MASSACHUSETTS DEPARTMENT
OF ENERGY RESOURCES

Re: 225 CMR 16.00 - Alternative Energy Portfolio Standard.

INITIAL COMMENTS OF ETAGEN, INC.

EtaGen, Inc. ("EtaGen") respectfully submits these comments in response to the Regulation and Guidelines filed on June 2, 2017, by the Massachusetts Department of Energy Resources ("DOER") with the Massachusetts Secretary of State, pursuant to the above-referenced rulemaking.

I. EtaGen Background

Founded in 2010, EtaGen is a privately-held company based in Menlo Park, California. Leveraging research pioneered by our founders at Stanford University, EtaGen is in the latter stages of developing a highly efficient power generation platform to provide customers affordable, clean, and reliable onsite electricity. EtaGen's "linear generator" technology addresses the performance degradation, reliability, and manufacturing challenges that plague traditional distributed generation. With commercialization expected in 2018, EtaGen's linear generator technology will deliver high efficiencies and low lifecycle costs, on par with or superior to the highest performing fuel cells on the market, thus delivering to our customers, continuous onsite power generation with unmatched economics.

II. Comments

- The Alternative Energy Portfolio Standard ("APS") is a valuable policy tool that should be used to encourage the deployment of those clean energy technologies that maximize the delivery of vital and valuable public benefits such as energy security, increased efficiency, emissions reductions and system resiliency. Accordingly, technology such as

EtaGen's linear generator, which delivers efficiency and emissions benefits at least equivalent to those fuel cell technologies that will qualify for the APS under the proposed Regulations, should also be equitably treated and thus granted APS eligibility.

- Fuel cells convert fuel into electricity through an electrochemical reaction that causes persistent degradation of the catalyst in each fuel cell during operation.[1] Such degradation, which begins to occur as soon as a fuel cell begins operating, necessarily causes reductions in the electrical and overall efficiency, which is directly and inversely proportional to carbon dioxide ("CO2") emissions—i.e., reductions in efficiency cause and are directly correlated with increases in CO2 emissions. Although fuel cell manufacturers continue to work on improved versions of the technology, degradation has and will always remain an inherent and inescapable aspect of the technology. As such, DOER should make revisions to the proposed Regulations to ensure that those fuel cell technologies that may be initially eligible for the APS—i.e., achieve an overall efficiency of 60% or greater as required by 225 CMR 16.05(1)(a)7—are also ***required to demonstrate ongoing compliance with that same efficiency threshold*** or any other more stringent threshold that may be mandated in the future. If fuel cell efficiency is not subject to some form of ongoing compliance requirement, there is a very real risk that certain fuel cells could continue to operate and qualify for incentives afforded under the APS, while actually operating at efficiencies lower than the required 60%, therefore increasing CO2 emissions and undermining the very purpose of the APS.

[1] *See e.g.*, "The pain point for Bloom Energy and fuel cell makers", Katie Fehrenbacher (Aug. 7, 2011) at https://gigaom.com/2011/08/07/the-pain-point-for-bloom-energy-fuel-cell-makers/.

EtaGen greatly appreciates the opportunity to submit these written comments and looks forward to continued engagement on the APS and other related matters.

Respectfully,

/s/

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