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Michael Judge
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114
c/o doer.cps@mass.gov

Re: Clean Peak Standard Comments

Dear Mr. Judge:

NSTAR Electric Company d/b/a Eversource Energy ("Eversource" or the "Company") appreciates the opportunity to provide comments in the Clean Peak Standard ("CPS") Stakeholder process established by the Department of Energy Resources ("DOER"). The CPS has the potential to provide great benefit to our customers, the Commonwealth, and the region.

One of our core values at Eversource is to serve as a clean energy catalyst for our customers and the communities in which they live and work. As part of this commitment, that the CPS should be thoughtfully implemented according to four high-level principles.

Specifically, the CPS should be implemented such that it:

(1) has a net reduction or de minimis impact to customer bills over its life (by leveraging cost lowering benefits of peak reduction, including avoided regional network service and ISO-NE capacity supply obligation costs);

(2) will actually reduce ISO-NE capacity requirements and Massachusetts greenhouse gas emissions;

(3) does not jeopardize distribution or transmission reliability standards and, where possible, should provide benefits by helping to integrate distributed energy resources; and

(4) avoids undue administrative complexity and leaves flexibility to adapt and integrate changes in renewable generation, demand response, and battery storage technology.

Eversource addresses each of the individual questions posed by the DOER in turn below. The responses reflect the aforementioned principles. Eversource looks forward to discussing further with DOER and other stakeholders.

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?**

The definition should be a balance of responsibly using customer dollars while lowering ISO-NE and RNS peaks. Ultimately, ensuring that only resources connected to the electric distribution system are eligible will ensure safe and reliable grid functioning, reduce complexity of administration, and encourage resource and locational diversity. Moreover, allowing large-scale resources interconnected to the transmission system to be eligible could result in few large resources exercising market power. These large resources would already be realizing values associated with economies of scale and participation in the wholesale markets.

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 addition of adjacent control areas causes significant administrative complications and the potential for unintended consequences (e.g., congestion). EDCs would also be required to make significant investments in technology and time to upgrade our system to support resources in adjacent control areas. This would cause considerable delays to program implementation. It is also important to site eligible resources near load to maximize grid benefits for Eversource customers.

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?**

The DOER should consider adopting a technology agnostic approach in defining demand

response resources. Any strategy that can be used to lower behind-the-meter load in response to a signal or designated schedule and can be accurately measured using industry standard methodologies should be considered. Customers have typically used lighting with both manual and automated controls, HVAC with both manual and automated controls, process loads, scheduling changes, excess Combined Heat & Power ("CHP") capacity, load shedding scripts programmed into a building management system ("BMS"), battery storage, thermal storage, and internet connected controllable devices (i.e. wi-fi thermostats and other connected products) to reduce demand. This list is not exhaustive but meant to be illustrative of common demand response resources.

The ISO has allowed, and the Company has observed. customers using back-up generation that meets emission standards and has acquired the requisite environmental permits as a way to reduce its grid-facing load during peak periods.

4. Should electric vehicles (EVs) qualify?

Yes. To the extent that electric vehicles can modulate their charging, either through onboard vehicle telematics or through the electric vehicle supply equipment ("EVSE"), in response to a communication signal, they should be included as a demand response resource. Functionally, reducing load from EVs during seasonal peak periods is no different than reducing load from other sources. It will be critical to determine the actual magnitude of reduced charging and verify that the reduction occurred during a designated peak period.

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

For the purposes of evaluating the impact of time-of-use rates on a demand response resource, the time-of-use rate should incorporate a demand component in which there is distinct pricing for on-peak and off-peak periods.

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

No. If it can be verified that "passive" energy efficiency ("EE") measures, incremental to existing EE programs, were installed for the purpose of reducing load during peak periods, then those reductions should be eligible to generate clean peak certificates. Once "passive" energy efficiency measures are installed, the baseline load at a facility is normally permanently altered, so any measurement must be done at the time of installation and carried forward for the life of the measure. Peak load reduction from traditional EE measures can be determined by methods currently used in existing EE programs, such as the application of coincidence factors.

If the DOER does include traditional EE as eligible to generate clean peak certificates, it would be beneficial to align the definition of peak periods with the ISO definition of peak periods. All of the evaluation, measurement, and verification ("EM&V") work that is done to quantify and verify the savings from traditional EE portfolios is geared towards meeting the time frame and precision requirements for the ISO's forward capacity market ("FCM"). Aligning the definitions of peak periods will result in efficiencies in the process of validating these savings values.

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?

Yes. As described in response to question 3 above, the DOER should adopt a technology agnostic approach to selecting demand reduction resources. To the extent that a standalone energy storage system can reduce behind the meter load during the designated peak periods, that resource should qualify to generate clean peak certificates. Charging the battery should either be limited during the designated peak period or any claimed reduction should be the average net impact of charging/discharging during the peak period. In order to accurately determine the impact from the standalone storage system, it may be necessary to require specific metering or data from the battery inverter in order to distill the discrete impact from the storage system.

