Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs
Department of Energy Resources

Clean Peak Energy Portfolio Standard
CLEAN PEAK RESOURCE ELIGIBILITY GUIDELINE
July 19, 2021

Pursuant to the Clean Peak Energy Standard Regulations at 225 CMR 21.00

This Guideline clarifies the method by which the Department of Energy Resources (Department) determines Clean Peak Resource Eligibility.

All determinations of eligibility are made by the Department. The Department retains the sole right to determine if a resource meets the requirements to qualify or continue to participate. Failure to comply with this guideline may result in suspension or revocation of Statement of Qualification.

Any and all information provided to the Department may be a public record.

1. Interconnection

a. Provisions in the CPS Statute and Regulations

The CPS statute at M.G.L. Chapter 25A, Section 3[1] defines the following:

"Clean peak resource", 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.

225 CMR 21.05(1)(a) requires the following:

The Clean Peak Resource shall be interconnected with or offset load otherwise served by the Distribution System or interconnected with the Transmission System in the Commonwealth of Massachusetts. Clean Peak Resources must demonstrate that they generate, dispatch or discharge electricity to the electric distribution system in Massachusetts.

b. Determinations

The Transmission System primarily serves to transmit power over long distances in order to discharge electricity to distribution systems. Resources interconnected to the Transmission System within the Commonwealth of Massachusetts with no contractual obligation for a delivery point of its energy can be considered to discharge to the electric distribution system of the Commonwealth of Massachusetts, as electricity tends to flow to nearest load. Resources interconnected to the Transmission System within the Commonwealth of Massachusetts which have an obligation to deliver energy outside of the Commonwealth of Massachusetts do not meet

[1] CPS was established by Chapter 227 of the Acts of 2018, available at https://malegislature.gov/Laws/SessionLaws/Acts/2018/Chapter227.

the statutory definition, as their delivery requirement indicates they will not discharge to the electric distribution system of the Commonwealth of Massachusetts.

Per the definition of a Clean Peak Resource, a Demand Response Resource must reduce load on the electric distribution system, and as such, it must be served by the electric distribution system of the Commonwealth of Massachusetts.

2. Qualified RPS Resources

a. Provisions in the CPS Statute and Regulations

The CPS statute at M.G.L. Chapter 25A, Section 10 defines the following:

"Qualified RPS resource", 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.

225 CMR 21.05(1)(a)(1) requires the following:

Qualified RPS Resources:

a. RPS Class I Renewable Generation Units with a Commercial Operation Date on or after January 1, 2019 that have received a Statement of Qualification and meet all other applicable requirements will be eligible to generate Clean Peak Energy Certificates.

b. RPS Class I Renewable Generation Units and RPS Class II Renewable Generation Units with a Commercial Operation Date prior to January 1, 2019, that are co-located with a Qualified Energy Storage System that has a Commercial Operation Date on or after January 1, 2019, subject to the following:

i. Minimum Nominal Rated Power. The nominal rated power capacity of a Qualified Energy Storage System paired with a RPS Class I Renewable Generation Unit or RPS Class II Renewable Generation Unit must be at least 25% of the nameplate power rating of the RPS Class I Renewable Generation Unit or RPS Class II Renewable Generation Unit.

1. Special Provisions for De-rated Qualified Energy Storage Systems paired with RPS Class I Renewable Generation Units and RPS Class II Renewable Generation Units. A Qualified Energy Storage System's nominal rated power capacity may be de-rated to meet the four hour minimum nominal useful energy requirements in 225 CMR 20.05(1)(a)2.b. provided its de-rated power capacity is still at least 25% of the nameplate power rating of the RPS Class I Renewable Generation Unit or RPS Class II Renewable Generation Unit with which it is paired.

ii. Minimum Nominal Useful Energy. The nominal useful energy capacity of the Energy Storage System must be at least four hours at the nominal rated power.

iii. Co-Location. The RPS Class I or Class II generation unit and the Qualified Energy Storage System must be located on the same or adjacent parcels within the same Distribution Company's service territory, and must be interconnected to the same common collector located on the same parcel(s) on which the RPS Class I or Class II Generation Unit and Qualified Energy Storage System facilities are located.

b. <u>Determinations</u>

New RPS Class I Resources

225 CMR 21.00 does not establish any additional eligibility criteria on RPS Class I Resources with a Commercial Operation Date on or after January 1, 2019.

