



Submitted Via Electronic Mail To DOER.CPS@mass.gov

May 3, 2024

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

Re: CPS Programmatic Review

Leap appreciates the opportunity to submit public comment for the first programmatic review of the Massachusetts Clean Peak Energy Standard (CPS) program. Leap would like to thank the Massachusetts Department of Energy Resources, Cadmus, and the MassCEC's Production Tracking System team (collectively, the CPS program administrators) for the opportunity to be a key stakeholder in this process.

Leap is a staunch supporter of CPS. We are committed to working together with other stakeholders and the CPS program administrators towards a shared goal of deploying clean energy during times of peak demand in Massachusetts, helping the Commonwealth of Massachusetts achieve its climate goals, and making CPS—a one of kind program—both a success and blueprint for other states to mirror and advance the clean energy transformation.

With and beyond our comments herein, Leap extends our sincere desire to work with the CPS program administrators on improving design elements for both Distributed Energy Resources (DERs) and Virtual Power Plants (VPPs) specifically, as well as the CPS program at large.

Sincerely,
The Leap Team



Leap's Responses to the 2024 Clean Peak Energy Standard Review Questions

Below, Clean Peak Energy Standard Review Questions are numbered and in black. Leap's responses to these questions are in blue.

1. How could the Clean Peak Energy Standard ("CPS") Program be improved to better contribute to achievement of the 2050 GWSA mandates? Please include details and any supporting data and Analyses.

To better contribute to achievement of the 2050 GWSA mandates, the CPS program needs to significantly increase enrollment and participation by lowering barriers to enrollment, especially for small scale Distributed Energy Resources (DERs) and associated Virtual Power Plants (VPPs).

Currently, we understand that the CPS program and compliance is underserved. Increasing enrollments of and participation by clean energy resources in the CPS program will lead to greater amounts of Clean Peak Energy Certificates (CPECs) minted and fewer Retail Electricity Suppliers (RES) having to pay Alternative Compliance Payments (ACPs) for missing their annual compliance obligations. This will support achievement of the 2050 GWSA mandates by supporting ratepayer cost reductions and avoiding peaker plant operation during periods of peak demand.

However, the deployment of traditional front-of-the-meter (FTM) clean energy resources can be constrained by financing, supply chain, and interconnection delays amongst others. Though these resources—especially batteries, since their dispatch profiles are better suited to the Clean Peak Windows than renewable resources—will undoubtedly be integral to the long-term success of CPS, the deployment of these resources is complex and will require significant effort and time to scale.

- [According to the April 18, 2024 MA DOER's utility interconnection report](#) - there are 544 projects that have a battery fuel type and design capacity greater than 250 kW. Of these 544 projects, only 13% have achieved commercial operation while 22% have withdrawn from the queue and 42% are currently in the queue.

Fortunately, there is a clean energy resource type that is proliferating fast and has the potential to significantly increase CPS enrollment and participation - and that's Demand Response. More specifically, DERs and VPPs. DERs and VPPs include but aren't limited to smart devices such as smart thermostats or appliances, smart buildings, electric vehicles (EVs), electric vehicle chargers (EVSE), and behind-the-meter (BTM) batteries.

- To get a sense of DER and VPP agility in growing enrollments - in 2023, Leap's first year of CPS participation, we enrolled nearly 40,000 DER assets, though would expect significantly more if some changes to the program are enacted, which are discussed further in other responses.



- In the [Department of Energy's \(DOE\) recent VPP Liftoff report](#), they identified that by 2030, VPPs could serve 10-20% of peak demand in the U.S.
- Further, the [VPP Liftoff report](#) identified exponential growth of DERs - estimating that by 2030, there would be 5.5 GW of smart device and building (i.e. flexible demand) capacity, 6 GW of BTM batteries (assuming 4-hr durations), and 90 GW of EVSE in the U.S. It's imperative this exponential growth of DERs is captured in the CPS program to ensure its achievement of the 2050 GWSA mandates.
- However, to effectively and sustainably increase DER and VPP enrollments and participation in the CPS program, the enrollment barrier needs to be reduced significantly for these assets. Please see responses to #2, #5, and #6 for further detail.

