COMMONWEALTH OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU

IN RE:	**CASE NO.:** NEPR-MI-2022-0001
ENERGY EFFICIENCY AND DEMAND RESPONSE TRANSITION PERIOD PLAN	**SUBJECT:** Submittal of Revised Transition Period Plan and Request for Modification of Deadlines Related to Three-Year Energy Efficiency and Demand Response Plan

MOTION TO SUBMIT REVISED ENERGY EFFICIENCY AND DEMAND RESPONSE TRANSITION PERIOD PLAN AND REQUEST FOR MODIFICATION OF DEADLINES RELATING TO THREE-YEAR ENERGY EFFICIENCY AND DEMAND RESPONSE PLAN

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COME now **LUMA Energy, LLC** ("ManagementCo"), and **LUMA Energy ServCo, LLC** ("ServCo"), (jointly referred to as "LUMA"), and respectfully state and request the following:

I. Introduction

As the Transmission and Distribution system operator, LUMA is responsible for facilitating the implementation of Puerto Rico's public energy policy, including key customer initiatives such as Energy Efficiency ("EE") and Demand Response ("DR") Programs, which are required by law and mandated by the Puerto Rico Energy Bureau ("Energy Bureau"). LUMA has been implementing a Transition Period Plan containing various quick-start or pilot EE and DR programs ("TPP"), which will be setting the stage for the design and implementation of larger

scale, more permanent programs that would form part of a Three-Year EE and DR Plan to be prepared and submitted by LUMA for approval by the Energy Bureau.

By Resolution and Order of October 23, 2024, the Energy Bureau established a revised schedule for the preparation of the draft and final Three-Year Plans and implementation of the final Three-Year Plan, in light of delays in the completion of certain baseline market and potential studies required by regulation and commissioned by the Energy Bureau, which will contain key information for the preparation of the Three-Year Plan. Among others, the Energy Bureau established the deadlines to start stakeholder engagement on the draft Three-Year Plan by April 15, 2025 and file the Three-Year Plan on or before July 15, 2025, while also requiring, among others, the preparation and filing of a revised TPP and proposed permanent Customer Battery Energy Sharing program ("CBES") for December 2, 2024 and the preparation of a new proposed backup generator emergency DR program to be implemented before the summer of 2025.

In response to a request from LUMA, by Resolution and Order issued on December 5, 2024, the Energy Bureau extended the deadline to submit a revised EE and DR Transition Period Plan ("TPP") and a proposed permanent CBES until January 31, 2025.

In compliance with the orders from the Energy Bureau, LUMA is submitting herein the revised TPP. In addition and given that the market and potential studies required by Regulation for Energy Efficiency, Regulation 9367 ("EE Regulation") have not yet been completed as of this date, LUMA is respectfully requesting that the deadlines to submit the draft and final Three-Year Plans and implementation thereof be modified as indicated in this motion. This will provide time to undertake and complete the necessary activities to achieve a robust plan that complies with applicable regulation, that is comprehensive and maximally cost-effective.

LUMA reasserts its continued commitment to the successful implementation of the EE and DR programs to build a more reliable and resilient energy system for the people of Puerto Rico and advance the energy efficiency marketplace in the region.

II. Relevant Background and Procedural History

1. On June 21, 2022, LUMA filed with the Energy Bureau, in Case No. NEPR-MI-2021-0006, *In Re: Demand Response Plan Review, Implementation and Monitoring*, LUMA's proposed Energy Efficiency and Demand Response Transition Period Plan containing the description of various quick-start EE and DR Programs to be implemented by LUMA during a two (2)-year Transition Period and associated budgets for Fiscal Year ("FY") 2023 and FY2024 ("Proposed TPP"). *See Motion Submitting Proposed EE/DR Transition Period Plan* in Case No. NEPR-MI-2021-0006, *In Re: Demand Response Plan Review, Implementation and Monitoring* of that date and its *Exhibit 1*. The Proposed TPP included an Emergency DR Program, targeting commercial and industrial customers to voluntarily reduce load and/or shift load to back up generators during DR events and a Battery DR Response Program targeting residential customers with behind the meter batteries and providing incentives for load shifting to batteries during DR event periods (now referred to as the Customer Battery Energy Sharing ("CBES")), as well as various EE incentives programs. *See id*. Exhibit 1, Section 4.0.

