



May 3, 2024

SUBMITTED VIA EMAIL

DOER.CPS@mass.gov

Samantha Meserve
Department of Energy Resources
100 Cambridge Street, 9th Floor
Boston, MA 02114

2024 CLEAN PEAK ENERGY STANDARD REVIEW - STAKEHOLDER QUESTIONS

Dear Ms. Meserve,

Jupiter Power LLC (Jupiter) submits these comments in response to the Department of Energy Resources' (DOER) request for stakeholder feedback on potential changes to the Clean Peak Energy Standard (CPS) (225 C.M.R. 21.00), as part of the 2024 CPS Review.

Jupiter is a developer and owner/operator of standalone, utility-scale battery energy storage projects in the U.S. Led by an experienced management team, we have ten battery storage projects totaling over 1 GWh in construction or commercial operation and over 75 projects totaling 12,000 MW in development, including nearly 1,000 MW of battery storage projects in development in Massachusetts.

Jupiter thanks DOER for opening up this process to consider revisions to the CPS Program and applauds your efforts to advance storage policy in Massachusetts as a critical and cost-effective strategy to supporting the Commonwealth's clean energy and climate goals. We have not provided responses to every question in the request for comments but have focused on issues deemed most pressing for the utility-scale storage industry in the 2024 CPS Program review.

We look forward to continued conversations with DOER and engaging further on the next iteration of the CPS Program.

Respectfully Submitted,

Samantha Williams
Senior Director of Strategic Projects and Market Development
Jupiter Power LLC

Responses to Stakeholder Questions

1. How could the CPS Program be improved to better contribute to achievement of the 2050 GWSA mandates? Please include details and any supporting data and analyses.

Energy storage is a critical and cost-effective strategy to achieving the Commonwealth's 2050 GWSA mandates. The recent DOER *Charging Forward* report framed battery storage as a "Swiss army knife," providing a wide range of grid services to support the transition to clean energy while ensuring reliable, affordable energy for consumers. But while substantial progress has been made in recent years to develop programs to enable storage deployment and reduce barriers—including the CPS—according to the DOER report these efforts have not been sufficient to achieve deployment at the scale needed to support decarbonization. Put simply, storage facilities will have more difficulty securing project financing under the current CPS Program. With the right improvements, however, the CPS Program could become a powerful tool to incent significant storage deployment in Massachusetts.

As a preliminary matter, Jupiter would like to emphasize the time-sensitive nature of revising the CPS—especially for projects slated to come online before 2030. More mature projects rely heavily on state policy progressing in the near-term for commercial viability. For example, developers must secure project financing prior to making significant capital expenditures on land purchases and securing long lead-time equipment among other priorities. Most projects are also under binding deadlines related to their interconnection agreements that require a project to move forward on an aggressive schedule. Jupiter stresses the importance of CPS revisions, and as discussed below, a Clean Peak Energy Certificate (CPEC) procurement, taking place as soon as possible to ensure the timely decarbonization of the power system.

We urge DOER to launch a CPEC procurement on an expedited basis to provide policy support for mature projects. Under the current CPS program structure, projects (in particular, capital-intensive utility-scale projects) are difficult to finance due to lack of long-term CPEC price certainty. This is especially concerning as storage projects are also facing decreased wholesale market revenue potential due to the change from average to marginal capacity accreditation in the ISO-NE capacity market. As discussed further in response to Question 9 below, a procurement for contracts of at least 10-15 years would help overcome these financing barriers for energy storage projects.

In addition, we ask DOER to consider adding new multipliers to the amount of CPECs that energy storage resources are able to generate. Further discussion of multipliers is included in response to Question 8 below.

We also observe that the CPS Program is not large enough to capture the more than 3,000 MW of battery storage poised to come online in Massachusetts before 2030. Adding to this, the majority of the annual CPS program requirements to date have been met through Alternative Compliance Payments (ACP) rather than CPECs, suggesting that the ACP is not set at the optimal level to promote project investment. Revisiting both the rate at which the Minimum Standard is set to increase, and the ACP level, would provide more revenue certainty for developers.

2. What are the costs and benefits of participating in the CPS program?

The CPS Program has the potential to provide substantial benefits and enable a utility-scale battery energy storage project to “pencil” financially. If designed well, the program could usher in significant battery storage project buildout, delivering benefits for the grid, ratepayers, and supporting renewable power integration to enable emissions goals.

However, as discussed throughout these comments, the downside of the program as currently designed is that it generates unpredictable revenue streams which present barriers to project financing. Given the capital-intensive nature of battery storage projects—in particular utility-scale—increasingly lenders require projects to demonstrate long-term revenue certainty, i.e., that high levels of the project’s revenue are contracted with an offtaker (i.e., a state agency or utility) for a term of at least 10 to 15 years. Projects that demonstrate these factors are more attractive to secure the financing necessary to move into the construction phase. Unfortunately, developers looking to participate in the CPS program as currently constructed will face challenges locking in high levels of long-term contractedness, leaving them with access only to limited, high-cost capital that has serious implications for project viability.

Addressing this with a near-term CPEC procurement paired with improvements to the underlying CPS program design will be essential to increasing participation in the program and getting enough storage built in Massachusetts to support the state’s climate and clean energy goals.

3. Has the CPS incentive had an impact on the decision of system owners to invest in CPS eligible technologies? Why or why not?

When the CPS incentive was first launched, it had a substantial positive impact on motivating developers like Jupiter to seek out project opportunities in Massachusetts.

We believe the program continues to have value and, if modified to fit the current realities of project financing, has significant potential to help fill the “revenue gap” longer-term and get projects built at the scale and pace necessary to support Massachusetts’s goals.

