of Advice Letter 5322-E for Energy Storage Contracts Resulting from PG&E's Local Sub-Area Request for Offers Per Resolution E-4909

[7] http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2018-6/30456.pdf

[8] http://www.ccj-online.com/adding-big-battery-turns-non-spin-peaking-gt-into-spinning-reserve/

[9] https://www.insideedison.com/stories/sce-unveils-worlds-first-low-emission-hybrid-battery-storage-gas-turbine-peaker-system

program, but with a focus on providing clean capacity resources to enhance reliability and reduce emissions. Under the proposed program, the Commission would require the procurement (either through utilities or NYSERDA) in impacted zones of non-carbon emitting energy storage resources which are able to store energy for later use. The Clean Reliability Credit would be procured in a competitive auction similar to the State's REC program and be open to all eligible resources. As designed, NY-BEST envisions the program would largely be funded in a manner similar to RECs.

We would propose that developers be able to bid in different term lengths for the contract ranging from 10 to 15 years with NYSERDA selecting the least cost option to ratepayers. We would also propose an initial auction process, starting with 300MWs in 2019 (online date by 2022).

Given that the program would specifically address utility reliability needs in a cost-effective manner, NY-BEST envisions that the program would primarily be funded through utilities, using the same rationale applied to NWAs. To ensure ratepayer costs do not exceed the avoided costs of new gas plants, we propose that NYSERDA and the Commission consult the CONE analysis done by the NYISO, or conduct a separate similar analysis, to set a cap on prices for the product. If NYSERDA and PSC believe actual cost to build a gas unit would be lower due to repowering or higher due to compliance with anticipated DEC regulations, it would be reasonable to adjust the calculation. Below we outline the calculation for NYC, with some illustrative assumptions. The same process logic could be used for the price caps in the other zones where the State seeks to replace costly, dirty and inefficient energy infrastructure.

2018-2019 CT Gross CONE	[1]	$213.13	$/kw-yr
Repowering Cost Reduction	[2]	4%	
2018-2019 Gross CONE Repowered	[3]	$204.60	$/kw-yr
Energy and A/S Revenue	[4]	$35.91	$/kw-yr
Risk Adjusted Estimate of Capacity Price	[5]	$50.00	$/kw-yr
Clean Reliability Credit Price Cap	[6]	**$118.69**	**$/kw-yr**

Notes:
[1]: NYISO

[2]: Assumption (to be estimated by NYSERDA/PSC)
[3]: [1] x (1- [2])
[4]: NYISO
[5]: Assumption to be estimated by NYSERDA/PSC, which should include recognition of the risk that the developer is taking. A baseline that could be used is what NY Green bank uses in their modeling.
[5]: [3] - [4] - [5]

The Clean Reliability Credit would serve as mechanism to accelerate deployment of energy storage and other clean resources at all levels, by recognizing and monetizing the value of flexibility and time-shifting that energy storage can provide, both behind the meter and large scale in front of the meter applications. By accelerating the deployment of storage projects, the program would also contribute to lowering soft costs of installing grid-scale and behind-the-meter energy storage and also compensate resources for reducing New York's reliance on costly, dirty and inefficient energy infrastructure.

By addressing these public policy goals through an open, non-discriminatory competitive auction, we believe the program would pass buyer-side mitigation (BSM) scrutiny. In the absence of a general exemption for energy storage from BSM review, we recommend NYSERDA and the Commission work with the NYISO to structure a product and procurement mechanism that ensures the revenues from the credit are considered "market" revenues in any buyer-side mitigation calculation.

Importantly, this proposal assumes the current limitations on utility ownership. We recognize the uncertainty in the NYISO market with respect to BSM and other issues, which may ultimately jeopardize the ability for storage to clear the capacity market. Therefore, if the BSM rules prevent the development of storage resources in New York, NY-BEST supports NYSERDA and the Commission exploring long-term bilateral contracts to cover the entire capacity cost of a storage project. We would strongly encourage that this be implemented through a competitive procurement, with third party ownership, as it is not necessary for the utility to own the storage to reduce their load serving obligation. While NY-BEST strongly prefers a functional capacity market in which storage owners participate directly, such a bilateral contract is a necessary backup option.