2. On February 16, 2023, the Energy Bureau issued a Resolution and Order ("February 16th Order") in the instant proceeding considering, amending, and approving the Proposed TPP (the Proposed TPP, as approved by the Energy Bureau, the "TPP"). Among others, the Energy Bureau established deadlines or milestones for various activities under the TPP, including, among others, December 2, 2023 for preparation of a draft FY2025-2027 Three-Year EE and DR Plan ("Three-Year Plan"), December 2023 to conduct a stakeholder meeting to discuss

the Three-Year Plan and the TPP annual report (for FY2023), and March 1, 2024 to file the FY2025-2027 Three-Year Plan. *See* February 16th Order, pp.18, 27 and 30.

3. On October 30, 2023, LUMA filed a motion requesting the Energy Bureau to extend for an additional fiscal year the TPP, given the delays beyond LUMA's reasonable control in the startup of the programs, and to delay the schedule for the Three-Year Plan by one year. *See Request to Extend by One Additional Year the Deadline to File the Three-Year Plan, Concomitant Deadlines and Extend the Term of the Transition Period Plan for An Additional Fiscal Year*, pp. 15-16 and Exhibit 1.

4. On November 29, 2023, the Energy Bureau issued a Resolution and Order ("November 29th Order") extending the TPP by one year, until June 30, 2025, and delaying the schedule (including all required drafts and stakeholder engagement processes) for the Three-Year Plan by one year, so that the Three-Year Plan was to be filed by March 1, 2025. *See* November 29th Order, p. 7. In addition, the Energy Bureau ordered LUMA to file by December 8, 2023, a revised TPP. *See id.*

5. On December 20, 2023, LUMA submitted to the Energy Bureau the revised version of the TPP.[1] *See Motion to Submit Revised TPP and Other Information Requested Under the Resolution and Order of November 29, 2023, filed on December 20, 2023 ("November 20th Motion")* and its Exhibit 1. The revised TPP included the deadlines of December 2, 2024, to have a draft Three-Year Plan, December 2024 to have a stakeholder meeting to discuss it and the Annual Report, and March 1, 2025 to file the final Three-Year Plan. *See id*. Exhibit 1, Section 6.1.

[1] The deadline to submit the revised TPP was extended by the Energy Bureau by Resolution and Order of December 12, 2023, in attention to a request from LUMA of December 7, 2023. *See Request for Extension to Comply with the Order for LUMA to Provide Information Under the Resolution and Order of November 29, 2023.*

6. On September 16, 2024, LUMA submitted a motion requesting clarification on the timeline for completion of the Market Baseline and Potential Studies required under Section 3.02(D) and (E) of the EE Regulation, an extension of the deadline to submit the Draft Three-Year Plan given the delay in the completion of these studies which are to be used to develop the Three-Year Plan, and a concomitant extension of the TPP. *See Informative Motion, Request for Clarification Regarding Delayed Timeline for Completion of Market Baseline and Potential Studies, And Request for Extension to Submit Draft Three-Year Plan and Associated Tasks and Deadlines* ("September 16th Motion").

7. On October 23, 2024, the Energy Bureau issued a Resolution and Order ("October 23rd Resolution and Order") in which, among others, the Energy Bureau determined to defer the requirement to submit the draft Three-Year Plan and begin the associated stakeholder engagement until on or before April 15, 2025, and the requirement to file the first Three-Year Plan until on or before July 15, 2025. *See* October 23rd Resolution and Order, p. 5.

8. The Energy Bureau also determined to extend the TPP by six months until December 31, 2025 and, to "provide clarity to LUMA for program planning and implementation", directed LUMA to: "(i) plan to achieve aggregate EE savings of at least 0.5 percent of annual sales in FY[20]26, split between six months of TPP and the first six months of the Three-Year Plan; and (ii) file, on or before December 2, 2024, a revised TPP, amended to cover the period through December 31, 2025, including EE and DR program offerings, budgets, and the estimated EE Rider amount for the first half of FY[20]26". *See id.*

9. The Energy Bureau further directed LUMA to, as part of the revised TPP, "include a detailed breakdown of its full expected FY2025 revenue (from the EE Rider, rollover funds, and other sources) and spending". *See id*., p. 6.

10. In addition, the Energy Bureau determined that LUMA should transition the CBES from a pilot to a permanent program to further grow and scale this resource before summer 2025 and directed LUMA to file a proposed form of its permanent CBES no later than December 2, 2024. *See id.*, p. 3. The Energy Bureau also ordered LUMA to develop and implement before summer of 2025 a program using backup generators as a DR resource in emergency situations and to file monthly reports regarding the efforts to design and implement the program on the 15th of each month, beginning on January 15, 2025. *See id*., p. 4.

