

December 4, 2020

Samantha Meserve  
Deputy Director, Renewable and Alternative Energy Division  
Massachusetts Department of Energy Resources  
100 Cambridge St. Suite 1020  
Boston, MA 02114

**RE: 2020 APS Minimum Standard Review Comment**

Dear Ms. Meserve:



The Massachusetts Institute of Technology (“MIT”) welcomes the opportunity to provide comment on the Alternative Energy Portfolio Standard (“APS”) Program review being conducted by the Massachusetts Department of Energy Resource (“DOER”).

MIT is a research institute with the mission to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century. MIT’s campus in Cambridge, MA serves over 11,500 undergraduate and graduate students, and nearly 13,000 employees including over 1,000 faculty. MIT is renowned for the academic and research activities conducted on campus, which require high-quality, uninterrupted energy and utility services.

MIT’s Central Utilities Plant (“CUP”) produces electricity and steam for use on campus through a highly-efficient combined heat and power cogeneration process. Since 1995, the CUP has relied on a single 20-megawatt (“MW”) gas turbine to produce electrical and thermal energy simultaneously through cogeneration. With the turbine approaching the end of its useful life, in 2015 MIT commenced planning to upgrade the CUP to enable its continued reliable, efficient operation. The upgrade project will replace this existing turbine with a new one and install a second 20 MW gas turbine, each equipped with a heat recovery steam generator. Both new turbines are expected to be commissioned and fully operational in the coming months.

The CUP upgrade project will produce a variety of environmental and reliability benefits, including reducing regulated pollutant emissions generated by the CUP, eliminating the use of fuel oil on campus except for backup emergency use, increasing the CUP’s operational efficiency and the campus’ overall energy efficiency, and greatly improving the reliability and resiliency of utility services for the campus. The CUP upgrade project is configured to maintain uninterrupted electrical service to the campus should the local power grid experience an outage, enabling MIT to continue operating without disruption to critical research activities on campus.

MIT sees two primary issues with Daymark Energy Advisors’ findings presented in its APS Review dated October 30, 2020.

- 1. Daymark recommends that DOER considers reducing the role of CHP in the APS as a potential policy lever to address a supply-demand imbalance of Alternative Energy Credits (“AECs”) currently observed in the APS compliance market. If DOER elects this option, MIT strongly recommends that existing CHP systems and CHP systems that are currently under construction be grandfathered into the APS.**

MIT has made a significant investment in the CUP upgrade project to support the Commonwealth’s energy goals of increasing energy efficiency, improving service reliability and resiliency, and reducing the need for conventional fossil fuel-based power generation. The APS was established to incentivize the adoption of alternative energy technologies that contribute to these specific objectives, which MIT’s CUP upgrade project achieves.

Changing APS qualification standards for existing and under-construction CHP systems creates uncertainty from a policymaking standpoint. This disincentivizes future alternative energy investment since the long-term nature and horizon of energy infrastructure investments require clear and consistent regulatory treatment to effectively incentivize end users to adopt the energy technologies that the Commonwealth believes will advance the state’s energy goals.

If DOER acts to reduce or eliminate the eligibility of existing or under-construction CHP systems to participate in the APS, such an action would create uncertainty for end users throughout the Commonwealth. The question would arise as to whether investments in APS-eligible renewable thermal technologies could face similar eligibility questions and stranded cost risks in the future should new thermal production and distribution technologies emerge that the Commonwealth wants to support. Renewable thermal technologies could very well see major advancements in the coming years, making this a real concern for end users should this precedent be set by DOER in this review process.

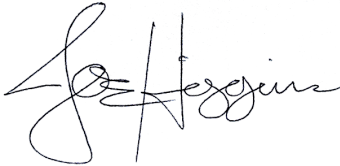
- 2. Daymark recommends that DOER considers modifying how AECs are produced and valued based on technology. MIT recommends that AECs generated by CHP not be treated differently from AECs generated by APS-eligible renewable thermal technologies.**

225 CMR 16.00 states that one unit of credit shall be equivalent to the APS Alternative Generation Attribute associated with one megawatt-hour of electrical energy output. This definition is the correct basis of the APS, enabling a compliance structure and trading currency across a range of thermal production and distribution technologies. Useful energy delivered to end users should remain the common basis for measuring AEC generation and should be compensated equally across all eligible generation sources.

In its APS Review, Daymark notes that DOER has a variety of policy levers at its disposal to address AEC supply-demand imbalance, including altering the required APS obligation, modifying resource eligibility requirements, adjusting the Alternative Compliance Rate, and implementing varying AEC multipliers for specific technologies so that a particular technology produces more or less AECs. With the development of and market for alternative thermal production and distribution technologies advancing and changing rapidly, MIT recommends that DOER treats all eligible technologies equally where they should continue to be incentivized through AEC generation that is dictated by the APS’ original foundation of useful energy delivered to end users.

In conclusion, there is clearly an AEC supply-demand imbalance in the current APS compliance market that needs to be resolved for end users to continue utilizing and adopting alternative energy technologies that can help the Commonwealth meet its long-term energy goals. MIT does not offer commentary at this time on how DOER should address this imbalance. Whatever DOER decides, MIT strongly recommends against changes that negatively impact existing and under-construction CHP systems.

Respectfully,

A handwritten signature in black ink, appearing to read "Joe Higgins". The signature is fluid and cursive, with the first name "Joe" written in a large, stylized loop and the last name "Higgins" written in a more standard cursive script.

Joe Higgins