PUBLIC VERSION

March 14, 2025

Tom Ferguson
Energy Storage Programs Manager
Department of Energy Resources
Commonwealth of Massachusetts

RE: 83E Round 1 Comments

Dear Mr. Ferguson,

Thank you for the opportunity to comment on the forthcoming 83E Storage Procurement. As DOER knows, we have been developing both distribution- and transmission-connected standalone storage in Massachusetts for a number of years and we are excited that this procurement is on the horizon to give these projects the opportunity to access long-term contracts and thus secure financing to move to construction.

For ease of review, we have followed the format of the published stakeholder questions, which are pasted here in italics.

1. ***Procurement Schedule:***
    a. *The factors the RFP Drafting Parties should consider when designing the schedule for the 83E Round 1 solicitation, including deadlines for bid submission and selection of projects for negotiation. Please include as much specificity in key schedule milestones and timing as well as justification for preferred dates.*

Please refer to our comments submitted jointly on March 5, 2025 with Jupiter, Flatiron, Bluewave, and Cypress Creek.

    b. *How the 83E schedule could be designed to best align with other energy storage procurements being conducted or planned in neighboring New England states.*

We do not believe that the 83E procurement would benefit from alignment with any other energy storage procurements being conducted or planned in other New England states.

2. ***Environmental Attributes:***
    a. *The environmental attributes in addition to Clean Peak Energy Certificates ("CPECs") that could be procured from your project.*

We support a procurement for CPECs only at this time. However, in the future we recommend that DOER explore an indexed storage credit mechanism, which can provide a large amount of predictability to storage owners with a comparatively small incentive amount supported by ratepayers. Storage can provide a number of different services; the wholesale markets are a sophisticated mechanism for directing storage assets when and how to operate in order to provide the most value to the grid, but the wholesale markets don't provide the predictability necessary to finance construction of new resources. An indexed storage credit program assumes that assets are optimizing their participation in wholesale markets; the incentive fills only the gap in value and predictability.

3. ***Clean Peak Qualification:***
    a. *Any barriers to energy storage facilities qualifying for the Clean Peak Standard ("CPS") or other attribute-generating program.*

There are no barriers to qualification for the Clean Peak Standard, per se. However, there are numerous barriers to developing a financially viable storage facility. The 83E procurement seeks to address the financing challenges caused by a lack of revenue certainty. In addition, as we have detailed in previous comments to DOER, key challenges include interconnection costs and timelines, and for distributed resources, inflexible charging and discharging schedules that are currently being adjudicated at the Department of Public Utilities. DOER is also aware that the Department of Environmental Protection's noise policy currently makes it extremely difficult to site storage in the vast majority of the commonwealth. We have also faced permitting challenges in certain localities, which we hope will be addressed in the future by the implementation of the 2024 permitting reform legislation.

    b. *Whether you have been awarded a Clean Peak Program Statement of Qualification ("SoQ") for the project you intend to bid into this solicitation.*
        i. *If not, whether you anticipate having a SoQ prior to bidding your project.*

We have not yet been awarded a CPS SoQ for any of the projects we intend to bid into this solicitation. Our understanding is that currently, projects must be fully constructed in order to apply for an SoQ, as Permission to Operate is one of the required documents when applying.[1] We have previously commented that we recommend aligning the CPS SoQ process with the standard set by the SMART program, whereby resources must have an ISA, non-ministerial permits, and site control in order to apply for an SoQ, but may do so before construction. If DOER were to implement this change, whether our projects will have an SoQ at the time of bidding will still depend on when bids are due and what the maturity requirements are to bid. None of our projects will be constructed at the time of bid, however we have some projects that will have permits and ISAs at the time of bid. We have other projects that may have one but not both of those milestones completed, so they may or may not respond to the solicitation depending on the maturity requirements.