11. On November 25, 2024, LUMA requested the Energy Bureau to extend the deadlines to submit the revised TPP and proposed CBES permanent program form and revise the frequency of the monthly reports on the development and implementation of the Backup Generators DR Program to quarterly reports. *See Motion for Extension of Deadlines and Modification of a Reporting Requirement in Resolution and Order of October 23, 2024*.

12. On December 5, 2024, the Energy Bureau issued a Resolution and Order ("December 5th Order") granting the extensions to file the revised TPP and CBES permanent program form until January 31, 2023, but maintaining the reporting requirements for the Backup Generators DR Program as set forth in the October 23rd Order.

13. On January 15, 2025, LUMA filed the first report on the development of the Backup Generators DR Program, in compliance with the October 23rd Resolution and Order. *See Motion to Submit January 2025 Report on the Development of the Backup Generators Emergency Demand Response Program*.

14. On this date, LUMA is separately submitting the proposed permanent CBES, in compliance with the October 23rd Resolution and Order and the December 5th Order.

III. Submittal of Revised TPP

15. In compliance with the October 23rd Resolution and Order and the December 5th Order, LUMA submits herein the revised TPP. *See* Exhibit 1 ("Revised TPP"). As mandated by the Energy Bureau, the Revised TPP includes EE and DR program offerings, budgets, and the estimated EE Rider amount for the first half of FY2026. In addition, in light of the request below regarding the deadlines to submit and implement the Three-Year Plan, the Revised TPP also covers the second half of FY2026, the implementation of which would be dependent on when the Three-Year Plan is ready to be implemented, as per the considerations in Section IV below.

16. LUMA notes that, for purposes of clarity, LUMA is expressly including among the cross-cutting planning, administration and evaluation costs of the Revised TPP, the tasks associated with the preparation of the draft and final Three-Year Plan. This approach ensures that there is a stable funding source for these tasks to ensure continuity of planning and implementation of the EE and DR programs.

17. LUMA respectfully requests the Energy Bureau to approve the Revised TPP and the associated budget.

IV. Modification of Deadlines Relating to Three-Year EE and DR Plan

18. In its September 16th Motion, LUMA requested the Energy Bureau to address timeline concerns relating to the preparation of the draft Three-Year Plan in light of the delays in the Market Baseline and Potential Studies. At that time, the Energy Bureau consultants anticipated these studies would be completed by November 2024, which essentially precluded the ability for LUMA to use these studies for the preparation of the draft Three-Year Plan (due December 2, 2024) since there would not have been enough time for LUMA to engage in a thorough review of the Market Baseline and Potential Studies, the underlining data of the studies, and the ability to

take into consideration the data only recently available from its own execution of the programs as inputs into the development of a sound and robust Three-Year Plan. As a result of these constraints, and in attention to LUMA's September 16th Motion, the Energy Bureau deferred the preparation of the draft Three-Year Plan and stakeholder engagement to on or before April 15, 2025 and the filing of final Three-Year Plan to on or before July 15, 2025. However, as of this date the Potential and Market Baseline Studies have not been completed.

19. In light of the impacts to the Three-Year Plan that the absence of the Market Baseline and Potential Studies impose, LUMA has concerns that the current deadlines to prepare this plan are not reflective of the time needed to conduct the activities and iterative process necessary to complete these studies and the plan so as to achieve a Three-Year Plan that adequately meets the requirements of the EE Regulation and is positioned toward successful implementation and achievement of established goals.

20. The Energy Bureau's EE Regulation mandates two key studies to assess and guide energy efficiency efforts on the island: the Market Baseline Study and the Potential Study. *See* EE Regulation, Sections 1.09(B)(29) and (38) and 3.02(A) and (B). The Market Baseline Study, which was to be done within four months of the effective date of the EE Regulation and updated every three years as needed, assesses the current state of energy efficiency and demand response in Puerto Rico. *See id.* Sections 1.09(B)(29) and 3.02(A). The Potential Study, which is to be completed four months after the Puerto Rico Cost Test is issued and updated every three years as needed, analyzes past achievements and future savings opportunities, focusing on cost-effective improvements for specific customer classes and sectors. *See id.* Sections 1.09(B)(38) and 3.02(B)

21. The EE Regulation provides that the Energy Bureau "shall use the results of the initial Market Baseline Study and the Potential Study, along with the estimated impacts of actions

during the Transition Period Plan, to develop, in collaboration with the [the Public Energy Policy Program], estimated annual savings expected to be achieved by PREPA's efficiency programs", among others, "for each Program Year through 2040". *See id*. Section 3.02(E) (emphasis ours). As for the Potential Study, the EE Regulation provides that, prior to the end of the TPP, and informed by this study, the Energy Bureau shall estimate the energy efficiency savings achieved during that period for certain specified actions. *See id*. Section 3.02(D).

