August 7, 2017

Judith Judson, Commissioner
Massachusetts Department of Energy Resources
100 Cambridge Street, 10th floor
Boston, MA 02116

Re: Alternative Portfolio Standard Draft Regulations, 225 CMR 16.00

Dear Commissioner Judson:

NECEC greatly appreciates the opportunity to provide feedback to the Department of Energy Resources (DOER) on the proposed updates to the Alternative Portfolio Standard (APS) regulations, filed with the Secretary of State on June 2, 2017. We appreciate the effort that has gone into developing and refining these draft regulations, and we are pleased to see the progress being made towards full incorporation of new eligible technologies.

NECEC is a clean energy business, policy, and innovation organization whose mission is to create a world-class clean energy hub in the Northeast, delivering global impact with economic, energy and environmental solutions. NECEC is the only organization in the Northeast that covers all of the clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development. NECEC members span the broad spectrum of the clean energy industry, including energy efficiency, wind, solar, energy storage, microgrids, fuel cells, and advanced and "smart" technologies. Many of our members are operating and investing in Massachusetts, and more are interested in doing so.

We commend the Department for incorporating both fuel cell technologies and renewable thermal and waste-to-energy thermal technologies in a single open proceeding. Laying the groundwork for the inclusion of these technologies was assuredly a complicated and intensive task, and we thank DOER for the effort that went into the new draft regulations. NECEC believes strongly in the value of the Alternative Portfolio Standard (APS), and the integration of these additional eligible resource types will only enhance the benefit that the Commonwealth will derive from the Standard in the future. We strongly support the inclusion of fuel cells and renewable thermal technologies, including solar hot air and water, ground-source heat pumps, geothermal, air-source heat pumps, and sustainable biomass, all of which will have a role to play in pursuit of the Commonwealth's goals for decarbonization, renewable energy, and electrification.

The thrust of our comments to the Department pertains to the draft regulations' treatment of fuel cells. As the Department and Legislature have recognized, fuel cells have the potential to contribute valuably to Massachusetts' efforts to reduce greenhouse gas emissions, reduce peak load, and improve the reliability of the electric utility system. Across the northeast and in other states like California, fuel cells are already supplying clean and secure power to a diverse set of customers in a variety of industries, such as hospitals, universities, industrial manufacturers, municipalities, high schools, supermarkets, residential buildings, and wastewater treatment facilities.

Accordingly, we urge the Department to amend section 16.05(1)(a)(7)(b) of the draft regulations, which requires that fuel cell generation must "meet an overall efficiency of 60%." This requirement is unnecessarily burdensome and will disqualify many valuable technologies from the APS. This standard is problematic for several reasons.

First, the 60% efficiency standard conflicts with Section 16.05(1)(e) of the draft regulations, which states that APS generation units must comply with a net carbon dioxide emissions rate equal to the

average emissions rate of existing natural gas plants in Massachusetts, to be published and updated by DOER at least every two years. In the provision in question, however, the Department proposes to calculate a fuel cell's efficiency by considering the total MWh of electricity it produces compared to the total MWh of fuel it uses. These standards are inconsistent, and their inclusion will cause uncertainty regarding a generation unit's eligibility. The 60% efficiency standard appears to be arbitrary; requiring projects to instead surpass a threshold based on existing emissions rates is a far more sensible approach.

In addition, the requirement fails to account for variables such as capacity factor and benefits such as the elimination of criteria pollutants like oxides of nitrogen, sulfur dioxide, and particulate matter. Units that eliminate pollutants should be assessed a lower net emissions rate, as they effectively offset emissions from their own production processes. The narrow definition of efficiency promulgated by the Department fails to capture and account for this valuable benefit provided by certain fuel cell generating units.

Furthermore, the 60% efficiency standard effectively means that fuel cell projects could be developed only in those limited circumstances where a customer has a well-matched thermal and electric load. In such cases, those customers are already eligible to qualify for and participate in the APS with Combined Heat and Power (CHP) projects. If the Legislature had intended for fuel cells to be limited to only CHP applications, it would have expressly stated so in last year's *Act to Promote Energy Diversity*.[1]

Finally, on a separate subject, NECEC wishes to note its continued support for the inclusion of sustainable biomass in the renewable thermal portion of the draft regulations. The rigorous emissions and sustainable forestry requirements proposed by the Department, coupled with the fact that the technologies used for thermal production are typically small and widely distributed, will ensure that the projects and technologies made eligible will advance the Commonwealth's vision for a cleaner, more decentralized energy system. We recommend that the Department retain eligibility for sustainable biomass in the broader category of renewable thermal systems.

In summary, NECEC commends the Department for its efforts to update the existing APS regulations to incorporate new eligible technology categories. As the Department continues its review of the draft regulations, however, NECEC urges that it remove the 60% overall efficiency standard for fuel cells in order to ensure a fair and level playing field for fuel cell development in the Commonwealth. Thank you for the opportunity to submit feedback and for the Department's thoughtful consideration of all stakeholder input.

Sincerely,

Peter Rothstein
President

Janet Gail Besser
Executive Vice President

cc: Michael Judge, Director of Renewable and Alternative Energy Division, DOER

[1] Chapter 188 of the Acts of 2016, available online at https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter188.