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**BY EMAIL TO: doer.cps@mass.gov**

Massachusetts Department of Energy Resources  
100 Cambridge Street, Suite 1020  
Boston, MA 02114

**Re: Responses to Clean Peak Standard Stakeholder Questions**

Great River Hydro, LLC (“Great River Hydro”) respectfully provides its responses to the Clean Peak Standard (“CPS”) Stakeholder Questions from the Massachusetts Department of Energy Resources (“DOER”).

Great River Hydro owns and operates the largest conventional hydroelectric portfolio in New England. Great River Hydro’s 584 MW hydro system consists of thirteen generating stations and three storage reservoirs on the Connecticut and Deerfield Rivers in Vermont, New Hampshire and Massachusetts. Collectively, our hydroelectric resources generate approximately 1.6 GW hours of renewable energy annually, supplying approximately fifty percent of the storage capacity from conventional hydroelectric resources with storage capability in New England.

In large part, our generation relies upon our control and management of water resources stored in our seven major storage reservoirs and one other for which we control the outflow. In previous winters, this storage capability was extremely important and provided significant energy storage capability in terms of actual energy generation or reserves. These facilities played a vital role in the winter of 2017/2018 by providing critical generation from water storage reservoirs, helping to mitigate the demand for additional high-priced oil-fired generation. We have flexibility in our system to adjust our current management and control of these resources in a manner which would reserve potential clean energy, previously unreserved, as stored water, and respond during the periods identified under the CPS, and maintain our stewardship responsibilities that enable us to qualify for Low Impact Hydropower Certification. That reserved energy, previously unrestricted, should be treated as incremental new capacity at an existing energy storage system and thus qualify under the CPS.

Great River Hydro’s responses are limited to those questions where we believe we can provide the most assistance to the Department in this matter. In addition, Great River Hydro’s

responses are based on the questions presented, which assumes a particular framework for the CPS. Should the CPS develop much differently, we may have much different responses. Lastly, we would like to emphasize that existing and new resources should be able to qualify for whatever the resulting program is as long as they can deliver the defined product; allowing existing resources to qualify retains vital resources in New England, while allowing new resources to qualify encourages the development of more such resources. Both are needed.

Great River Hydro appreciates the opportunity to provide comments on this matter and hopes its comments are helpful to the Department.

Sincerely,



Shawn Keniston, P.E.  
Director of External and Regulatory Affairs

**Great River Hydro  
Responses to  
Clean Peak Standard (CPS) Stakeholder Questions**

*Clean Peak Resource*

1. *Should only resources interconnected to the electric distribution system be eligible to qualify, or should resources connected to the transmission system also be eligible to qualify?*

**Response: In order to efficiently meet the goals and objectives of the Clean Peak Standard and the 2008 Global Warming Solutions Act, both regionally based transmission and electric distribution connected resources meeting MA DOER RPS eligibility requirements should be eligible to qualify.**

2. *Should DOER interpret the use of the term “electric distribution system” to mean that only facilities on the electric distribution system in the Commonwealth should be eligible to qualify as clean peak resources under the CPS?*

**Response: Clean peak resources generating anywhere within ISO-New England control area should be considered (See 1. above).**

*Should the CPS also include all distribution and/or transmission level resources connected in the ISO-NE control area?*

**Response: Yes, for the reasons stated above.**

*Should it include adjacent Control Areas such as NYISO, Quebec, or New Brunswick?*

**Response: No, the CPS should incentivize development in the ISO-NE control area to fulfill its clean energy needs. By definition, the CPS requires energy delivery during periods of seasonal peak demand, which are likely to be coincident with peak demand periods in adjacent control areas. To encourage regional energy independence and avoid adjacent control areas from backstopping their energy needs with resources that would not meet the CPS requirements, the CPS should only be eligible to resources located within ISONE.**

#### Demand Response Resource

7. *Should standalone energy storage resources (i.e. not directly connected to another resource type) be eligible to qualify as demand response resources? What requirements, if any should standalone energy storage resources face in order to qualify as demand response resources?*

**Response: Only energy storage that stores thermal energy for direct heating or cooling for use at a later time and derived from non-greenhouse gas emitting electric generating resources should qualify as an eligible CPS demand response resource. Other energy storage systems that store electric energy should be required to qualify under the requirements as a Qualified Energy Storage System or Qualified RPS Resource.**

8. *Should the DOER view thermal storage facilities as a Demand Response Resource? What requirements, if any, should thermal storage facilities face in order to qualify as demand response resources?*

**Response: Yes, please see above.**

#### Qualified Energy Storage System

9. *How should DOER define what constitutes “incremental new capacity at an existing energy storage system”?*

**Response: The DOER should consider existing hydroelectric storage projects capable of flexible seasonal storage and dispatch as an eligible energy storage**

resource relying on mechanical processes as a means to store energy. Such a facility could reserve a specified portion of its stored water resource previously unencumbered or reserved to provide a quantity of capacity or energy during peak energy periods as established under the forthcoming regulations; such a reservation would constitute incremental new capacity at an existing energy storage system.