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

Costs of participation include:

- Costs associated with physical deployment of an asset (e.g. time, equipment, installation)
- Setting up the ability to dispatch and responding to signals to participate in CPS (e.g. software integrations, asset optimization)
- Significant person-hours dedicated to manual applications and resource enrollments
- Risk of price uncertainty for CPECs
- Opportunity costs of curtailment (e.g. impacting other use cases of DERs)

Benefits of participation include:

- Stackable revenue
- Year-round participation potential
- Participation in an innovative program that could be a blueprint for programs in other states

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

Yes. The CPS incentive represents significant revenue for a grid service. We have seen DER Partners of ours focus their attention on Massachusetts because of CPS, launch marketing campaigns in Massachusetts to acquire DER customers, build control products around Clean Peak Windows, and choose to integrate CPS participation into their DER point of sale.

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.



In 2024/2025, Leap's pipeline of projects could more than double the number of assets we participated in 2023 to 80,000+ assets. Leap expects the majority of this near-term growth to be from smart device (<1 kW/device) DERs but also expects a significant portion of this growth to be from EVs (60-100 kWh/EV), EVSE (10-100 kW/EVSE), BTM batteries (~10-15 kWh/battery), and smart building (5-500 kW/building) DERs. In 2026+, Leap expects EVs and BTM batteries to result in exponential growth of our assets. As a partnership-centric company and orchestrator of grid services for DERs, Leap is uniquely positioned to scale our assets with DER deployments. We expect to make enrollment pushes ahead of each Summer season and likely ahead of each Winter season in 2025+.

5. Are the CPS Resource eligibility criteria appropriate? If any criteria pose a barrier, please describe and provide recommended mitigation strategies.

Energy storage can qualify either as a Qualified Energy Storage System or Demand Response. This poses a categorization issue when it comes to classifying BTM export-capable batteries. The [regulation](#) defines Qualified Energy Storage System as "storage system that must operate primarily to store and discharge renewable energy." The [Demand Response Guidelines](#) state that "energy storage which changes the demand profile of electric usage by end-use customers can be qualified to participate in the Clean Peak Energy Portfolio Standard as a Demand Response Resource." BTM batteries, including those that are export capable, operate to change the demand profile of electric usage by an end-customer in response to signals. Even in export, a BTM battery is changing an end-customer's demand profile (i.e. the end-customer has negative usage/consumption). Additionally, we recognize that generation is not eligible as Demand Response but note that BTM battery export is and should not be considered generation since it only shifting electrons and not generating electrons from a primary fuel source. Therefore, Leap urges the Massachusetts Department of Energy Resources, Cadmus, and the MassCEC's Production Tracking System team (the CPS program administrators) to explicitly state that all BTM batteries can qualify as Demand Response.

Leap recommends the CPS program administrators publish more detailed guidelines on eligibility and enrollment for DER and VPP types by technology. Leap would be more than willing to collaborate and be a key stakeholder with the CPS program administrators on developing these guidelines. Further, Leap recommends the CPS program administrators develop and release eligible equipment lists by DER type. These guidelines and eligible equipment lists will enable a better understanding of eligibility—encouraging DER and VPP enrollment in CPS.