[1] https://www.mass.gov/info-details/how-to-apply-to-the-cps

4. ***Eligible Bids:***
    a. *Project's technology type (e.g., lithium ion, flow batteries, thermal, etc.), and how it meets the defined Section 83E criteria.*

We are planning to bid lithium ion batteries. As noted in the stakeholder questions, the statute defines "mid duration storage" as storage "that is capable of dispatching energy at its full rated capacity for a period equal to or greater than 4 hours and up to 10 hours." We request further clarity on how the Drafting Parties intend to define "full rated capacity."

    b. *Appropriate minimum and/or maximum bid size, both in terms of MW and Attributes.*

We do not have a recommendation for minimum or maximum bid size. However, we recommend that the Drafting Parties consider the total solicitation size of 1,500 MW and avoid concentrating awards among a very small number of very large projects. To do so would create a risk of significant disruption if there were attrition on the part of any of those projects. The Drafting Parties may wish to allow projects to submit multiple bids for different portions of their capacity, rather than a single all-or-nothing bid.

    c. *Minimum delivery requirements (e.g., a certain number of CPECs delivered that is a function of Qualified Energy Storage Systems ("QESS") capacity); the frequency with which that requirement must be met (e.g., over entire contract, yearly, quarterly); and inclusion of an operational schedule in the bid to support delivery feasibility.*

We do not have a recommendation for minimum delivery requirements or the frequency with which that requirement must be met, except that individual awarded bidders should be subject to penalties for non-performance with respect to the delivery quantities and timelines in their individual contracts. Performance on the quantity of CPECs delivered vs. the contracted amount should be evaluated on no less frequent than an annual basis.

    d. *Appropriate project maturity requirements.*

New Leaf in general favors high maturity requirements, to ensure that bidders are making well-informed estimates of their project costs, and to reduce attrition. For any capacity-limited program or solicitation, it is detrimental to the market to award capacity to projects that do not ultimately come to fruition; this introduces significant unnecessary delay in achieving the goals of the program or solicitation, results in additional administrative effort to rebid lost capacity, and harms other projects that may be viable but were not able to secure capacity in the first round. We therefore recommend that, for distribution-connected resources in particular, the Drafting Parties require both a signed ISA and non-ministerial permits in order to bid. This will ensure that awarded projects are viable, and that bidders have the best possible information when developing their bid price. Given that this will naturally exclude some projects from eligibility, we strongly recommend in addition that an RFP is issued every year. Alternatively, as

recommended in our prior joint comments, the Drafting Parties can accept multiple rounds of bids on a single RFP, with one round taking place this year and a subsequent round taking place in 2026.

In the event that the Drafting Parties do not require both ISA/LGIA and non-ministerial permits in order to bid, we strongly recommend the following:

a) that projects are awarded additional points if they have completed those milestones;
b) that awarded projects that have not yet completed those milestones are required to adhere to a strict schedule for completing them; and
c) that any capacity subject to attrition is rebid in a timely manner.

5. Facilitating the Financing of Projects:

a. How the requirement from Section 83E—that this solicitation provide a "cost-effective mechanism for facilitating the financing of beneficial, reliable energy storage systems"— could be applied under this RFP.

i. Standards the RFP should set to confirm that projects are using this solicitation to facilitate financing.

ii. How those standards could be applied to existing projects to allow their participation in this RFP.

While the statute includes existing resources as eligible to respond to this solicitation, we feel that in most cases existing resources cannot fulfil this requirement that the solicitation function to facilitate financing, and therefore we recommend that the Drafting Parties restrict eligibility to new resources or existing resources that can prove the need for additional financing for an expansion or other major capital expenditure.

b. The application of tax credits, for example the Investment Tax Credit and associated guidance, towards the financing of new projects, including whether your project would still be fully financeable if these credits are not available.

The Investment Tax Credit, as currently enacted, provides significant support to project financing. Our projects would not be fully financeable at the same bid price if these credits were not available, however there would be a different bid price at which they would be financeable.

c. The approximate percentage of your capital costs met by:
   i. CPECs revenue
   ii. Energy/Energy Arbitrage
   iii. Ancillary Services (Regulation, etc.)
   iv. Forward Capacity Market

d. The risks associated with each revenue over the life of the project.