Where new RPS Class I Resources are paired with an Energy Storage System, and both the RPS Class I Resource and the Energy Storage System would be subject to the same multipliers if qualified separately, and the resources can be metered at a common point separate from other onsite load or generation, then the resource may be registered as a singular RPS Class I Resource.

Example 1: a new resilient solar + storage resource is constructed and does not participate in SMART. If qualified separately, both the solar and storage would be subject to the same multipliers, and thus may apply and be qualified as a single RPS Class I Resource [as opposed to registering the Solar as a RPS Class I Resource and the Storage separately as a QESS]. A single meter would report performance for the combined output of the Solar and Storage.
Example 2: New SMART Solar + Storage: Not eligible to register as a single RPS Class I Resource. The STGU is subject to the Contracted Resource Multiplier, and the ESS is subject to the SMART ESS multiplier, so the Solar and the Storage must be qualified as separate resources
Example 3: Existing Solar + New Storage: Not eligible, as the existing solar is subject to the Existing Resource Multiplier where the ESS would not, so they must be registered as separate resources.
Example 4: New Wind + Storage where the wind does Not participate in Section 83 Procurements. If qualified separately, both the wind and storage would be subject to the same multipliers, and thus may apply and be qualified as a single RPS Class I Resource.

Existing RPS Class I/Class II Resources paired with Qualified Energy Storage System

225 CMR 21.00 establishes minimum requirements for the relative sizing of the energy storage relative to the Existing RPS Class I/II resource.

The performance of the Qualified Energy Storage is already eligible for creating Clean Peak Energy Certificates. As such, the statutory inclusion of existing RPS Class I/II resources indicates the full production of those RPS resources becomes eligible by including energy storage, and not just the incremental energy shifted by the energy storage. Because the full production of the RPS Class I/II resource becomes eligible for the production of Clean Peak Energy Certificates without modifying its output times to better align with the Seasonal Peak Periods, the Department recognized that the Qualified Energy Storage should at least be of

sufficient size to substantially modify the production profile of the resource. The minimum size mitigates otherwise possible abuse of the policy, for example pairing a 7 kW / 14 kWh Qualified Energy Storage System with a 12 MW Waste to Energy facility making the entire output of the 12 MW facility eligible for Clean Peak Energy Certificates.

The minimum size requirement builds upon past regulation size ratio in 225 CMR 20.00, which requires a similar 25% ratio of energy storage nameplate capacity to Class I/II RPS Resource nameplate capacity. 225 CMR 21.00 requires a minimum 4 hour duration, to align the minimum energy storage duration requirement with the 4 hour Seasonal Peak Period duration. 225 CMR 21.00 includes flexibility for a resource to maintain eligibility if it has less than 4 hour duration, by de-rating the nameplate capacity to a point at which it has an equivalent of 4 hour duration, so long as the de-rated nameplate capacity remains greater than or equal to 25% of the nameplate capacity of the Class I/II RPS Resource. This flexibility enables site specific appropriate sizing of the power and energy ratings of a paired energy storage resource, while maintaining the objective of ensuring the energy storage is of sufficient size to substantially change the production profile of the Class I/II RPS Resource. The relative size requirement for the Qualified Energy Storage Resource is only applicable to enabling an Existing RPS Class I/II RPS resource to become eligible to participate in the Clean Peak Standard, and there is no such size threshold requirement for new RPS Class I Resources, as those resources are not subject to the requirement to pair with Qualified Energy Storage Resources.

3. Qualified Energy Storage Systems

a. Provisions in the CPS Statute and Regulations

The CPS statute at M.G.L. Chapter 25A, Section 9 defines the following:

"Qualified energy storage system", 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.