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?

Yes. As described in question 3 above, the DOER should adopt a technology agnostic approach to selecting demand reduction resources. To the extent that thermal storage can reduce behind the meter load during the designated peak periods, that resource should qualify to generate clean peak certificates. Thermal storage can either be actively dispatched or be set to offset load every day in the same manner. If the thermal storage is set to offset load every day at the same time, it functionally looks similar to "passive" energy efficiency. As described in question 6 above, once "passive" energy efficiency measures are installed, the baseline load at a facility is normally permanently altered, so any measurement must be done at the time of installation and carried forward for the life of the measure.

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"?

The term "incremental new capacity" should be defined as new resources which are physically added to an existing location. Other definitions may allow older resources to qualify as "new capacity" if they are moved or added to different locations. Allowing older resources to qualify would fail to incentivize the development of Clean Peaks-associated resources, such as energy storage resources and new, innovative demand response resources.

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

To ensure that a Qualified Energy Storage System charges using renewable energy, a Qualified Energy Storage System should be co-located with renewable generation with metering infrastructure to validate that system is charged with 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?**

The threshold should be greater than 75%. Energy storage charged with 75% renewable energy and discharged during peak hours would not fully be a "Clean Peak." To ensure that Clean Peak Resources indeed contribute to clean peaks, the threshold of renewable energy charging a storage resource should be as near to 100% as possible, allowing only enough flexibility that the system can be used for backup power after low on-site renewable output.

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?**

The Qualified Energy Storage System should be co-located with renewable generation and should be directly physically or electrically connected to a renewable energy resource. Eliminating this requirement will introduce unnecessary complexity into the program and may introduce the risk of charging from non-renewable energy resources.

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

Thermal storage facilities which have been cleared as demand response resources should be suitable to generate clean peak certificates. Resources that do not qualify as demand response resources should not be included. Furthermore, to ensure equity among technology types, thermal storage should have the same stipulations as Qualified Energy Storage Systems in that it has to be new (i.e. operation on January 1, 2019 or later) and incremental to be eligible to generate clean peak certificates.

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)?**

Requirements for a Qualified RPS Resource, beyond what the statute itself defines, should be technology and size neutral. Basing qualification on capacity could complicate things and could have the effect of disadvantaging a low capacity resource such as solar versus higher capacity resources like off-shore wind. To maximize benefits for customers, the qualification should be based on energy dispatched or, in the case of demand response, load avoided during the peak period.

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)?

Yes, discounting a Qualified RPS Resource's eligible capacity based on the capacity it can supply through the duration of each seasonal peak period to be consistent with reducing the load that it can actually be capable of reducing. This reduction should be based on a specific equation with defined capacity factors that are specific to the available renewable generation technologies and configurations.

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.)?

The definition of a "Qualified Energy Storage System" is that such a system operates "primarily to store and discharge renewable energy." In order to further define "primarily," a high threshold should be developed and "renewable energy should include Class I RPS resources.

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?

Seasonal peak periods should be established with reference to historical data and ISO-NE forecasts but also with an eye to the increasingly dynamic nature of electric loads, given the impact of distributed generation, on-going efficiency, and economic growth patterns. For this reason, we should avoid locking into the same seasonal peak periods over a several year period. Eversource and other Electric Distribution Companies ("EDCs") are in the best position to forecast seasonal load patterns on a yearly, monthly, and real-time basis. DOER should consider leveraging this forecasting ability to ensure Clean Peaks compliance correlates with actual cost reductions for customers (i.e., yearly and monthly peaks and scarcity conditions). For example, all or a portion of Clean Peaks resources could be dispatched to reduce peaks based on real-time instructions of EDCs as grid operator.

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?

Please see the Response to Question 15.

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

Please see the Response to Question 15.

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

Please see the Response to Question 15.

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

Please see the Response to Question 15.

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?

Please see the Response to Question 15.

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

Please see the Response to Question 15.

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?

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?

b. Should DOER specifically target ISO system peaks?

The highest value peaks to target for the benefit of customers from a cost-effectiveness perspective are: (a) yearly peaks (i.e., the peak that sets each load serving entity's yearly ISO-NE capacity supply obligation); (b) monthly peaks (i.e., the peak that sets each Transmission Provider's regional network service expense per the Open Access Transmission Tariff) and (c) seasonal peaks (including winter) that contribute to regional reliability/scarcity events that in turn impact regional capacity costs. All three categories of system peaks may experience atypical events – especially category "c." It is important to ensure that the Clean Peaks Standard is implemented in a manner that enables rapid action to ensure resources are dispatched during atypical peaks to maximize cost saving and reliability benefits for customers.