Fundamentally, each of energy arbitrage, ancillary services, and capacity are merchant in nature, making them hard to finance in their own right. Beyond that, it is not at all clear that the

full merchant value of these revenue streams would be sufficient to support broad investment in energy storage.

- While ancillary services have been valuable in the past, they represent a shallow market and prices are prone to crashing once a material volume of energy storage comes online, as we have seen in other RTOs.
- Energy arbitrage has historically been of low value in ISO-NE as the region has not been prone to high amounts of intraday price volatility. This dynamic could be subject to change with the deployment of sufficient quantities of zero marginal cost intermittent renewable generation. However, the current outlook for the biggest source of potential zero marginal cost power in the region - offshore wind - is now extremely muddied due to the federal policy environment. More likely, gas will continue to stay on the margin throughout most days, keeping intraday price spreads relatively small for the foreseeable future.
- For the last handful of years, capacity prices have been too low to incent market entrants (absent additional offtake contracts) and this dynamic is projected to continue for the foreseeable future. Furthermore, forthcoming changes to ISO-NE's capacity accreditation rules make it likely that duration limited resources like energy storage will see their capacity revenues fall further.

In addition, as we have noted to DOER in past comments and other communications, CPEC revenues also face significant risk due to a regulated inelastic demand; indeed that is the fundamental reason that projects are not financeable without contracted revenue. The risk associated with wholesale market revenues is less extreme, as demand in each of those markets is more elastic. In addition, the risks associated with wholesale market revenues are easier to predict, as there are decades of data to draw upon from the past functioning of these markets when forecasting their future behavior.

e. *Please comment on the following examples of lifetime values pictured below from the Massachusetts Charging Forward report and how they may correspond to your project.*

The revenue stacks pictured appear proportionally correct.

f. *How a project's participation in the ISO-NE market affects its bid. Please specifically comment on how any ISO-NE operational obligations will impact the creation of CPECs.*

Broadly speaking, participation in ISO-NE markets will reduce a project's bid price, as the revenue earned from ISO-NE markets makes up a portion of a project's required revenue, with the remainder coming from CPECs. Participation in the ISO-NE markets may or may not affect CPEC creation depending on the ESS operator's market strategy and ISO-NE dispatch. Generally, ESS operators will manage their ISO-NE offers to optimize the creation of CPECs

and ISO-NE revenue streams, and will offer a volume of CPECs into the 83E solicitation that takes into account the co-optimization of multiple revenue streams.

g. *How a project and potential awarded contract will contribute to short- and long-term affordability for ratepayers in the Commonwealth.*

The Clean Peak Standard has been in effect since 2019. However, without any source of revenue certainty, storage projects have been unable to secure financing, and thus the Clean Peak market has been vastly undersupplied. This has resulted in the collection of substantial Alternative Compliance Payments, which represent a significant expenditure by ratepayers without receiving the benefits of the program. Facilitating the deployment of storage and sufficient supply of CPECs will by definition contribute to ratepayer affordability if contract prices are below the ACP. In addition, storage deployment contributes to long-term affordability by facilitating the incorporation of intermittent resources, allowing the commonwealth to meet its mandates under the Global Warming Solutions Act with a smaller overall deployment of renewable generating resources. Furthermore, storage deployment contributes to long-term affordability by smoothing the peaks in electricity demand, which reduces the overall level of investment needed in the grid, which must be built to serve the highest possible peak demand. In particular, the grid benefits provided by distribution-connected resources have a more concentrated impact for ratepayers within the commonwealth, while also providing local reliability benefits.

6. ***Commercial Operation Date:***
   a. *Any appropriate commercial operation date for Section 83E Round 1.*

As discussed above, New Leaf recommends that ISA/LGIA and non-ministerial permits be required for eligibility; the ability for mature projects to reach commercial operation sooner is one of the core reasons behind that recommendation. If ISA/LGIA and permits are required for eligibility, it is possible to estimate the likely time needed between an awarded project signing their contract and reaching commercial operation, though the timeline would likely be different for transmission- vs distribution-connected resources. In the current context with federal tariff and tax policy changing daily, combined with the lack of FERC action on ISO-NE's proposed interconnection reforms, New Leaf does not currently have a recommended COD date. However, the Drafting Parties could require bidders to provide a COD date for each project, and award additional points to projects that can come online sooner (with penalties for non-performance).

