Bloomenergy™

December 4, 2020

Via Electronic Mail

Hon. Patrick Woodcock
Commissioner
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: 2020 APS Minimum Standard Review

Dear Commissioner Woodcock,

Bloom Energy Corporation ("Bloom Energy") hereby respectfully submits its response to the Department of Energy Resources' (DOER or the "Department") solicitation of public comments regarding its review of the Alternative Portfolio Standard (APS) minimum standard, published on the DOER website on November 5, 2020.

About Bloom Energy

Bloom Energy is a manufacturer of solid oxide fuel cell systems that generate electricity through an electrochemical process without combustion. Therefore, these systems do not produce local "criteria" air pollutants associated with combustion technologies, nor do they consume or discharge water. Bloom's Energy Servers are designed in a modular fault-tolerant format that provides mission critical reliability with no downtime for maintenance. Bloom Energy systems have been proven resilient through disruptive events including hurricanes, earthquakes, utility outages, physical damage, and fire damage. As a result, Bloom Energy Servers are used by many of the world's leading companies to secure their critical business processes from the risk of utility outages.

Bloom Energy has installed more than 400MW of its solid oxide fuel cell systems for customers in sixteen U.S. states as well as in Japan, South Korea, and India. A growing percentage of Bloom Energy's business is focused on grid-islanding and microgrid projects that are designed to operate in the event of an outage of the electric grid. In many cases, Bloom customers install grid parallel fuel cell projects to provide the option to use the project as the "anchor generator" of a future microgrid.

Background

Fuel cells are a proven technology that are used by entities with some of the highest reliability requirements in the world. During the August 2020 tropical storm that swept through parts of the northeast Bloom Energy fuel cell powered microgrid projects operated without failure through twenty-six separate outages. Among the customers who would have otherwise lost power were the telecommunications facility that houses the 911 call center for much of Long Island, as well as a pharmaceutical plant that was developing and is now manufacturing COVID-19 vaccines.

In Massachusetts, Bloom Energy's installations include microgrids at Mass General Brigham healthcare facilities, Home Depot stores, and Stop & Shop supermarkets, among others. These are the very types of customers that are proving to be "critical facilities" amid the pandemic and increasingly severe climate-induced weather patterns. As the Department conducts its review of the APS, we believe it should take great pride in the important "co-benefits" that fuel cells have brought to Massachusetts under the program. These include increased community preparedness and resilience, energy cost savings, and reduced combustion-related air pollution.

APS Review and Daymark Study

On DOER's behalf, Daymark Energy Advisors conducted a thorough analytical review of the APS program. The study focused on future Alternative Energy Certificate (AEC) supply and the contributions of various APS-qualified technologies under a range of scenarios. The primary focus was on combined heat and power (CHP) and renewable thermal, which together produce the vast majority of AEC supply. In examining the impacts of different policy options on future supply, Daymark considered several "supply levers." A number of scenarios highlight the impact of different multipliers for renewable thermal technologies on future supply of AECs, as well as the historic and future role of CHP.

The report concludes that DOER should consider several options to address oversupply, which broadly fall into one of two categories: 1) increase demand by raising the APS requirement; or 2) limit future supply by either reducing the multiplier for renewable thermal or phasing out the eligibility of new CHP. Importantly, all scenarios make clear that fuel cells are not contributing in any significant way to the oversupply of AECs.

APS and Fuel Cell Projects

DOER's APS program has been critical for fuel cell technology adoption in Massachusetts. To date, Bloom has installed our fuel cell-powered microgrids at seven Stop & Shop and fourteen Home Depot locations across Massachusetts, offering tremendous value to the communities in which they are located. Microgrids provide needed resilience against interruptions in electricity supply; in the case of Stop & Shop, this means that several local grocery stores can continue to operate in their communities indefinitely through blackouts caused by severe weather, system failures or other issues that have become increasingly commonplace.

In addition to the resiliency inherent in microgrids, the current paradigm in Massachusetts allows fuel cells to provide cost savings, significantly reduce CO_2 emissions compared to grid power, and effectively eliminate local air pollutants and water consumption. As we learn that the health impacts of COVID-19 are significantly exacerbated by poor air quality, pollution-reducing co-benefits that complement carbon reductions have rightly garnered additional attention in recent months.[1] Mass General Brigham, which is on the front lines in the fight against the pandemic, has

[1] Recent studies add to a growing body of evidence that combustion-related pollutants such as NO_x, SO_2 and particulate matter are even more harmful to human health than previously believed, and that the burdens are borne disproportionately by economically-disadvantaged communities. See:

installed Bloom Energy Servers at four separate locations. The wide range of benefits from APS-supported fuel cell projects clearly serves the energy, environmental, and public security goals of the Commonwealth. The continued support of the APS program for these types of projects is imperative and in complete accord with the intent of the program.

Conclusion

The APS program was working as intended until the oversupply of AECs created by other technology categories upset the supply/demand imbalance and caused market prices to crash. Bloom Energy respectfully requests that DOER make no fuel cell-specific changes to the program and instead focus its review on correcting the supply/demand imbalance so the types of projects described above can again look to the APS program as a source of support.

We appreciate the opportunity to provide input on this proceeding. Thank you in advance for your consideration of these comments. Please do not hesitate to reach out if I can provide additional information.

Sincerely,

/S/ Jordan Garfinkle

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