



## *Engineering & Utilities*

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By Electronic Mail ([DOER.CPS@mass.gov](mailto:DOER.CPS@mass.gov))

**RE: Massachusetts Department of Energy Resources Clean Peak Standard Straw Proposal  
Stakeholder Feedback**

Thank you for the opportunity to provide comments on the Department of Energy Resources (DOER) April 2<sup>nd</sup> request for stakeholder feedback regarding the *Clean Peak Standard Straw Proposal*. As a large end user of electricity, a licensed competitive self-supplier in Massachusetts, and an organization with strong commitments to clean energy, the proposed Clean Peak Standard has many impacts on Harvard University.

The straw proposal outlines the DOER's objective to incentivize cost-effective emission reductions, including the co-operation of energy storage systems with clean generation while simultaneously flattening the net electric load curve. Thermal energy storage (TES) can time shift significant electrical demand to better utilize clean generation resources and relieve system peaks. Depending on the specific technology, it allows excess thermal energy to be stored and used hours to days later, at scales ranging from individual buildings to districts and towns. TES uses standard cooling or heating equipment, plus an energy storage tank to shift the generation of all or a portion of a building's thermal energy needs to more favorable production periods (e.g. off-peak periods when system demand and energy costs are lower and/or when the electric grid's marginal emission intensity is more favorable).

In developing the draft CPS regulation metering requirements, we suggest that TES systems be evaluated based on their thermal energy output delivered during the daily Seasonal Peak Periods. By converting the metered thermal energy delivered during the peak period (e.g. number of ton-hours) to a megawatt hour (MWh) equivalent, the number of Clean Peak Credits (CPCs) can be calculated analogous to other Clean Peak resources. This MWh value represents the avoided electrical load resulting from shifting thermal energy production to off-peak periods. The ton-hour to MWh conversion should be calculated using a pre-established "best available technology" efficiency rating (e.g. kW/ton) applicable to the type and size of the thermal energy generating system supplying the thermal energy storage system. In addition to flattening the on-peak electric load curve, this approach incentivizes facilities to install the most efficient equipment available as a less efficient chiller would produce fewer CPCs per cost of thermal energy production.

Please contact me at (617) 496-7225 or at [michael\\_macrae@harvard.edu](mailto:michael_macrae@harvard.edu) if you have any questions.

Sincerely,

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