7. ***Resource Types:***
   a. *Whether this procurement should allow for both transmission and distribution connected resources.*

We strongly recommend that this procurement allow for both transmission- and distribution-connected resources. Both types of resources face the same financing challenges due to the fact that the market for CPECs has inelastic demand and no price floor. Even

distribution-connected resources that qualify for the Distribution Circuit Multiplier or the Near-Term Resource Multiplier still depend upon contracted revenue in order to secure financing. While there are brokers who will offer 5 or 10-year strips for CPECs, those are priced at a significant discount, and thus do not provide sufficient support for most projects.

b. *The appropriate resource mix in Section 83E Round 1 procurement between distribution- connected QESS and transmission-connected QESS.*
    i. *If both distribution- and transmission-connected QESS are to be procured in Section 83E Round 1, please comment on:*
        1. *The need, if any, for a carveout for either distribution- or transmission-connected QESS; and*
        2. *The need, if any, for separate bidding criteria between distribution- and transmission-connected QESS to be considered by the RFP drafting parties.*

We strongly recommend that transmission- and distribution-connected storage be evaluated separately in this solicitation. Each type of project has a different cost profile but also a different suite of benefits that it can provide, which DOER has recognized by allowing both types of resources to participate in the CPS.

We recommend a carveout of 15-20% for distribution-connected, front-of-the-meter resources. For context, Maine's Governor's Energy Office recently released a report recommending the establishment of a storage procurement that would allocate 20% to distribution-connected resources.[2] New York has allocated ⅓ of the total storage capacity to distribution-connected resources across the the Retail Storage Incentive program for projects up to 5MW, has a capacity of 1.5GW, and the Indexed Storage Credit solicitation for projects larger than 5MW, which has a capacity of 3GW.

8. ***Contract Length and Form:***
    a. *The contract length, for a period of up to 30 years, that should be considered under Section 83E Round 1 and associated reasoning, including how the contract term will facilitate the financing of the project, how the term aligns with useful life, augmentation schedules, etc.*

We recommend a contract length of 20 years to align with the useful life of current lithium ion technology. Many manufacturers currently offer a 20-year warranty. Longer contracts allow for more cost-effective bids, improving ratepayer affordability.

b. *Given the degradation of battery performance over time, how contractual provisions for operational security should be constructed to assure optimal/maximum performance for the duration of the contract.*

---

2 https://www.maine.gov/energy/sites/maine.gov.energy/files/2024-12/GEO%20Energy%20Storage%20Program%20Recommendations%20Dec%2023%202024.pdf

Bidders can specify their own overbuilding or augmentation strategy for meeting a 20 year performance requirement. Alternatively, the Drafting Parties could allow bidders to offer a decreasing number of CPECs in the later years of the contract. Annual performance requirements should accommodate maintenance and augmentation schedules, i.e. maintenance and augmentation activities should be exempt from any calculation of an availability guarantee or penalties associated with availability. For example, if the RFP requires that the ESS have a 85% availability guarantee, scheduled maintenance should not be included in that calculation.

c. *For distribution-connected QESS, how the EDCs would develop manageable contract agreements, including but not limited to defined aggregations with one negotiated contract.*

For front-of-meter distribution-connected storage, we recommend that the Drafting Parties include a template contract in the RFP or establish a tariff. In the longer term, we believe a retail tariff-based program more akin to the SMART program is a more efficient strategy than competitive solicitations for providing distribution-connected resources with revenue certainty. However, in the absence of such a program it is essential that distribution-connected resources be eligible for the forthcoming procurement.

