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Clean Peak Standard (CPS) Draft Stakeholder Questions

Definitions of Key Terms

Clean Peak Resource

Clean peak resource is defined as "a qualified RPS resource, a qualified energy storage system or a demand response resource that generates, dispatches or discharges electricity to the electric distribution system during seasonal peak periods, or alternatively, reduces load on said system."

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?

All resources should be eligible to qualify, with compensation commensurate with value. Resources further downstream typically offer more value, especially since they reduce kWh line losses, and increase reliability on utility distribution systems.

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? Should the CPS also include all distribution and/or transmission level resources connected in the ISO-NE control area? Should it include adjacent Control Areas such as NYISO, Quebec, or New Brunswick?

The emphasis should be placed on local resources because they mitigate more issues.

Demand Response Resource

Demand response resource is defined as "changes in electric usage by end-use customers in the commonwealth from their normal consumption patterns in response to: (i) changes in the price of electricity over time, including, but not limited to, time-of-use rates for residential and small commercial and industrial customers; or (ii) incentive payments designed to induce lower electricity use at times of high wholesale market prices or when system reliability is jeopardized."

3. What types of resources should be included in this definition? Incentives and price signals are underutilized, especially in light of all of the innovation behind the meter with connected buildings and smart homes.

4. Should electric vehicles (EVs) qualify? Yes, provided resource availability is accounted for. Unless an end-user allows unfettered access to the resource, a different compensation method is needed.

5. How should DOER interpret the inclusion of different types of rate designs in this definition?

DOER should encourage aggressive rate designs. Most consumers are accustomed to variable price signals in other aspects of their life, e.g. airfare, lodging, ticket prices.

6. Should this definition only be limited to active demand response?

Permanent Load Reduction has been a successful program category in other markets and should be considered under the Massachusetts framework.

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?

Virtually all energy consuming systems are connected in some way. The Commonwealth should encourage innovation related to all energy storage options. The requirements should include matching up to a particular constraint, such as

peak load due to air conditioning, and need to be reliable and have sufficient controls to allow dispatching, measurement, and verification.

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?

Due to their inherent characteristics, thermal storage has the ability to store significant amounts of energy safely in a small footprint. These resources need to employ proven technology with a track record of performance, and be dispatchable by grid operators and LDC's,just like other energy resources.

Qualified Energy Storage System

Qualified energy storage system is defined as "an energy storage system, as defined in section 1 of chapter 164, that commenced commercial operation or provided incremental new capacity at an existing energy storage system on or after January 1, 2019; provided, however, that such system operates primarily to store and discharge renewable energy as defined in said section 1 of said chapter 164."

9. How should DOER define what constitutes "incremental new capacity at an existing energy storage

system"?

Additional energy capacity, or enhancements to existing systems making them more capable of storing energy.

10. How should DOER interpret the requirement that a Qualified Energy Storage System operate "primarily to store and discharge renewable energy"? This definition should include sites that import renewable energy, in addition to generating on-premises.

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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? The statute seems to allow off-site generated resources to be considered but this should be clarified by the DOER.

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? Purchase agreement should be adequate.

11. How should DOER view thermal storage facilities with respect to eligibility as a qualified energy storage system?

Rulemaking should be flexible, with the underlying goal of increasing penetration of storage resources.

Qualified RPS Resource

Qualified RPS Resource is defined as "a renewable energy generating source, as defined in subsection (c) or in subsection (d) of section 11F that has: (i) installed a qualified energy storage system at its facility; or (ii) commenced commercial operation on or after January 1, 2019."

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)?

No comment.

13. With respect 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)?

The compensation should match the value to the grid. This region is summer-peaking, and T&D congestion kWh losses are dramatically higher in the summer, so compensation should reflect that reality for DER's.

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.)?

No Comment.

Seasonal Peak Periods

Establishing Seasonal Peak Periods

DOER is required to establish seasonal peak periods, which are defined by that statute as "the daily time windows during any of the 4 annual seasons when the net demand of electricity is the highest; provided however, that a seasonal peak period shall be not less than 1 hour and not longer than 4 hours in any season, as determined by the department."

15. Given these limitations, how should DOER establish different seasonal peak periods to both optimize cost reductions for ratepayers and emissions reductions for the Commonwealth?

Due to the nature of the market, seasonal peaks have diminished value – this should be reflected in compensation - "second highest peaks" do not drive capacity costs.

16. DOER is considering announcing seasonal peak periods on an annual basis based on 1 to 3 years of historical data.

a. What formula should DOER use to set the seasonal peak periods to reflect real time operating conditions?

b. What data sources should DOER use to determine seasonal peak periods?

c. What time period(s) should each of the 4 annual peak periods cover?

d. Should seasonal peak periods be different lengths depending on the season?

e. How often should the seasonal peak periods be examined and/or adjusted to reflect changes in seasonal peak demand over time? What should be the trigger and/or the process for making such adjustments?

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17. Are there alternative methods of establishing seasonal peak periods the DOER should consider?

The impact of local T&D congestion on the electric system should be recognized – in addition to the Non-Wires Alternative concept for peak load, the kWh losses during summer heat are typically 4-5x those experienced during other periods. Kwh system losses are typically reported on an annualized basis for the sake of simplicity that does not reflect reality.

