Comments on PREB Docket NEPR-MI-2022-0001

May 19, 2025

Sunrun is the nation's leading provider of clean energy as a subscription service, offering residential solar and energy storage with no upfront costs. Sunrun's innovative products and solutions can connect homes to the cleanest energy on earth, providing them with energy security, predictability, and peace of mind. Thousands of Puerto Rico homeowners had their solar and battery systems installed by one of Sunrun's ten partner installers.

Tesla is a mission-driven company that exists to accelerate the transition to the sustainable energy future. Tesla is best known for manufacturing electric vehicles, but the company also manufactures grid-connected battery and inverter based products, including a residential battery energy storage product for home backup, the Tesla Powerwall. Tesla provides the communication software and intelligence necessary to aggregate its products into Virtual Power Plants for grid support and is one of the world leaders in this technology. There are an estimated 162,000 Powerwalls installed in Puerto Rico.

Sunnova Energy International Inc. is an industry-leading adaptive energy services company focused on making clean energy more accessible, reliable, and affordable for homeowners and businesses. Through its adaptive energy platform, Sunnova provides a better energy service at a better price to deliver its mission of powering energy independence.

Sunrun, Tesla, and Sunnova (hereafter referred to as the "Aggregators") are the three largest aggregators in LUMA's current Customer Battery Energy Sharing (CBES) program - the largest VPP operators in the United States. The Aggregators commend the PREB, LUMA, the Governor's office and all stakeholders on running CBES for the last 18 months . It is one of the largest and most successful virtual power plant (VPP) programs in the entire country and serves as a model to utilities, regulators, and policymakers in other states and throughout the world. The Aggregators look forward to continued partnership with other stakeholders in order to advance this program's benefits for participating solar and storage customers, non-participating ratepayers, and everyone in Puerto Rico.

The Aggregators appreciate this opportunity to provide feedback and recommendations on LUMA's proposed CBES Emergency Expansion Program ("CBES+") program. These comments are meant to support overall concepts, raise questions to clarify how the program will work, and provide recommendations so the program provides a seamless customer experience that balances providing support to the electric grid while maintaining sufficient backup energy for homeowners.

Public Information and Support

Recommendation: PREB should issue a statement or an order highlighting the extreme shortfalls anticipated for this summer.

In order for the Aggregators to clearly communicate CBES+ to our customers, it would be helpful to have a clear statement from PREB that outlines the extreme situation the grid will be facing this summer, the expected impacts on the lives of ordinary Puerto Ricans, and that now is a moment for everyone to contribute to help be good "grid citizens" by contributing energy from their batteries when needed most.

Measures of Success

Recommendation: Establish goals and measures of success for the CBES+ program in order to evaluate performance both during and after CBES+. This can be done by requiring LUMA to provide clear metrics on how the CBES+ program achieved those goals.

The CBES+ program will provide tremendous value from customer-sited resources that can be relied upon as a part of Puerto Rico's energy supply. To that end, LUMA should, prior to CBES+ launch, define the impact that dispatching CBES+ will have on mitigating outages to help PREB evaluate the effectiveness of CBES+ in meeting critical energy generation and grid stability needs.

In other words, the underlying system conditions and anticipated needs of the electric grid should be clearly articulated at program launch. Information on the program's implementation and performance should be tracked in order to evaluate the program's effectiveness in addressing those needs. While LUMA provided *some* information to assist with this, the Aggregators recommend additional information and data on existing system conditions and anticipated needs to better evaluate program performance against program goals. This information includes, but is not limited to:

Metrics to Capture Existing System Conditions and Anticipated Needs:

- The estimated resource adequacy shortfall and corresponding CBES+ capacity that would be required to maintain reliability / avoid load shed events.
- The CBES+ enrollment targets, including the total number of enrolled customers and total enrolled battery capacity[1]
- The number of Manual Load Shed events anticipated along with the anticipated duration of such events with and without CBES+ using Loss of Load Expectation (LOLE) and other methods to estimate the scope of the capacity shortfall and impact on customers.[2]

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[1] *See* LUMA Summer 2025 Emergency Demand Response Program Proposals at Slide 16 (May 8, 2025) (providing enrollment targets).

