UMassMemorial Medical Center

Hahnemann Campus
281 Lincoln Street
Worcester, MA 01605
www.umassmemorial.org

December 4, 2020

Ms. Samantha Meserve
Deputy Director, Renewable and Alternative Energy Division
Massachusetts Department of Energy Resources
100 Cambridge Street, 10th Floor
Boston, MA 02114

Subject: UMass Memorial Health Care Comments on APS

Dear Ms. Meserve,

The purpose of this letter is for UMass Memorial Medical Center and UMass Memorial HealthAlliance-Clinton Hospital, on behalf of the UMass Memorial Health Care System (UMMHC), to provide comments on the Alternative Energy Portfolio Standard (APS) review being conducted by the Massachusetts Department of Energy Resources (DOER).

We appreciate the opportunity to provide input during this important process.

BACKGROUND

UMMHC serves the Central Massachusetts region, which comprises a diverse population with varying demographics and socioeconomic statuses. Worcester and Leominster, where UMass Memorial Medical Center and UMass Memorial HealthAlliance-Clinton's hospitals are based, provide healthcare services to a particularly high-need, at-risk population. Worcester and Leominster have a high poverty rate, lower than average English speaking proficiency, and many citizens in the area require access to public assistance.

In 2018, UMMHC installed combined heat and power (CHP) systems at the Worcester and Leominster hospitals that enable 1) a highly-efficient electric generation and waste heat recovery process and 2) significant improvements in each facility's utilities reliability and resiliency. UMMHC installed a 2.65 MW reciprocating engine at the Memorial Campus and a 2 MW reciprocating engine at the Leominster Campus. Over the past two years, the CHP systems have operated consistently and very efficiently, and both systems have the ability to island in the case of a grid outage. Hospital patients have benefitted from the CHP operations through increased service reliability and resiliency, and the reduced need to transport patients in the event of a utility outage. The Memorial campus has switched over to Island Mode more than a dozen times since the installation of the CHP. This has greatly benefited the hospital so we are able to maintain full capacity to provide uninterrupted power keeping our patients safe as opposed to when we transferred to emergency power going black for 3-5 seconds causing major life saving equipment to potentially cause a brown causing substantial damage to major equipment.

UMMHC has invested millions of dollars in the two CHP systems and the hospitals' energy infrastructure to become more efficient, lower our greenhouse gas emissions footprint, and become more resilient. The Alternative Energy Credits (AECs) generated by our CHP systems are a key revenue stream to UMMHC and played a critical factor in our decision to invest in CHP. We therefore strongly urge the DOER to support existing CHP systems' continued inclusion in the APS and to take action to address the significant AEC oversupply and price suppression conditions currently observed in the APS compliance market.

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COMMENTS

Comment #1 – Economic Assumptions

The Daymark study dramatically underestimated the capital and operating costs of a CHP system in Massachusetts. As a result, Daymark underestimates the financial impact that declining AEC market prices and the potential removal of existing CHP systems from the APS would have on CHP users including UMMHC. In evaluating whether to make a long-term investment in CHP, the value of AECs was extremely important to UMMHC's final decision. Without AECs, it's not clear we would have moved forward.

In terms of upfront system costs, the installed costs of UMMHC's CHP systems were both approximately 2-3 times the $2,028 per kW assumed by Daymark in the study.

In terms of O&M costs, UMMHC's Long-Term Service Agreement (LTSA) for the CHP systems is nearly $50 per Operating Hour. If you assume 92% uptime (8059 hours per year), this equates to more than $400,000 per year, or $121 per kW-year. This O&M cost is significantly higher than the $8 per kW-year fixed O&M cost assumed by Daymark in the study. UMMHC's O&M cost figure cited above does not include other fixed and variable O&M costs such as natural gas, urea, labor, costs to maintain other equipment like the control systems, chillers, etc., which would obviously add to the overall O&M costs.

Comment #2 – Resiliency

The CHP systems installed at the Worcester and Leominster hospitals have the ability to island and "ride-through" any utility service disruptions. We are the safety net hospital serving Central Mass, the only Level 1 Trauma Center and the region's only Level III for high risk obstetrical and neonatal care in Central Mass, and the major teaching hospital of UMass Medical School, the ability to operate in the case of a sustained utility interruption is extremely important for the resiliency and well-being of the communities we serve. For example, in 2008 there was a severe ice storm that nearly shut down the HealthAlliance hospital for more than 3 days. Something like this could be incredibly damaging to the region. Resiliency is very important and AECs help to incentivize investment in energy systems that provide this essential service.

Comment #3 – COVID-19 Impacts

UMMHC has been serving on the frontline during the COVID-19 pandemic. As the DOER is likely aware, this has come at an extreme financial cost to our hospitals. To change the rules of the APS in a way that reduces or eliminates the value of AECs to hosts of existing CHP systems would undermine an extremely important source of revenue for UMMHC and would put further stress on the organization's finances at an unwelcome time.

In conclusion, we have invested heavily to be more efficient, reduce emissions, and provide enhanced reliability across the UMMHC System. AECs were, and continue to be, a major part of the decision to make a long-term investment in CHP. We therefore urge the DOER to support existing CHP systems' continued inclusion in the APS and to take action to address the significant AEC oversupply and price suppression conditions currently observed in the APS compliance market.

We are available should you have any questions and we appreciate your time and attention on this matter.

Sincerely,

Kathleen Hylka
Interim VP of Facilities & Support Services
UMMHC/UMMMC