Atypical Peak Events

Not all system peaks occur within the same 1-4 window throughout the course of a season (e.g. a 95 degree day on a weekday in May will almost certainly not have a peak that occurs at a similar time of day as the bulk of peak periods in the same month).

18. Should DOER establish peak periods other than the seasonal peak periods during which clean peak resources are eligible to generate clean peak certificates? Only of they have societal economic value.

a. If so, what criteria should DOER use to establish these periods and what mechanism(s) and should be used to trigger and announce these events in advance of them occurring? Econonic response via dispatchable DER's/

b. Should DOER specifically target ISO system peaks? Yes – system peaks drive prices of retail energy. If there is no effort to mitigate the peak, prices to the consumer keep increasing.

Generation of Certificates

Some clean peak resources may only be capable of generating clean peak certificates during a portion of a seasonal peak period. For example, a solar resource trying to deliver energy for the duration of a summer seasonal peak period that lasts from 6-9 PM may generate a significant number of certificates in the early part of that window compared to the latter.

19. Should only resources that can provide value for the entire duration of a peak period be able to generate certificates? Longer duration resources should be compensated at higher levels.

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? Compensation should correlated with societal value.

21. Should there be a penalty (i.e. negative credits) if a resource under-produces during the actual monthly peak? Yes, real-time M&V needs to be an element of DER management and compensation.

22. How should resources participating in other state programs (e.g. section 83 procurements, SMART, EE programs, etc.) interact with the CPS? If the resource fulfills those needs, they merit appropriate compensation.

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? Yes. These resources are adding value to underutilized resources.

Metering

Verification of Metered Data

DOER proposes that all clean peak resources be registered with NEPOOL GIS as Non-NEPOOL participants. This would mean that, as required by the NEPOOL GIS operating rules, all resources would be required to report their eligible output to NEPOOL GIS by a DOER approved Independent Third Party Meter Reader. This entity would be responsible for verifying the accuracy of the reported data before uploading it to NEPOOL GIS for the creation of certificates. To ensure that all data is collected, reviewed, and reported to NEPOOL GIS in a consistent manner, DOER would select a single entity to act as the Independent Third-Party Meter Reader, similar to the process used under the SREC programs, in which the Production Tracking System at the Massachusetts Clean Energy Center serves in this role.

24. Do you support this proposal? If not, please describe why. We would require more details about the 3rd Party Meter Readers willingness, ability and cost to support storage solutions that have on board metering and telemetry.

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25. If DOER procures the services of a single Independent Third-Party Meter Reader: a. What criteria should DOER use to evaluate the capabilities of the entity that is selected to act as the Independent Third-Party Meter Reader?

b. Do you support the establishment of a fee structure to support the ongoing services provided by the Independent Third-Party Meter Reader?

c. How should this Third-Party verification take place?

Metering Specifications and Requirements

Because clean peak certificate creation is dependent not just on the quantity of energy output, but also its timing, more sophisticated metering will be required than that which is required for many RPS eligible systems, which only require monthly meter reads.

26. Describe in as much detail as possible the metering standards and requirements (type, accuracy, etc.) that DOER should employ to ensure the accurate collection of data.

27. Should different standards apply to different sizes and types of facilities? If so, please describe your recommendations in as much detail as possible.

28. What other verification mechanisms could be deployed to simplify the process, particularly for small-scale systems for which some types of metering solutions may be cost-prohibitive?

Value of Certificates

DOER must establish an alternative compliance payment rate and potentially other mechanisms that will help establish the value of clean peak certificates. Please describe in as much detail as possible:

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? Depends on customer category & rate class. Without a price signal to end users from both the utilities and 3rd party suppliers, storage deployment will be slower than it needs to be.

30. How should DOER establish these values?

Long-term Contracts

In establishing certificate values, DOER "may include a process by which electric distribution companies competitively procure clean peak certificates from clean peak resources and enter into long-term contracts, subject to the approval of the department of public utilities."

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)?

b. How frequently should solicitations take place?

c. How large should the procurements be (e.g. percentage of total load or annual requirement)?

d. How should the contract price be established? Pay as bid? Reverse auction mechanism with a single clearing price for all resources? Other?

Post-2019 Minimum Standard Requirements

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DOER has established a baseline Minimum Standard requirement of 0% for 2019. Each year after 2019, DOER is required to establish a Minimum Standard requirement for retail suppliers that increases at a rate of at least 0.25% of total retail sales annually.

32. What methodology should DOER use to establish post-2019 Minimum Standard requirements (e.g. fixed annual requirements in a published schedule, supply reactive formula, other)?

33. How large should the minimum standard be?

Demand Response Resource Carve-out Separate from the total Minimum Standard requirement, DOER is required to establish "a minimum percentage of clean peak certificates that must be derived from demand response resources."

34. How should DOER interpret this requirement?

35. What methodology should DOER use to establish this carve-out of the larger Minimum Standard?

Other

36. Please discuss any other implementation issues not addressed above.

Our company provides a thermal storage solution behind the meter that significantly changes the load profile for several post-solar peak hours. Since our costs involve integration with residential and commercial air conditioning systems, we suggest that incentives not be of a declining nature that assumes technology advances and reductions in cost of materials.