9. Safety:

a. *Which safety standards should be required as a minimum baseline.*

Minimum technical requirements are UL9540, UL9540A, UL1973, and NFPA 855. The Drafting Parties should favor bids featuring products that have undergone Large Scale Fire Testing in accordance with CSA TS-800[3] or a similar test standard.

b. *The safety systems, insurance requirements, relationships with emergency responders and host communities, emergency response plans, and any other necessary protections to keep adjacent communities safe.*

We recommend that the Drafting Parties require project developers to provide a third-party peer reviewer to review designs and relevant documentation pertaining to both the project and the equipment used for the project (e.g. UL 9540A report, Hazard Mitigation Analysis, etc.). In addition, there should be a requirement for emergency response protocols specifically addressing the needs of first responders in the event of a fire, like 2023 NFPA 855 Appendix G.11.2. Appendix G.11.2 is supplemental information rather than a direct part of the standard itself. There should be site-specific training provided for local fire departments to familiarize

[3] https://www.csagroup.org/testing-certification/product-areas/power-generation-energy-storage/battery-energy-storage/large-scale-fire-testing-lsft-procedure-csa-ts-80024/?srsltid=AfmBOorYlr_LrrahEgoiBBMdn7QGzIRhoP_16mz3Q7OlMQwb3q52FT-x

them with the project, hazards associated with BESS, and procedures outlined in an Emergency Response Plan.

10. Project Viability and Other Qualitative Factors:

a. Any risks associated with uncertainty related to tariffs on imports that may impact the supply chain for energy storage systems. Similarly, any risks associated with uncertainty related to the domestic supply chain.
    i. What strategies can be implemented to minimize these risks and increase project viability.

We encourage the Drafting Parties to consider contract adjustment mechanisms and/or off-ramps for major unforeseen supply chain disruptions (force majeure level, future tariffs announced by bid date would not qualify). This needs to be approached carefully so it does not invite participants to underbid and then adjust their award to a higher level.

We encourage the Drafting Parties to consider additional intentional incentives or contract adjustments for products that meet domestic content requirements.

b. The key elements that should be considered in evaluating project viability, including any minimum requirements for participating in the RFP. Please specifically comment on:
    i. Site control
    ii. Interconnection studies
    iii. Technical,logistical, and commercial product viability
    iv. Ability to finance the project
    v. Bidder experience

All projects should be required to have firm site control, as an absolute minimum. As noted elsewhere in these comments, interconnection is a major driver of both project cost and viability and therefore System Impact Study results at a minimum should be required.

We recommend that the Drafting Parties favor bids that feature proven, commercially viable products. The ecosystem of energy storage products is vast and rapidly expanding, however supply chain challenges and product availability can be very difficult to navigate. Bidders should demonstrate their product and procurement strategy with respect to battery systems, high voltage transformers and circuit breakers.

With respect to financing, we recommend that the Drafting Parties welcome a variety of business and capital models to promote cost competition amongst bidders. Our experience in other markets is that when the procuring entity narrows the pools of participants by limiting business models, the quality and competitiveness of bids decreases.

c. Any other considerations that should be considered when drafting the RFP that would impact project viability.

Permitting is a major aspect of project viability that should be included in the above list. While the permitting environment is currently in flux, as the permitting reforms enacted in 2024 will likely not be fully implemented at the time of bids, this should still be a significant consideration in the evaluation of bids. As noted elsewhere in these comments, we recommend that non-ministerial permits be required for eligibility, in particular for distribution-connected projects, or failing that, that projects that have secured permits receive additional points. While interconnection is a bigger factor in a project's financial viability, permitting is a binary risk and therefore should not be overlooked.

d. How the above factors are considered in CPS Qualification.

As noted above, we recommend that projects be eligible to apply for a CPS SoQ when they have completed site control, ISA/LGIA, and non-ministerial permits.

11. Grid Resiliency and Transmission Needs:

a. How Section 83E Round 1 may be designed to best encourage investments and commitments that maximize grid resiliency and fulfill transmission needs in specific geographic locations. Please be as specific as possible in describing resiliency and transmission needs.

We caution against the Drafting Parties incorporating these kinds of elements in this solicitation, as the Drafting Parties does not have an ability to independently verify the technical claims about grid resiliency and transmission needs made by bidders.

12. Interconnection Capability Requirement

a. Please comment on your current interconnection status or plan. What interconnection status, level and maturity should be required by the RFP?