4.7 Wholesale Market Actions

NY-BEST is actively engaged in the NYISO initiatives impacting energy storage and DERs. We concur with the Roadmap's findings noting the significant existing barriers to accessing compensation for the services provided by energy storage. NY-BEST is particularly concerned at present with NYISO's articulated plans for meeting the requirements of FERC Order 841, which we believe fall short of the requirements of the FERC Order. Importantly, NY-BEST is concerned that the NYISO is not addressing dual market participation for energy storage resources, as part of its FERC 841 Order implementation. This is a fundamental issue for energy storage resources to access wholesale markets and be fairly compensated for the services provided to the distribution and wholesale systems, respectively. Resolving this issue is key to the State achieving the 1500 MW target for storage by 2025.

At the same time, the NYISO's proposal to comply with Order 841 suggests significant limitations on the ability of storage resources to participate and optimize their own operations and revenues, specifically regarding the capacity market duration requirement versus flexibility requirement, the application of BSM, storage's ability to co-locate with wind or solar, and storage's ability to replace new transmission for reliability or public policy purposes and be compensated for that value. All of these factors create significant uncertainty in projecting what NYISO market revenues will be available to energy storage resources.

NY-BEST concurs with the Roadmap recommendations for wholesale markets and we note the following as some of our highest priorities:

1. Enable storage resources to participate in the bulk and retail markets ("dual participation"). There are multiple types of dual participation which can be categorized as:

    a. Time Differentiated – using the storage system to serve the retail market at certain times and the wholesale market at different times. This can range from changing seasonally to changing hourly.
    b. Capacity Differentiated – using part of the energy capacity of a storage system for the retail market and part for the wholesale market at the same time.
    c. Simultaneous participation – fully allowing a storage system to optimize behavior in both the retail and wholesale market.

The rules for each of these types of dual participation must be developed. In discussing dual participation people frequently are thinking about only one of these categories. Although time differentiated is the simplest use case for which to develop rules it also frequently is the least valuable as it limits the energy storage device from realizing the full ability to provide value in both markets.

2. Adopt capacity market rule changes that are more flexible in duration requirements, including establishing an appropriate mechanism to value and enable participation of shorter duration (e.g., less than 4-hour) storage resources that can be available during summer and winter capability periods and examine the relative system value that varying durations can provide. Because advanced energy storage provides flexibility and responsiveness that are unprecedented in existing grid operations, NYISO and stakeholders should undertake a fundamental review of "capacity", including evaluating the reliability contribution of energy storage with, for example, one hour or two hours duration, as well as longer durations.

3. Identify and examine mechanisms to ensure that energy storage resources supported by clean reliability credits or market acceleration bridge incentives can access NYISO capacity market revenues. One path would be to exempt energy storage from buyer-side mitigation rules that can block access to this important revenue stream, place a significant barrier to the deployment of energy storage resources, undermine public policy goals, consumer savings and system efficiency. . Since the long-term future of energy storage depends heavily on the success of the NYISO capacity market, it is critical that near-term access to capacity revenues be accomplished in a way that supports the long-term health and sustainability of the market.

4. Establish rules and requirements for aggregation that are appropriate for smaller resources, including behind-the-meter energy storage.

5. Develop a model for short-duration storage to provide all products it is technically capable of delivering, notably ancillary services.

6. Allow storage to co-locate with wind or solar as one asset given the significant increases in generation cost reductions from the NYSIO process and ongoing operation and compliance perspective.

7. Incorporate energy storage as a bulk transmission resource in NYISO planning. Just as we have urged utilities undertake system planning that incorporate energy storage, NY-BEST believes a similar approach is needed at the NYISO level. NY-BEST also asserts that energy storage should be considered as a potential regulated transmission solution to any identified public policy transmission needs.

Conclusion

NY-BEST is committed to achieving Governor Cuomo's energy storage deployment target of 1,500 MW by 2025 and growing 30,000 jobs in this sector by 2030. The Roadmap represents a blueprint for achieving that target and realizing the numerous benefits of energy storage for New York's electric grid, consumers, environment and economy. As described in our comments above, NY-BEST encourages the Commission to adopt bold and transformative actions to implement the vision set forth in the Roadmap. We appreciate the opportunity to provide these comments and stand ready to assist Staff and the Commission in achieving this vision.

Respectfully Submitted,

Dr. William Acker
Executive Director