Clean Peak Energy Standard (CPS) Resilience Multiplier Guide

DDER
Massachusetts Department
of Energy Resources

The purpose of this guide is to provide information about the intention of the **Clean Peak Standard's Resilience Multiplier** as well as examples of systems that do and do not qualify. Resilience multiplier eligibility is ultimately assessed on a per-application basis.
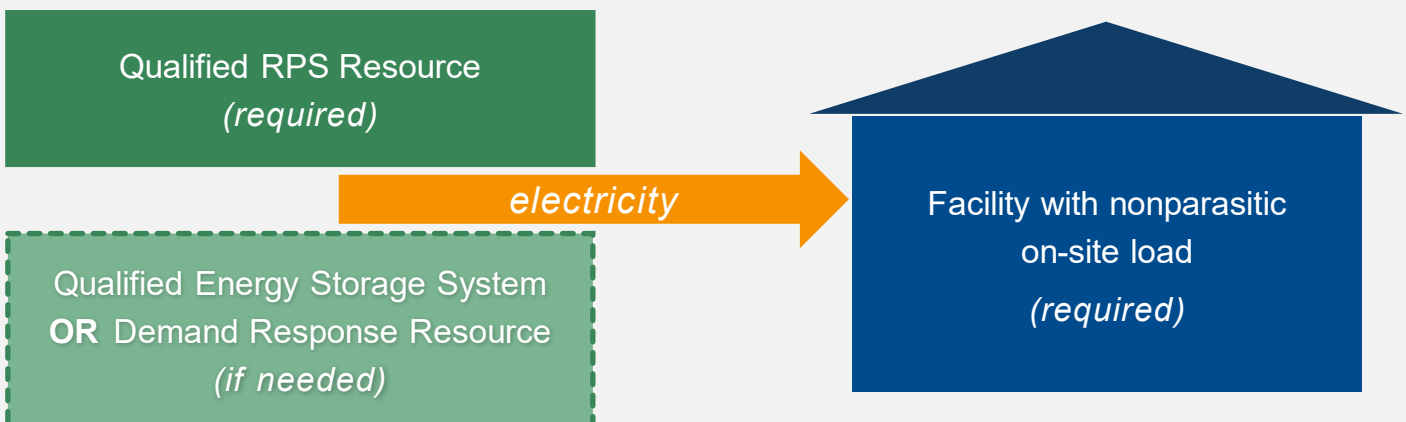
Resilience Multiplier Definition

The resilience multiplier incentivizes systems that enable long-term, stable backup power for nonparasitic on-site load. From the Code of Massachusetts's Regulation (CMR) 225:

*The Resilience Multiplier modifies the number of Clean Peak Energy Certificates generated by a Clean Peak Resource **that is also a Resilient Facility** and **can provide electric power to a load during external outage conditions**. Clean Peak Resources that can demonstrate the added ability to provide electricity to load during an external outage will receive a Resilience Multiplier on all eligible output occurring during Seasonal Peak Periods. The multiplier shall be one and one-half (1.5).*

To be considered a **Resilient Facility** and thus eligible for the **Resilience Multiplier**, a facility must meet the following criteria:

- Have a Qualified Renewable Portfolio System (RPS) Resource capable of generating and providing electricity to on-site load during an outage condition. Qualified RPS resources include the following:
    - Solar photovoltaic (PV) or solar thermal electric energy
    - Wind energy
    - Ocean thermal, wave, or tidal energy
    - Fuel cells utilizing renewable fuels
    - Landfill gas
    - Energy generated by new hydroelectric facilities, or incremental new energy from increased capacity or efficiency improvements at existing hydroelectric facilities
- Include on-site load other than parasitic load. Parasitic load includes data or weather monitoring equipment that would not be there if the system did not exist.
- May include a Qualified Energy Storage and/or Demand Response Resource that enables the Qualified RPS Resource to provide electricity to on-site load during an external outage condition.

Qualified RPS Resource
(required)

Qualified Energy Storage System
OR Demand Response Resource
(if needed)

electricity →

Facility with nonparasitic
on-site load
(required)

Eligible configuration examples

- Qualified energy storage system that is co-located with a solar PV system. Because the PV resource can charge an energy storage resource, the system can serve on-site load in the event of an outage, regardless of whether the load coincides with periods of PV generation.

- Anaerobic digester that can support on-site loads in the event of a grid outage. Energy storage is not required for the anaerobic digester to provide electric power to on-site load during a grid outage.

Ineligible configuration examples

- Standalone battery energy storage. Because the battery is not paired with a qualified RPS resource that can provide electricity to on-site loads in the event of an external outage, standalone storage does not qualify for the resilience multiplier.

- Solar PV array serving nearby homes but requiring an operational electric grid to transport and distribute electricity. Solar PV array on-site weather and data monitors are not considered on-site loads because they only report system performance and conditions.

- Energy storage systems facilitating generation of nonrenewable and non–RPS qualified technologies.

- RPS qualified technologies enabled to operate in an outage by resources that are not energy storage or demand response. Examples of this include an RPS qualified technology paired with a combined heat and power system (CHP) or diesel generator utilizing a non-renewable fuel to enable operation of RPS resource during an outage.

Example of Eligible System's One-line Diagram

The one-line diagram and product specification sheets included with each application must demonstrate that the system can serve on-site loads in the event of a grid outage using electricity generated from a qualified RPS resource (see list of qualified RPS resources above).

A simplified one-line diagram example for an eligible AC-coupled PV system paired with energy storage is shown here.

Grid

T — Transformer

M — Utility meter

Grounding electrode — Circuit breaker

M — Private meter

Energy Storage

Inverter

Inverter

PV Array

Smart Switch

100A 3P

On-site load panel

Smart switch connects the on-site load to grid power, the storage system, and solar PV. The switch also detects and transitions the energy system from grid power to backup power in the event of a grid failure.