Leap strongly urges the CPS program administrators to explicitly ensure EVs can participate and report interval data for CPS via both EV telematics (i.e. transmitted data from equipment onboard an EV) and EVSE while also leaving room to improve participation and reporting via these methods as EV technologies evolve. EV telematics was accepted by the program in 2023 and Leap would like to ensure its continuation and that CPS continues to move forward with the evolution of EV telematics and not backwards. EV telematics have been identified many times



(e.g. [2022 PG&E EV ADR study](#), [National Grid's 2024 petition to modify their EV managed charging program](#)) as benefiting EV participation in grid services as telematics have a greater customer reach. Further, EV telematics are already being used for programs in Massachusetts (e.g. [National Grid's Charge Smart program](#)). Leap understands that there are currently several methods for EV interval kWh to be obtained via EV telematics and Leap urges the CPS program administrators to accept the methods described herein. Restricting EV telematics to any one method would restrict the CPS' EV reach and participation to a select few EV Original Equipment Manufacturers (OEMs), which could result in unfair advantages. To prevent this, Leap proposes that the CPS program administrators accept (1) "onboard" readings of EV interval kWh, (2) "disaggregated onboard" calculations of EV interval kWh using session kWh data, timestamped State of Charge (SOC) readings, and charging curve assumptions, and (3) "snapshot" calculations of EV interval kWh using timestamped SOC readings and battery energy capacities. "Disaggregated onboard" calculations of EV interval kWh would enable the use of session kWh data, which to Leap's understanding, most EV OEMs collect and expose. Session kWh data combined with timestamped SOC and charging curves would enable the power output during charging intervals to be calculated and consequently interval kWh. "Snapshot" calculations of EV interval kWh would similarly enable participation of most OEM EVs as interval kWh could be calculated using timestamped SOC that is typically collected via telematics and battery energy capacity data that is publicly available. Additionally, both "disaggregated onboard" calculations of EV interval kWh and "snapshot" calculations of EV interval kWh would be underreporting kWh consumption because they represent kWh entering the EV's battery and not the kWh exiting the charger. Between the charger and EV battery, Leap's understanding is that ~3-10% of kWh is lost due to conversion from AC to DC in the charging process and resistance from the charging cable itself. Otherwise stated, because these methods rely on identifying kWh into the EV battery, risk of overreporting kWh consumption is small. As onboard EV equipment continues to improve, EV telematics will only improve in kWh interval data accuracy. However, it's Leap's understanding that in the interim - EV providers would much prefer to participate in grid services and be undercompensated by a program than not be allowed to participate at all.

6. Are CPS application processes and requirements clear? Is communication between applicants, the CPS Program Administrator, and DOER clear and effective? Please describe any improvements you believe could be made to the CPS application process.

RE: communication between applicants and the CPS program administrators - having three CPS program administrators helps manage different aspects of CPS, but also makes it difficult for applicants to navigate who to collaborate with on certain topics and understand who has authority over action needed. To improve coordination and agility between applicants and CPS program administrators, we suggest that one of the three program administrators maintain a top-line decision authority over program updates and implementations. We think the Massachusetts Department of Energy Resources (MA DOER) would naturally fit this role given ownership over the regulation.

RE: improvements that could be made to the CPS application process:

- The PTS has made updates to allow for aggregations of smart thermostats and EVs (where each aggregation = a PTS system) but currently, there is no way to register an aggregation of batteries (i.e. where multiple batteries = a single PTS system). Each battery, no matter the size, must register individually, which involves manually clicking through multiple screens and uploading documents on a one-by-one basis. For BTM batteries, and especially small residential BTM batteries, this is cumbersome and a hindrance to their registration in the CPS. Leap has previously worked with the CPS program administrators and advocated for a method to register an aggregation of batteries and we implore the CPS program administrators to do so as part of the program review. Allowing a series of batteries to register as one PTS system in the PTS' portal, as smart thermostats and EVs can do, will significantly reduce the enrollment barrier in CPS for aggregators and small BTM batteries.
- The fields required by PTS' portal should be re-evaluated for PTS systems that are DER aggregations/VPPs - regardless of DER type. The PTS' registration portal was originally built for more traditional, FTM assets. Because of this, it requires fields that are not appropriate or relevant to PTS systems of small scale BTM DER aggregations/VPPs (e.g. initial meter reading, costs, a singular address/utility, etc.). An additional update to the PTS' portal should be made to make required registration fields conditional to the technology type (DERs) and sub-type (e.g. smart thermostats, EVs, batteries) being selected. As an example, if "DERs" is selected as the technology type when registering a new PTS system in the PTS' portal, the PTS system could be recognized as an aggregation and instead of requiring a single address and utility - a spreadsheet that details the address and utility of each DER in the aggregation could be required as a document upload. Doing this would significantly reduce confusion when registering DER aggregations as PTS systems in the portal and the barrier to enrollment in CPS.
- Further, Leap recommends that the CPS program administrators implement the capability in the PTS' portal to update (e.g. add to and remove from) PTS systems that are DER aggregations/VPPs. In other words, PTS systems that are DER aggregations/VPPs should be managed dynamically. Currently, the PTS' portal requires a new PTS system be created every time an enrollment occurs. However, DER aggregations/VPPs are often ever evolving and need a dynamic way to add and remove assets. Leap understands that net new assets registered and enrolled in CPS need an "effective date", however, there is a need for a better solution than to create a new PTS system for every incremental addition to a DER aggregation/VPP. This should also reduce the administrative burden on the MassCEC's PTS team by reducing the number of PTS systems that they must manage. As DERs and VPPs continue to proliferate, there is a major need to design the PTS portal to accommodate these resources and their dynamic nature.
- Additionally, PTS systems that are DER aggregations/VPPs reduce the administrative burden on the MassCEC's PTS team by reducing the number of data streams since performance interval data of all assets are aggregated into a single stream for reporting. For this streamlined reporting to persist, the need to allow a PTS system to be an

aggregation of BTM batteries and for PTS systems to be managed dynamically is paramount.

- Leap commends the CPS program administrators for releasing the Distribution Circuit Multiplier (DCM) application at the end of 2023. However, aggregations do not have an easy way to apply for the Distribution Circuit Multiplier via the current application webpage. Leap recommends that the CPS program administrators update the DCM webpage to allow for an aggregation check-box and then a conditional spreadsheet upload of required information. Further, Leap recommends that the CPS program administrators provide applicants a database or tool to easily lookup circuit IDs by address at scale. Ideally, a spreadsheet of addresses could be uploaded to a tool/database and the circuit IDs for each of these addresses could both be listed and identified as eligible for the DCM or not. Enhancements to Electric Distribution Company (EDC) hosting capacity maps could result in this ideal solution, though close collaboration with the EDCs will be critical to ensure enhancements meet the need for DCM use.
- Lastly, for any battery registering in CPS that is co-located with solar and in SMART–Leap recommends that any information related to the co-located solar (e.g. Permission to Operate, PTS ID) not be required, or be provided by the CPS program administrators since SMART solar systems are registered by the CPS program administrators themselves and this information can be opaque to applicants that weren't directly involved in the original solar installation.

7. Are CPS Program compliance requirements clear prior to program enrollment? If any requirements are unclear, please describe and recommend clarifying language.

The application of the Market Supply compliance mechanism isn't 100% clear. How and when would CPS participants know when this mechanism is tripped? When do compliance year analyses get released?

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.

Leap encourages the CPS program administrators to add another >1 multiplier that further values participation of clean peak resources located in low to moderate income (LMI) geographies.

Leap encourages the CPS program administrators to adjust the Summer Seasonal Peak Period to better align with peak demand windows during the Summer, which are shifting later as more solar is deployed. Currently, the Summer Seasonal Peak Period is 3 - 7pm and Leap encourages the CPS program administrators to adjust it to 4 - 8pm.



Leap would like to suggest that any transmission or distribution connected battery receiving funding from the proposed Standalone Bulk Storage program also receive a CPEC multiplier < 1 if dual-participating in CPS. This multiplier would be akin to other multipliers in the CPS program (e.g. SMART multiplier, Contracted Resource multiplier) and avoid over-incentivizing projects and ensure fair funding, particularly since BTM batteries are excluded from the Standalone Bulk Storage program.

