

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:

Fluence 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

Fluence is an energy storage technology and services company jointly owned by Siemens AG (“Siemens”) and The AES Corporation (“AES”). Fluence combines the engineering, product development, implementation and services capabilities of AES’ and Siemens’ energy storage teams and is currently engaging in an aggressive expansion of the business backed by the financial support of the two parent organizations. We have over 575 MW of contracted or deployed energy storage across over 60 projects in 16 countries. This combined experience includes having deployed an energy storage system in Johnson City, New York in 2011, which was both the first battery based energy storage system to be designated a Limited Energy Storage Resource and to provide frequency regulation in New York Independent System Operator (“NYISO”).

Fluence commends the New York State Energy Research and Development Authority (“NYSERDA”), Department of Public Service (“DPS”), and their staffs for their substantial efforts developing the Roadmap. We appreciate that the report recognizes the tremendous value that energy storage can bring to New York, and quantifies the environmental, energy, and economic benefits that energy storage can provide New Yorkers. The Roadmap is a critical step in the path to achieve Governor’s Cuomo’s call to deploy 1,500 MW of storage by 2025.

We are excited about the opportunities that this Roadmap has the potential to unlock. If these opportunities can be turned into deployed energy storage projects, it will unlock the benefits of energy storage for New York. We look forward to working with Staff and other stakeholders to turn this vision into a reality. As requested by Staff, our comments on the Roadmap are presented below.

General Comments

Fluence strongly supports the 1,500 MW by 2025 energy storage target which Governor Cuomo set and the analysis in the Roadmap showing how this will create substantial benefits to ratepayers. Based on the analysis presented in the Roadmap, we believe that there is ample evidence for the Commission to establish at least a 3 GW target in 2030. We also encourage the Commission to identify and commit to clear, concrete, and meaningful actions before the end of 2018 to enable this goal to be realized. This would send our company a clear signal that New York is a strong market for deploying energy storage.

We support the establishment of the Market Acceleration Bridge Incentive. In order to maximize the benefits to New York, the incentive should allow system owners to leverage revenues from existing markets, including the NYISO capacity market, and compensate the resource for non-monetizable value streams, particularly the environmental benefits. The incentive will also help lower the “soft costs” faced by industry as it begins to scale in New York. While much of the focus has been on soft cost reductions for customer and distribution connected systems, they are also present for large scale bulk systems.

Our experience in California provides an illustration. We are currently building a 100MW/400MWh battery in Long Beach, which will be housed in a building. Even though California has substantial experience with battery-based energy storage, most systems to date have been housed in containers, and none of the systems have been this large. Our engineering teams have had to work closely with local officials to ensure they are comfortable that our system complies with necessary fire codes and permits. The result has been a time-intensive and iterative process for us, with multiple design iterations. Uncertainty around permitting and system design has increased construction cost and timeline compared to a world without these uncertainties. This is a necessary one-time step and will smooth the path for subsequent large-scale energy storage systems in southern California, not only for Fluence but for all energy storage providers. Now we can apply this knowledge to reduce costs and shorten delivery timelines on our future projects. These savings are passed on to our customers. We believe the bridge incentive will be critical to helping energy storage companies lower permitting

soft costs for large scale systems in New York and give ratepayers access to lower cost energy storage systems for years to come.

Currently there is tremendous uncertainty about how the NYISO will integrate and compensate energy storage resources in the wholesale market. We support the Roadmap's objective to maximize revenue streams from the NYISO market, but there is substantial uncertainty around the type and value of revenues that will be available for storage participating in NYISO. Some drivers of this uncertainty will be resolved by studies and proceedings that are in progress (such as the duration eligibility for the capacity market) while others are part of the current NYISO market design (such as the lack of a long-term price signal for new capacity investment). The policies that are adopted by the Commission should recognize that the NYISO market may only provide a limited and uncertain revenue stream for energy storage and therefore be willing to supplement market revenues, given the value of storage identified by the Roadmap.

Market Acceleration Incentive

Fluence strongly supports creating a Market Acceleration Incentive. We agree with the Roadmap's reasoning that the Market Acceleration Incentive will promote near term deployments, accelerate technology cost declines, reduce soft costs, and increase market learning. We believe the incentive will be effective in achieving these goals in the customer, distribution, and bulk storage segments.

Fluence recommends the incentive be split by domain, with 1/3 going to each of the domains (customer sited, distribution connected, and bulk). This split would be consistent with the 2025 market sizing analysis laid out in Section 3.4 of the Roadmap. We recommend that a different procurement mechanism be used for resources eligible to participate in NYISO markets, which includes bulk systems and possibly distribution systems using the NWA+ model laid out in the Roadmap to avoid issues with buyer side mitigation ("BSM"). In the next section we lay out our proposal for how the incentive mechanism should be structured for these systems.