225 CMR 21.05(1)(a)(2) requires the following:

Qualified Energy Storage Systems: A Qualified Energy Storage System may demonstrate operating primarily to store and discharge renewable energy by demonstrating one or more of the following:

a. Co-location with a Qualified RPS Resource as defined in 225 CMR 21.02 where the Qualified RPS Resource must have a nameplate capacity of at least seventy-five percent (75%) of the nameplate capacity of the energy storage;

b. Contractual pairing with a Qualified RPS Resource that demonstrates to the Department's satisfaction that the Qualified Energy Storage System operates primarily to store and discharge renewable energy;

c. Charging coincident with periods of typically high renewable energy production as a percent of the grid generation mix as defined below;
   1. Spring: twelve (12) a.m. until six (6) a.m. and eight (8) a.m. until four (4) p.m.
   2. Summer: twelve (12) a.m. until six (6) a.m. and seven (7) a.m. until two (2) p.m.

3. *Fall: twelve (12) a.m. until six (6) a.m. and nine (9) a.m. until three (3) p.m.*
4. *Winter: twelve (12) a.m. until six (6) a.m. and ten (10 a.m. until three (3) p.m.*

	Energy Storage Charging Windows	
Clean Peak Season	*Wind-Based Charging Hours*	*Solar-Based Charging Hours*
Spring	*12am - 6am*	*8am - 4pm*
Summer	*12am - 6am*	*7am - 2pm*
Fall	*12am - 6am*	*9am - 3pm*
Winter	*12am - 6am*	*10am - 3pm*

d. *Inclusion of an operational schedule in the Qualified Energy Storage System's Interconnection Service Agreement demonstrating that the Qualified Energy Storage System serves to resolve load flow or power quality concerns otherwise associated with intermittent renewable energy resources.*

b. <u>Determinations</u>

The Department determined that there should be multiple mechanisms for Qualified Energy Storage Systems to demonstrate their eligibility, that is, serving to primarily store and discharge renewable energy. With these eligibility requirements, the energy shifted by Qualified Energy Storage Systems in support of the Clean Peak Energy Standard is determined to be clean and thereby meet the policy objectives of the Department.

Co-location with a Qualified RPS Resource ensures a direct tie to clean energy generation. Similar to the minimum size threshold for existing RPS resources above, the Department recognizes that there must be a minimum size threshold for the ratio of the Co-located Qualified RPS Resource in order to prevent program manipulation. The Qualified RPS Resource with which the energy storage co-locates must have a nameplate capacity of at least 75% of the nameplate capacity of the energy storage for the energy storage to be deemed Qualified Energy Storage by Co-Location. This prevents the theoretical situation by which a single 300 watt solar pv module would otherwise qualify a 4MW energy storage system by co-location. Eligibility of Qualified Energy Storage by Co-Location will be determined at the time of application for a Statement of Qualification, and the Department may continue to assess eligibility by confirmation that the Co-located Qualified RPS Resource remains operational and reporting to the third party program administrator.

Contractual pairing with a Qualified RPS Resource ensures a legal tie to clean energy generation. A facility may enter into an operational contract with a Qualified RPS Resource. The contract must, to the Department's satisfaction, demonstrate that the energy storage will operate to primarily store and discharge renewable energy. Eligibility of Qualified Energy Storage by Contractual pairing with a Qualified RPS Resource will be determined at the time of application for a Statement of Qualification, and the Department may continue to assess eligibility by confirmation that the Contractually paired Qualified RPS Resource remains operational.

Charging Qualified Energy Storage Systems when renewables are at their highest percent of the generation mix and discharging during peak, ensures that these systems are shifting renewable energy. Eligibility of Qualified Energy Storage by charging coincident with periods of typically high renewable generation will be determined by self-certification by the applicant when requesting a Statement of Qualification, and the Department will continue to assess eligibility by comparing the Qualified Energy Storage Systems' monthly output within Seasonal Peak Periods with its monthly input during the Charging Windows. The energy storage charging windows are effective all seven (7) days of the week. The monthly input (charge) during charging windows must be equal to or exceed the monthly output (discharge) within Seasonal Peak Periods.