As noted above, New Leaf recommends high maturity requirements. For distribution-connected projects, we recommend a signed ISA be required for eligibility to bid. For transmission-connected projects, it may be difficult for some companies to sign a LGIA prior to knowing if they have an award and contracted revenue, so it may be more appropriate to require System Impact Study or Cluster Study Phase 2 results in order to be eligible. If a signed ISA or LGIA is not required, the Drafting Parties should require awarded bidders to meet those milestones by a date certain in order to maintain their award.

13. Economic Development, Workforce, and Diversity, Equity & Inclusion (DEI):

a. How Section 83E Round 1 could be designed to best encourage investments and commitments that maximize economic benefits to the Commonwealth, particularly for transitioning fossil fuel communities, support workforce harmony, and advance DEI goals.

While Economic Development, Workforce, and DEI are important goals, we caution the Drafting Parties against trying to make this procurement a tool for achieving too many different policy priorities at the same time. This caution is only strengthened in the current context of uncertainty surrounding tariffs and federal tax credits. We strongly recommend that in addition to price, project maturity and viability receive the strongest weighting in bid evaluation.

14. Environmental Justice:

a. *How Section 83E Round 1 could be designed to best encourage project design and investments that avoid negative impacts on, and direct positive benefits of the project to, Environmental Justice ("EJ") communities.*

We recommend the Drafting Parties proceed with caution on the topic of Environmental Justice as well. While an EJ community may receive benefits as a result of an energy storage project being sited there, it is equally possible that the siting of such a project contributes to a pre-existing disproportionate burden of energy and other infrastructure. Again, we recommend that price and project viability receive the strongest weighting.

15. Energy Storage Industry:

a. *Any trends in or around the energy storage industry that may impact the Section 83E Round 1 procurement and how the RFP Drafting Team should account for them.*

In more mature energy storage markets, fire safety standards are rapidly evolving to include more comprehensive testing standards and emergency management. We recommend a very proactive stance on fire safety, and adopt the latest best practices from states that have experienced energy storage fires, most notably California and New York. New York published a list of recommended updates[4] to the state fire code. Those recommendations should be proactively adopted in Massachusetts. California may potentially take state-level action in time between the drafting of these comments and the implementation of this RFP. We recommend that the Drafting Parties closely monitor the fire safety activity in California and consider adopting new safety regulations that are implemented in that market.

We also recommend that the Drafting Parties favor bids featuring products that have undergone Large Scale Fire Testing in accordance with CSA TS-800 or a similar test standard. Large Scale Fire Testing is quickly becoming a standard practice among the most reputable battery manufacturers, and provides the most thorough evidence available that a battery failure will not propagate into a large cascading event.

16. Future RFPs:

a. *Whether and how the RFP drafting team should consider inclusion of energy services in future 83E RFP Rounds, both in terms of how future RFPs would be*

---

[4] https://www.nyserda.ny.gov/All-Programs/Energy-Storage-Program/New-York-Inter-Agency-Fire-Safety-Working-Group

similar or different from 83E Round 1's RFP, which is only for environmental attributes.

b. *The use of indexing or other adjustment mechanism.*

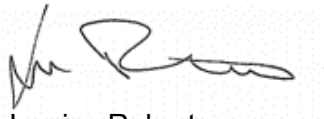
As noted in the joint comments we previously submitted with other storage companies, we recommend that the 2025 RFP be for CPECs only, and that the Drafting Parties accept a second round of bids on the same RFP in 2026. For subsequent solicitations, we recommend the use of an index mechanism in future procurements. As noted above, an indexed credit structure can provide even greater financeability to projects in a more cost-effective manner for ratepayers.

17. Other:

a. *Any additional comments that you believe should be known by or would be helpful to the RFP drafting team.*

Thank you for your consideration of our comments above. We look forward to continuing to engage with the Drafting Parties throughout this process, and to submitting compelling bids for our projects.

Sincerely,



Jessica Robertson
Director of Policy & Business Development, New England
New Leaf Energy