4. Please describe the portfolio of projects you have that you anticipate are within 4 years of commercial operation and that you intend to enroll in CPS. Include as many details as possible, including your projects’ anticipated Commercial Operation Dates, power and energy capacities, interconnection level (i.e., front-of-the-meter, behind-the-meter), durations, technology types, intended use cases, locations, and any other pertinent information.

Jupiter has previously provided information to DOER on its nearly 1,000 MW of planned battery storage development in Massachusetts and will provide additional details upon request.

8. What modifications to CPS Multipliers, Minimum Standard, ACP Rate, and Seasonal Peak Periods as currently set forth in 225 CMR 21.00, if any, are needed? Please describe in detail and provide any supporting data and analyses.

As noted in response to Question 1, revisiting both the rate at which the Minimum Standard is set to increase, and the ACP level, would provide more revenue certainty for developers.

With respect to CPS multipliers, Jupiter recommends that DOER add new multipliers to enable the program to capture a wider array of benefits from energy storage, particularly as the grid decarbonizes, electrification increases, and renewables deployment (especially offshore wind) grows. Specifically, we recommend a multiplier that would incent the development of projects in locations of the state—such as dense urban load pockets in Eastern MA—where battery storage can bring high value.

As currently constructed, the CPS Program values the *time of day* when battery energy storage can benefit the grid and reduce emissions. However, it does not have a mechanism to value the benefits (or incent the development) of projects in specific *locations*, in particular those in grid-constrained high density urban areas. Adding storage to load pockets in Massachusetts has significant potential to support grid reliability and resilience, particularly in extreme winter weather (*Jupiter has previously shared with DOER winter reliability modeling for the Boston load pocket, with further details available upon request*). Storage in strategically-located load pockets would also facilitate the interconnection and integration of offshore wind—a key strategy in the Commonwealth’s renewable energy deployment and ultimately its success in achieving a clean power system.

Adding to the lack of locational value reflected in the CPS Program, projects in urban areas have the added challenge of real estate and construction costs that are several orders of magnitude more expensive than in rural parts of the Commonwealth, as well as serious limits on the availability of large, appropriate, permittable sites near viable grid substations. The current economic signal in the CPS for storage development is to avoid areas with significant population and load. Absent program structure to motivate battery energy storage development in eastern Massachusetts, lower land prices will drive most battery development to western Massachusetts, where land costs may be 10% or less of the land costs in areas with denser development.

Jupiter recommends that DOER pair the previously-discussed CPEC procurement with a locational multiplier (e.g., 1.5x) to attract battery storage projects to areas of the state where they would provide the most value to the grid and consumers. Jupiter also recommends that DOER consider multipliers, or additional support (described in more detail in response to Question 16 below), for projects adjacent to retiring fossil peaking generation and/or located near communities overburdened by pollution.

9. Please provide any comments on the necessity of, Resource eligibility for, and structure of a CPEC procurement. If in favor of a CPEC procurement, please comment on its timing, in particular if it should occur in parallel with the CPS Review or after, and any considerations DOER should make about the CPEC procurement in light of the CPS Review.

Jupiter is strongly in favor of DOER opening a CPEC procurement as soon as possible—ideally finalizing awards by early/mid 2025. As discussed in these comments, the current CPS program structure is difficult to finance due to lack of long-term revenue certainty, which has seriously limited participation in the program. Increasingly, to secure financing project developers must demonstrate to lenders that a project has locked in high levels of contractedness for a term of at least 10 to 15 years. If Massachusetts is looking to usher in a significant volume of storage projects this decade, there is simply no alternative to conducting a CPEC procurement for long-term contracts.

Jupiter also strongly recommends that DOER conduct the first procurement early in 2025. Project construction typically takes two (or more) years from securing an award. As a result, the mature projects currently slated to come online in Massachusetts by 2027 or 2028 must lock in long-term contracts through a state program within the next year to secure financing and reach timely commercial operations. DOER should ideally develop the parameters for the procurement on a parallel path as the CPS review—i.e., this calendar year—and issue an RFP for a procurement by late 2024 or early 2025.

16. Would any Clean Peak Resources or specific use cases for such Resources be better incentivized by a different program than CPS? If yes, please describe the proposed program and justify why the particular Clean Peak Resources and associated use cases would be better incentivized by such a program, with particular attention paid to added ratepayer benefits.

Yes, as discussed above, one of the factors holding back the effectiveness of the CPS Program is that it is not set up to capture the multi-layered benefits of battery storage, in particular locational benefits in capacity-constrained urban areas or resiliency benefits. DOER could remedy this multiple ways. The multipliers discussed in response to Question 8 provide one avenue. Another option would be to add to the Seasonal Peak Periods; for example, a new Winter Peak Resiliency window that would compensate storage projects providing critical power in load pockets during extended cold snaps or other extreme weather. It is clear that battery storage is capable of providing more value than is currently reflected in the CPS Program.

Jupiter also encourages DOER to consider other mechanisms to support projects that provide added benefits to the grid, consumers, and communities. For example, DOER proposed a grant program concept in its *Charging Forward Report* that would support storage located in or near overburdened communities and/or fossil peaker sites or brownfields. Utility-scale battery storage located in these specific areas can bring significant value, but often has the added burden of financial pressure to remediate contaminated land before project construction can begin. Jupiter urges DOER to move forward with the standalone bulk program in particular, and consider expanding its size, to help ensure that these critically needed and strategically located projects are able to come online.

Thank you again for the opportunity to provide these comments. Jupiter looks forward to participating in further discussions as DOER continues its 2024 CPS Program review.