Clean Peak Actions

The Roadmap points out 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.

Fluence believes that energy storage should play a critical role in replacing these power plants. The Roadmap, E3 analysis, and NY-BEST/ Strategen's analysis all show how many of these plants have high operating costs, run for short periods of time, and produce significant amounts of NO_x and SO₂ emissions in environmental justice areas, often during extreme weather events that compound the public health impacts.¹ These power plants exemplify the "costly, dirty and inefficient energy infrastructure" the Governor has specifically targeted to be replaced by energy storage.² There are numerous examples from other states where energy storage has successfully and cost effectively replaced aging fossil generators, as laid out in NY-BEST's comments.

Fluence fully supports the Governor's goals and agrees that serious efforts must be undertaken to reduce New York's reliance on these plants, and other "costly, dirty and inefficient energy infrastructure." In order to retire and replace these plants, additional efforts are needed. We recommend having the NYS Department of Environmental Conservation quickly propose and implement the pending regulations that limit the NO_x emissions of generators. Fluence expects these regulations will result in the retirement of some of the peaking resources.

The lack of a long-term price signal from the NYISO will make it challenging, if not impossible, for these resources to be replaced with new cleaner resources without additional revenue certainty, regardless of technology type. The uncertainty of future NYISO revenues makes it incredibly difficult for developers to raise the financing needed to build new projects. Historically, the primary way that new entry has been attracted in the downstate zones where these plants are located is through long term contracts. Examples of these include the Hudson Transmission Line and Astoria II power plant, both of which received long term PPAs with NYPA.³ The uncertainty around future NYISO revenues was a major factor that led AES to move the 8 MW energy storage system we had deployed in Johnson City, NY to Dayton, Ohio. We believe that providing at least some long-term revenue certainty is critical to building energy

¹ 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>

² <https://www.governor.ny.gov/news/governor-cuomo-unveils-20th-proposal-2018-state-state-new-yorks-clean-energy-jobs-and-climate>

³ <https://www.nypa.gov/power/generation/all-generating-facilities>

storage projects in New York.

In conclusion, we support the Clean Reliability Program and Clean Reliability Credit laid out in NY-BEST's comments. We believe that this should be a long-term program that enables storage development in the state after the expiration of the bridge incentive. The auction process proposed, rather than simply providing a flat incentive, will enable developers to avoid BSM issues and ensure the maximum number of least cost projects are built. We recommend a few modifications to their proposal:

1. Only resources eligible to participate in NYISO's capacity market or provide capacity to Load Serving Entities are eligible to receive the credit
 - a. This avoids double payment for resources already receiving compensation for their capacity contributions and
 - b. Ensures the resources are eligible to replace the retiring fossil plants through the existing capacity procurement mechanism
2. The portion of the Market Acceleration Incentive dedicated to bulk helps provide a portion of the initial funding for the Clean Reliability Credit to smooth and mitigate any near-term rate impacts and jumpstart the program. In addition, if customer and distribution sited storage provide a meaningful number of the Clean Reliability Credits a portion of the Market Acceleration Incentive which is dedicated to supporting these projects should be used as part of the jumpstart funding. For example, if the 1/3 split for each domain we propose above is adopted and 10% of customer and distribution sited projects (in MW weighted terms) are earning Clean Reliability Credits, then 2/5s of the Market Acceleration Incentive should go towards jumpstarting the Clean Reliability Program ($1/3 + 1/3 * .1 + 1/3 * .1$).
3. NYSERDA should consider front loading the payments into the early years to reduce the financing costs of the project, while also having claw back provisions if they are not online for the length of their guarantee.

Lastly, we also support the Roadmap's recommendations to analyze "peaker operational and emission profiles on a unit-by-unit basis to determine which units are potential candidates for repowering or replacement by storage to allow emission reductions and system cost efficiencies." **This analysis should not assume that since a unit runs occasionally for 8 hours, that it needs to be replaced by 8-hour storage.** Instead, it should focus on the value of different durations of storage to the New York electric system if the unit retires. We strongly support the creation of Peaking Unit Contingency Plans. These plans should require the utilities to define what services they need and when and why they need them, rather than simply

declaring that it can only be provided by a traditional power or transmission asset. However, these plans should not serve as a roadblock to near term energy storage procurements while the study is completed, as the Roadmap has already conducted an in-depth analysis of the benefits of energy storage for New York.

We are excited about the opportunities the Roadmap has the potential to unlock. If these opportunities can be turned into deployed energy storage projects, it will unlock the benefits of energy storage for New York. We look forward to working with Staff and other stakeholders to turn this vision into a reality.