[2] *See e.g.,* Case No. NEPR-MI-2022-0003, In Re: LUMA's Response to Hurricane Fiona, Submission of Supplemental Information, Exhibit 1, LUMA's Comments from October 11, 2022 Technical Conference at 3 (Oct. 31, 2022) (discussing the reduced risk of load shed by modeling a 100 MW (4-hour duration or 400 MWh of energy capacity) addition of batteries to reduce the Loss of Load Expectation (LOLE) from 8.81 days per year down to 5.79 days per year, which LUMA described as "a statistically significant improvement.") *available at* https://energia.pr.gov/wp-content/uploads/sites/7/2022/11/20221031-MI20220003-Motion-Submitting-Responses-to-Requests-for-Information-in-TC-1.pdf (hereinafter "*LUMA Response to Hurricane Fiona Comments*").

- The anticipated cost of the CBES+ program[3] compared with the cost of meeting the anticipated resource adequacy shortfall without CBES+ through alternative resources.[4]

Metrics to Track Program Implementation:

- Total number of enrolled customers along with the total enrolled battery capacity.
- Total number and duration of load shed events during the season.
- The cause of each load shed event.
- The number of load shed events avoided or mitigated due to called CBES+ dispatches, including number and duration of each CBES+ called event.
- Total MW of CBES+ capacity delivered per called event and total MW delivered overall across the CBES+ season.
- The total cost of CBES+ program operation through October 31, 2025 broken out by total cost of performance payments (i.e., the "incentive budget") and the administration budget (i.e., the DERMS provider costs and other program administration costs).
- Other information and data to assist PREB in determining the value of avoiding power outages, including the Value of Lost Load (VoLL) and Loss of Load Expectation (LOLE).[5]

Capturing this information will help PREB evaluate the effectiveness of the CBES+ program and assist decision makers in prioritizing budgets and making adjustments to future iterations of the program as needed.

Customer Experience

Recommendation: LUMA should clarify that customers will choose how much capacity they want to contribute to CBES+, not aggregators. Aggregators will only choose an initial default value that balances participation with customer backup (e.g. 20% participation/80% backup reserve).

The CBES+ program is structured as an auto-enroll/opt-out program due to the emergency conditions predicted for the 2025 summer season. The Aggregators have extensive experience running such programs with combined VPP-enrolled customer counts at more than 100,000 customers. We support this approach in order to maximize the benefits that customer-sited solar and storage can provide to Puerto Rico as quickly and efficiently as possible. Aggregators will inform customers of the program and encourage them to participate. Customers will then decide whether they would like to opt-out, increase/decrease their level of participation (% commitment), or stay at the aggregator-selected default (i.e. 20%) if they choose to remain enrolled in the program.

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[3] *See* LUMA Summer 2025 Emergency Demand Response Program Proposals at Slide 17.
[4] For example, Hawai'i Electric and Light Company (HELCO), which operates the electric grid on Hawai'i Island, estimated the cost of procuring 20 MW of emergency generators would cost between $10 to $14 million to operate for six months in order to maintain resource adequacy reserves while awaiting repairs to other generators. *See* Hawai'i Pub. Utils Comm'n, Docket No. 2021-0024, Hawai'i Island Generation Status and Mitigation Measures Status Update (April 24, 2024) (discussing the cost and other complications related to securing emergency generators).
[5] *See e.g., LUMA Response to Hurricane Fiona Comments*.

Additionally, while Aggregators will increase education and communication to maintain robust enrollment, we also recommend and encourage increased communication and education from LUMA, PREB and other government entities as deemed appropriate. Increased communication and encouragement to be part of the solution for Puerto Rico's energy needs can help build trust and pride in CBES+ participation.

Recommendation: Aggregators not LUMA should control when customers are unenrolled in the program.

LUMA proposes that they be allowed to un-enroll customers that do not participate in a dispatch for an entire quarter. The Aggregators do not agree. LUMA should not be able to un-enroll customers unilaterally from CBES or CBES+ under any circumstances. Instead, LUMA should work with the aggregators to ensure the list of enrolled customers is up to date and does not include customers that opt out of the program. The Aggregators recommend that LUMA should provide aggregators with a list of non-performing customers once per quarter. Aggregators should then have the opportunity to coach and work with those customers to improve performance during a 90-day grace period. If a customer's performance does not improve after 90 days, then the aggregator can remove the customer from the program. Customers that are removed from the program due to non-participation should be able to re-enroll in the program should they so desire by opting in.

Aggregators point out that administration of CBES is not set up for LUMA to initiate enrollment or unenrollment. Changing this can lead to customer confusion as well as confusion and miscommunication between aggregators and LUMA about the enrollment status of customers, making it more difficult to ensure program success. In addition, LUMA has existing controls beyond unenrollment that should allow it the flexibility required to meet its needs, including unilateral control of the number and duration of dispatches.