As EV DERs continue to evolve and deploy Vehicle to Everything (V2X)—especially Vehicle to Home (V2H) capabilities—Leap encourages the MA DOER to re-evaluate the [criteria for the resilience multiplier](#) to include EV (and standalone BTM battery) DERs qualified under Demand Response that can provide at least 24 hours of backup power by themselves. Assuming a residential home has an average site load of 1 kW, an average fully charged EV with a 70 kWh battery could theoretically provide the home power for almost 3 days, which should meet the criteria of providing electric power to a load during external outage conditions. A 10 kWh BTM battery with the same site load assumptions could provide 10 hours of backup load. And while this doesn't necessarily meet a 24 hour threshold, it could be an incentive to encourage deployment of longer duration BTM batteries.

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.

Leap is generally in favor of re-evaluating a CPEC procurement, but believes it would need to be carefully designed to be successful. For a CPEC procurement to be successful, it would need to establish both competitiveness and long-term CPEC price certainty. The CPEC procurement timeline would need to be carefully considered (i.e. how far in advance of CPEC delivery should it take place) and some type of qualification to participate would be required. Limiting the CPEC procurement to already qualified resources wouldn't be fair to prospective resources. Some type of reservation system could be implemented. For example, the Distribution Circuit Multiplier requires a capacity reservation be made and then provides an 18 month period to have that reservation approved.

Given the amount of thought, design, planning, and impact a non-bilateral CPEC procurement system would need/have, we recommend that the re-evaluation take place after the CPS review so that stakeholders can be critically engaged on the procurement system alone.

As an alternative to a CPEC procurement system - a CPEC price floor could be established and revisited every 4-8 years in accordance with a CPS review to guarantee some price certainty.

10. How well does the CPS align with other Commonwealth programs, such as SMART and ConnectedSolutions, to incentivize the deployment of peak reducing resources, and how could program alignment be improved?



Generally speaking, we believe these programs align well. Continuing to ensure that these programs are stackable is critical to the deployment of peak reducing resources.

11. Are there any Commonwealth policies (e.g., renewable energy goals, land use priorities, codes and standards, etc.) that you believe the CPS program inadvertently conflicts with? Please describe any potential modifications to CPS that would alleviate these conflicts.

12. Please describe any factors outside of the CPS Program that impact the ability of Resources to enroll or participate in the CPS Program, and any mitigation recommendations you have for DOER.

DERs are rapidly evolving, and as new DER technologies are deployed, they may not have explicit CPS guidelines written for them. We saw first-hand the CPS program administrators' willingness to collaborate with us to enable EV participation via EV telematics and to great success. This ability to move swiftly with DERs is paramount to the continued success of DERs in CPS and we both encourage and look forward to the deep collaboration with CPS program administrators to come on DERs.

13. Is there any additional information you believe DOER should consider in its 2024 CPS Review?

Leap would like to emphasize that CPS is a cutting edge and first of its kind program. Leap firmly believes that the CPS program will be invaluable to Massachusetts' 2050 GWSA mandates and should undoubtedly persist. CPS can offer many learning opportunities, has opportunities for improvement, and also has many opportunities to influence other programs. We appreciate the CPS program administrators' foresight to hold recurring programmatic reviews of the program so that CPS can evolve with the clean energy transformation. With that, Leap urges the CPS program administrators to explicitly re-affirm CPS during the 2024 program review cycle to provide continued certainty into the program's availability.

Leap recommends that the CPS program administrators publish a list of "approved" aggregators participating in the MA CPS so that BTM clean peak resource owners can identify who can help them effectively participate in the program (similar to how ConnectedSolutions program administrators publish and encourage participation through Curtailment Service Providers). Doing this would decrease the barrier to DER and VPP entry by identifying experts to partner with for participation.

14. 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.