However, Eversource also recognizes that introduction of a significant number of atypical peak periods would signal volatility and risk to developers and that the retail marketplace might not be able to adequately hedge this risk without a significant increase in costs passed through to customers. Many suppliers provide power to customers at a fixed price. When a 95-degree day appears in May, a month which does not usually have summer peak conditions, suppliers may be on the hook in a power market that is spiking. If the supplier must also comply with an atypical clean peak period during the unexpected market spike, then the supplier would have even greater unexpected costs and would thus have to further hedge. The net effect is that retail suppliers would

have to build in a higher risk premium, increasing costs for customers.

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?

Resources should receive compensation for when they generate certificates. Requiring resources to generate for the full window will discourage participation by shorter-duration resources. Paying for the credits at the same rate and then only when generated during the appropriate period minimizes risk and encourages development of eligible resources.

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?

Please see Response to Question 19.

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

Interjecting complexity with negative credits, different values during the peak period, and charging during minimum load windows would be a significant barrier to entry and to implementation of the program. A straightforward program will most effectively encourage development of new resources.

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

Programs should be implemented in a complimentary fashion, designed to lower overall costs for all Massachusetts customers. We should avoid implementing the programs in a way that would inadvertently subsidize projects that have already received adequate returns to incent their development.

With respect to specific programs described in Question 23, Section 83 procurements are transmission-interconnected and thus should not be included as Clean Peak resources. If they were to be included, it would increase costs to customers with minimal benefits. With respect to the SMART program, EDCs own environmental attributes related to SMART resources, but distributed solar + storage generally does not have the necessary metering infrastructure to generate Clean Peak Certificates. Therefore, for resources enrolled in the SMART program to be eligible, EDCs would need a clear path to install upgraded metering infrastructure and recover

associated costs.

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?

Please see response to question 21

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.

Yes.

25. If DOER procures the services of a single Independent Third-Party Meter Reader:

For context, Eversource has experience under the LREC/ZREC Program and the MA SMART Program as an 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?

DOER should dictate the type of meter reading system that will be used – i.e., OP-18 standards should be required; experience as a third-party meter reader should be considered (i.e. where else is a company a 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?

With respect to fee structure, Eversource has not sought a specific fee as the third-party meter reader for the LREC/ZREC Program or the MA SMART Program. However, the costs to administer the program, which includes meter data management, issue resolution, and upload are recovered as part of the administrative costs of the programs. Therefore, in our experience, a fee may be appropriate to serve this function depending on the entity tasked with the responsibility.

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

A third-party verifier should have OP-18 compliant metering methodologies; specific data analytic tests; and if time of generation is required, must have metering that is capable of capturing the data from the generation and/or storage unit to verify and certify generation occurred in the times required to meet the Clean Peak Standards.

Eversource cautions that the existing generation information systems in NEPOOL GIS, as administered by APX, may not be currently configured to capture data in the format that will be required to verify the Clean Peak Standard attributes. Therefore, Eversource recommends that an evaluation of the data needs, and system configuration costs be evaluated prior to any final CPS design.

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.

The DOER should employ OP-18 standards; interval data capable of the required interval as is determined in the regulations.

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

Having interval data available from all assets, regardless of size may provide information about the generators that is helpful for understanding the impact of these systems on the grid as well as supporting the validity and claim of generation during a peak.

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?

Eversource continues to emphasize that even for small generators, interval or bi-directional metering data from these assets is the most accurate methodology to ensure data validity, consistency, auditability and reportability.

In addition, Eversource points out that there are thought leaders who have been reviewing these issues, such as the North American Association of Issuing Bodies and other regional tracking system operators, such as the Midwest Renewable Energy Tracking system (M-RETs). Eversource suggests that it may be appropriate to consult with these, and other thought-leaders, on these issues.

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?

The per-MWh value of a clean peak certification should be sufficient to help to incent the deployment of new technologies such as energy storage. The per-MWh value will depend on the parameters of the seasonal peak periods and the resulting volume of clean peak certificates that a resource can achieve. Depending on the number of annual certificates and the flexibility that allows in the operation of Clean Peak resource, the value of certificates should ensure a payback period consistent with payback periods for other renewable technologies (such as solar). The per-MWh value will ultimately be a balance between incentivizing new resources and not over-burdening Commonwealth customers.

The per-MWh value should thus be calculated on a cost basis. The DOER, stakeholder, or a third-party consultant should review the economics of a baseline Clean Peak resource, such as a lithium-ion battery, including costs and relevant value streams. The Clean Peak Certificate $/MWh level can then be set as the different between lithium-ion battery's revenue requirement and a reasonable assumption of other value streams.