A Qualified Energy Storage System operational schedule ensures that the system is used to directly support the performance and functionality of clean energy generation. Eligibility of Qualified Energy Storage by demonstrating it resolves hosting capacity and or power quality concerns associated with clean energy generation will be determined at the time of application for a Statement of Qualification.

4. Demand Response Resources

a. Provisions in the CPS Statute and Regulations

The CPS statute at M.G.L. Chapter 25A, Section 8 defines the following:

"Demand response resource", 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.

225 CMR 21.05(1)(a)(3) requires the following:

Demand Response Resources: Demand Response Resources must demonstrate that changes to electric usage from their normal consumption patterns are measurable and verifiable. The Department shall publish a Guideline on Demand Response Resources to explain the parameters of Demand Response Resources in the Clean Peak Standard.

a. A facility that generates electricity, including a Qualified RPS Resource, shall not be considered a Demand Response Resource.

b. Determinations

In order to fully address Demand Response Resources, the Department developed a separate Guideline on Demand Response Resources. Full determinations are included there.

5. Metering

a. Provisions in Regulations

225 CMR 21.05(2) requires the following:

Metering. A Clean Peak Resource shall meter and report fifteen (15) minute interval performance in compliance with standards and protocols as established by a third-party Program Administrator designated by the Department. The Department may grant an exception

to the fifteen (15) minute interval and designate a shorter or longer interval on a case-by-case basis. The Program Administrator shall be the designated independent third-party meter reader, as defined in Rule 2.5(j) of the NEPOOL GIS Operating Rules, or any successor rule. All standards and metering protocols shall be subject to review and approval by the Department. For purposes of reporting only, a month shall be defined in terms of Coordinated Universal Time (UTC) minus five hours (also known as Eastern Standard Time). All other periods and times referenced in this regulation are in Eastern Daylight Time (EDT). A Clean Peak Resource shall submit metered data to the Program Administrator for all hours of the previous month. Subject to review and approval by the Department, the Program Administrator may assess Clean Peak Resources a fee associated with the administration of the CPS. The electrical energy output or performance of a Clean Peak Resource shall be verified by the Program Administrator for the purpose of calculating the number of Clean Peak Energy Certificates a qualified resource produced in the previous month. The Program Administrator shall report the number of Clean Peak Energy Certificates each qualified resource is due to receive to NEPOOL GIS for the purpose of minting Clean Peak Energy Certificates.

b. Determinations

The Program Administrator will be the sole metering and data verification provider, utilizing a production tracking system to support the Clean Peak Standard. As such, once a resource is qualified to participate in the CPS, all reporting will go through the Program Administrator's production tracking system. The Department and the Program Administrator are collaborating on the design of the specific reporting requirements and guidelines for all resources but at the minimum, each qualified Clean Peak Resource must provide fifteen-minute interval data for the entire preceding month of performance. The interval data must be submitted no less than monthly to the production tracking system.

6. Fees

a. Provisions in Regulations

225 CMR 21.05(2) requires the following:

Subject to review and approval by the Department, the Program Administrator may assess Clean Peak Resources a fee associated with the administration of the CPS.

b. Determinations

Should the Department determine to assess an initial start-up fee to Clean Peak Resources, a Clean Peak Resource would not be eligible to generate Clean Peak Certificates until said fee was received by the Program Administrator.

Should the Department determine to assess a recurring participation fee to Clean Peak Resources for administration of the Clean Peak Energy Standard, the Program Administrator would have authority to withhold Clean Peak Certificates in order cover any outstanding balance. If Clean Peak Certificates are not available to cover this deficit or default on payment of participation fees is a recurring issue as determined by the Program Administrator, the Department can revoke a Clean Peak Resource's Statement of Qualification and that resource would lose eligibility to generate Clean Peak Certificates.

Any fees would only serve to ensure the smooth administrative operation of the Clean Peak Energy Standard.