Enrollment Continuity

Recommendation: Allow all CBES+ participants to remain enrolled in CBES.

Slide 15 of LUMA's proposal[6] provides three options (Options A, B, and C) for structuring enrollment/unenrollment from CBES+. The Aggregators support Options B and C, which allow CBES+ participants to remain enrolled in CBES after the CBES+ ends on October 31, 2025. However, those customers should remain enrolled in CBES for as long as they choose to do so and should not be unenrolled at the end of FY2026, as LUMA proposes currently.

Enrolling and unenrolling customers in the program will result in significant customer confusion and aggregator cost. That confusion will lead to increased customer service calls, and potentially increased opt-outs due to unclear expectations and lack of trust. To be clear, if Option A is the approved path, the Aggregators may choose not participate in CBES+.

[6] Filed 5/8/2025

If PREB believes there is value in retaining the high level of customer participation that will come with the CBES+ program for future years, then customers should not be automatically unenrolled from CBES/CBES+ when it ends. The Aggregators recommend amending Options B or C so that customers are able to remain enrolled in CBES/CBES+ after FY2026.

Budget and Payment Process

Recommendation: PREB should clarify how the funds for the CBES+ program will impact the funds that were already approved for the 3-year budget of the CBES program.

LUMA's filing is not clear on how the budget for the CBES+ program impacts PREB's previously approved budget for the 3-year CBES program. Aggregators recommend that PREB clarify the $21 million budget for CBES+ is for emergency energy purposes, and will not negatively impact the CBES budget in FY2026, 2027, or 2028.

DERMS Functionality

Recommendation: If PREB chooses to approve LUMA's request to use DERMS to support the CBES+ program, PREB should provide flexibility in its use. Aggregators and LUMA should have the freedom to implement aspects of the program outside of DERMS, as necessary, to accomplish the goals and timeline of the program

LUMA has communicated to the Aggregators certain operational requirements for CBES+, including the desire to dispatch the CBES+ capacity by 'sub-groups' in order to manage overall capacity and ramp.

While the Aggregators look forward to the operational efficiencies that a DERMS platform can provide, it is the understanding of the Aggregators that the DER grouping functionality is not currently available in LUMA's chosen DERMS platform. Should this be the case, LUMA should not delay the launch of CBES+. Rather, the Aggregators recommend PREB allow LUMA to complete DER grouping directly via the Aggregators and OEMs outside of the DERMS platform. Any costs, resources, and time required to develop such functionality should not impact the launch and ongoing operations of CBES/CBES+.

Weekly Dispatch Forecast

Recommendation: LUMA should provide as much notice as possible to aggregators about CBES+ dispatches and should provide aggregators a weekly dispatch forecast.

Given the expected frequency of dispatches during CBES+, the Aggregators recommend that LUMA provide aggregators with a weekly dispatch forecast that estimates when dispatches will occur during that particular week. To be clear, this weekly dispatch forecast will NOT prevent LUMA from calling CBES+ dispatches with less notification (as these are necessary to be able to respond to day-ahead and day-of changes in grid conditions), however, a weekly dispatch forecast will help aggregators to set customers' expectations appropriately, communicate with them more clearly, and generally be as transparent as possible.

Weekend Dispatches

Recommendation: Until the DERMS platform is fully operational and dispatches are fully automated, dispatches on weekends (Saturdays and Sundays) should be communicated during standard business hours on the Friday preceding the weekend.

Until the DERMS platform is fully tested and operational (allowing for all dispatches in CBES/CBES+ to be automated), the Aggregators request that LUMA communicate all weekend dispatches during business hours on the Friday preceding the weekend. This will help all stakeholders, including aggregators and customers, to plan accordingly and maximize the likelihood of a successful dispatch. For weekend dispatches that are not communicated in the aforementioned manner, the Aggregators cannot guarantee the success or scale of that dispatch.

Closing Remarks

The CBES+ program has an opportunity to provide much needed grid support during the upcoming summer season. The Aggregators are committed to bringing robust participation to meet critical electricity generation needs. These questions and recommendations are intended to guide PREB in the development of a program that will benefit the grid during critical times and maintain customer battery backup during times when grid outages cannot be prevented. We appreciate this opportunity to provide feedback on such an innovative program.

Regards,

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