30. How should DOER establish these values?

The DOER should conduct a stakeholder process after other parameters of the Clean Peak Standard are set. For transparency, DOER and stakeholders should bring in a neutral consultant to conduct relevant calculations. The value of certificates will be based on the number of available certificates for resources, including the number of annual hours, and the overall standard which EDCs will need to satisfy. After those parameters are finalized, stakeholders can suggest ways to calculate initial values of certificates which will incentivize new resources while not over-burdening customers with costs.

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)?**

Solicitations should be limited to new facilities which do not have strong support from other contracts or financing sources. While many resources will be able to receive multiple value streams (e.g. Clean Peak Certificates and RECs), facilities which are already in operation and/or under long-term contracts will have already mitigated the risk of not recovering costs. Including such resources will increase costs for customers while not providing an incentive for new technologies.

b. **How frequently should solicitations take place?**

Solicitations should take place frequently enough that customers can realize benefits from the cost declines associated with Clean Peaks Resources (e.g., batteries). However, the solicitations should still allow for long-enough contracts to mitigate risks for developers by providing a steady revenue stream.

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

The size of the procurement will depend on the definitions and stipulations of the program. Solicitations should not be so large as to discourage future participation by resources which do not "win" a single solicitation.

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

Solicitations should pay as bid after negotiations with EDCs. Due to the long-term nature of the contracts and nascent industry of relevant technologies (e.g. batteries), having a single clearing price may allow individual developers to exercise market power.

Post-2019 Minimum Standard Requirement

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)?

Using a published schedule for post-2019 Minimum Standard requirements will help provide market certainty and encourage investment. Allowing significant variation on a year-to-year basis will signal volatility to developers and may depress investment.

33. How large should the minimum standard be?

The standard should respond to market conditions. In the near term, many potential Clean Peak Resources, such as Qualified Energy Storage Systems, are expensive, though such resources are experiencing significant reductions in costs. If the initial standard is too high, then customers may be over-burdened with the costs.

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?

Demand response resources fundamentally provide the same benefit as other clean peak resources, namely reducing emissions during designated peak hours. However, some demand response resources (e.g., reduced load from lighting) may not require any additional energy or generate associated emissions outside of peak periods. Other demand response resources (e.g., battery storage or reduced load for heating or cooling) may result in increased energy requirements and associated emissions during off-peak periods (e.g., to charge a battery or to pre-cool a building). It is not clear that demand response resources are inherently more valuable than other clean peak resources in meeting the goals of the Clean Peak Standard; however, demand response resources may be more readily available in the market at this time. Over time, the supply of other clean peak resources is expected to increase, and the cost of such resources may decline, leading to the potential for a declining share of demand response resources over time. If DOER wishes to establish market conditions that will ensure early investment in demand response resources, it may be beneficial to establish a minimum percentage of clean peak certificate that must be derived from demand response resources to provide demand response investors with a guaranteed ongoing revenue stream.

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

DOER should utilize a methodology that appropriately recognizes the value that behind the meter demand response provides and the cost of demand response resources as compared to other clean peak resources. In general, DOER should seek to ensure that the lowest cost resources that qualify for the Clean Peak Standard are utilized, and that the share of clean peak certificates allocated to different types of clean peak resources can shift over time to account for changes in the cost of those resources. If DOER establishes a minimum percentage of clean peak certificates that must be derived from demand response resources that is greater than zero, DOER should ensure that the designated carve-out percentage can be met by the available supply of demand response resources.

Other

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

First, DOER should conduct a stakeholder process to investigate in more detail the issues and implications of the Clean Peak implementation. There are a number of important issues that may need to be addressed over a longer period of time but that are important to begin discussing as stakeholders.

Second, and more specifically, in the section entitled *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 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."

This definition does not reference periods of peak megawatt ("MW") load, which may or may not correlate with high wholesale market prices or system reliability. Times of highest MW demand tend to occur during the summer when there is a high temperature/humidity index, but this may not result in peak wholesale market prices (these have recently been happening during the coldest parts of winter) or impact system reliability (the ISO normally procures a sufficient amount of capacity to ensure system reliability). However, times of highest MW demand can help set capacity procurement requirements and influence which power plants are dispatched at a given time. Reducing load during times of peak demand would likely have beneficial economic and environmental impacts. DOER should consider amending the definition of demand response resource to include reducing peak demand. An amended part (ii) could read "incentive payments designed to induce lower electricity use at times of high wholesale market prices, when system loads are highest, or when system reliability is jeopardized."

Lastly, Eversource believes that EDC-owned storage projects paired with existing EDC-owned solar projects already benefitting customers may provide a highly cost-effective means of satisfying a portion of the Clean Peaks targets, while also stacking other direct cost-saving benefits for our customers. Eversource thinks that there is a place for such projects, in addition to third-party owned storage assets and demand response resources.