10. *How should DOER interpret the requirement that a Qualified Energy Storage System operate “primarily to store and discharge renewable energy?”*

- a. *Would alignment with the federal ITC requirement that storage is eligible for a credit as long as the battery is charged by a renewable energy system more than 75 percent of the time be appropriate?*

**Response:** The Federal ITC eligibility for energy storage is limited to those storage systems paired with a solar project and only in certain circumstances. The DOER presently should not align its interpretation with current Federal ITC requirements, as there is an expectation that the Federal ITC will be expanded to include stand-alone energy storage development projects and thus the charging percent threshold would be inappropriate.

- b. *If not directly physically or electrically connected to a renewable energy resource, how can the qualified energy storage system demonstrate that it operates primarily to store and discharge renewable energy? Purchase and retirement of RECs? Some other means?*

**Response:** Power purchase agreements with a qualified non-greenhouse gas emitting electric generating resource would be a reasonable way to demonstrate that the storage system is primarily storing renewable energy. Alternatively, another approach to stand-alone energy storage facilities is to treat such as a storage facility, rather than an energy resource. With this approach, a qualified renewable energy resources could execute energy storage agreements with the storage facility and be eligible for the CPS. The storage facility would provide the means for storage and delivery of such energy without purchasing the energy. The storage facility would essentially operate on a tariff basis under a contract with the renewable energy resource entity.

#### Qualified RPS Resource

12. *Given the requirement that RPS resources that commenced commercial operation prior to 2019 must be paired with a qualified energy storage system in order to*

*qualify for the CPS, what, if any, requirements should DOER adopt regarding how much energy storage needs to be installed?*

- a. *Should there be a minimum percentage threshold on the ratio of the size of the energy storage to the size of the renewable resource (e.g. minimum installed storage capacity equal to 25% or more than installed renewable capacity)?*

**Response: In as far as a resource can certify its generation through the NEPOOL GIS system as CPS compliant there should not be a minimum percentage threshold.**

13. *With respect to the quantity of its capacity that a Qualified RPS Resource can qualify under the CPS, should the DOER discount a Qualified RPS Resource's eligible capacity based on the capacity it can supply through the duration of each seasonal peak period (e.g. a 2 MW solar resource that can only provide 50% of its capacity value over the peak period would qualify as a 1 MW facility)?*

**Response: The objective should be to qualify a resource's expected compliant energy production, not the resource's capacity during seasonal peak periods.**

14. *Should DOER adopt any additional requirements regarding the CPS eligibility of renewable energy generating sources as defined in subsection (c) or in subsection (d) of section 11F (e.g. emissions thresholds, fuel sourcing, etc.)?*

**Response: The DOER should expand CPS eligibility to allow existing RPS compliant hydro resources within the region with reservoir storage, i.e., discretionary generation from storage, the ability to demonstrate they can respond to the CPS in a manner otherwise different from historic operation.**

## **Generation of Certificates**

19. *Should only resources that can provide value for the entire duration of a peak period be able to generate certificates?*

**Response: No, any qualified generation as certified by the NEPOOL GIS system should count towards meeting the CPS goal. Limiting qualification to resources that can only provide value for the entire duration of a peak period will restrict the pool of resources that could provide renewable energy over the peak period for the lowest possible cost.**

20. *Should there be different values provided to resources that can provide value for a portion of a peak period versus the entire peak period? If so, how should DOER differentiate these value streams?*

**Response: No. The CPS should recognize storage capability as a separate attribute of a resource, similar to renewable energy certificates.**

*21. Should there be a penalty (i.e. negative credits) if a resource under-produces during the actual monthly peak?*

**Response: Yes, not unlike the proposed ISO NE interim winter reliability program, negative credits should incentivize performance.**

*22. How should resources participating in other state programs (e.g. section 83 procurements, SMART, EE programs, etc.) interact with the CPS?*

**Response: To the extent the energy is derived in region from otherwise RPS compliant resources they should count towards meeting the CPS.**

*23. Should qualified energy storage systems that can demonstrate they were charged during minimum load windows be provided additional incentives or benefits under the CPS? If so, how should these be structured and how should minimum load windows be established?*

**Response: The DOER should consider allowing existing in region RPS compliant hydro resources with storage, i.e., discretionary generation from reservoir storage, the ability to demonstrate they can respond to the CPS in a manner otherwise different from historic operation as a qualified energy storage system utilizing a mechanical process under the statutory definition.**

## **Value of Certificates**

*29. How much value is likely needed on a per MWh basis to incentivize different types of existing resources to operate during peak windows and/or new resources developed or financed using CPS revenue streams?*

**Response: The DOER should consider structuring long-term RFPs over a 10- to 20-year period to attract necessary capital investment to pair existing in region RPS compliant resources with new electric storage technology.**

*30. How should DOER establish these values?*

**Response: By soliciting long-term proposals, the CPS is likely to be met with the least cost RPS compliant resources.**

## Long-term Contracts

31. *If DOER does require competitive procurements:*

- a. *What types of facilities should be able to participate in solicitations? Should it be limited to certain types of facilities (e.g. facilities that are either new and/or not already supported by another type of long-term contract or financing tool)?*

**Response: In order to maximize the use of existing storage capabilities in the region, long term procurement should be limited to in-region qualified resources, irrespective of in-service date. Existing and new resources should be able to qualify for whatever the resulting program is as long as they can deliver the defined product; allowing existing resources to qualify retains vital resources in New England, while allowing new resources to qualify encourages the development of more such resources. Both are needed.**