22. Given that the EE Regulation requires that the Market Baseline and Potential Studies be used to develop the programs for the Three-Year EE Plan, it is expected that the Market Baseline and Potential Studies provide the data and insights needed to select, design, and evaluate EE and DR programs and to focus efforts on the most impactful areas, allocate resources efficiently, and set achievable objectives, ultimately leading to more effective and meaningful energy efficiency outcomes. Furthermore, these studies will be a source of information to determine key inputs and energy savings targets used to develop a portfolio of cost-effective EE programs to be included in the Three-Year EE and DR Plan. The targets are to be set by the Energy Bureau's use of the Market Baseline and Potential Studies to calculate the estimated annual savings expected to be achieved by the efficiency programs. Without these studies, there will be no basis for determining how to optimize the programs and measures included in the Three-Year EE and DR Plan nor the required budget. As such, the Market Baseline and Potential Studies are key to the preparation of a robust Three-Year EE and DR Plan and any other EE and DR programs in the future.

23. Recognizing that the Market Baseline and Potential Studies will provide critical inputs to the development of a robust Three-Year Plan, LUMA anticipates there being a proactive engagement and associated iterative process to ensure that the studies take into account relevant

data from LUMA and/or third-party sources, LUMA's internal models, and the Puerto Rico market conditions, as well as interactions between the study consultants and LUMA to understand this data and incorporate it into the development of the programs that will ultimately be part of the Three-Year Plan. LUMA, expects this process to include, among them, the following:

a. A comprehensive and rigorous review of the studies and their findings / results;

b. Active participation by LUMA in stakeholder engagements associated with the Market Baseline and Potential Studies;

c. Performing a comparison of the data used in the studies to other LUMA and third-party data sources LUMA to which LUMA has access;

d. LUMA working closely with the study consultants to understand the data and modelling approach used in the studies, how these align or differ from other data sources and approaches, and their implications for the Three-Year Plan;

e. Updating of LUMA's internal models accordingly to reflect the relevant data and insights from the Market Baseline and Potential studies; and

f. LUMA developing the programs to capture potential energy savings and demand reduction opportunities as identified through the Market Baseline and Potential Studies.

24. Through this process, LUMA will ensure that the Three-Year Plan is robust, comprehensive and maximally cost-effective.

25. Developing the Three-Year Plan without the Market Baseline and Potential Studies or the ability to complete the thorough process outlined above to fully integrate the Market Baseline and Potential Study findings into LUMA's EE/DR planning efforts, will create significant risks for the Three-Year Plan. Specifically, the risks to the Three-Year Plan include the following:

a. **Inaccurate Data**: Without the Potential Study, LUMA would lack accurate data on potential energy usage and savings which could lead to unrealistic goals or suboptimal programs.

b. **Financial Risks:** Optimal levels of cost-effectiveness might not be reached, resulting in higher costs to consumers.

c. **Missed Opportunities**: Potential high-impact energy-saving opportunities could be overlooked, resulting in suboptimal energy savings and failure to capture all significant savings opportunities available in Puerto Rico, potentially putting the achievement of milestone goals at risk. Additionally, achievement of the targets set by the Energy Bureau and the EE Regulation would be placed at risk

d. **Limited Stakeholder Buy-in**: Without sufficient data, it could be challenging to gain stakeholder interest and support and difficult for them to provide meaningful and actionable feedback to LUMA.

26. In sum, the 74 days left until the deadline of April 15, 2025 to prepare a draft Three-Year Plan and engage with stakeholders in relation therewith are direly insufficient to allow for the thorough process described above needed to appropriately finalize the Market Baseline and Potential Studies, applying the results of these studies to the development of the Three-Year Plan programs, and completing an adequate draft of this plan. Maintaining such deadline and the concomitant deadlines (of July 15, 2025 for the filing of the final plan and January 1, 2026 for implementing it) would be akin to setting up the plan and its programs to a suboptimal future.

27. For all of these reasons, LUMA respectfully requests the Energy Bureau to leave without effect the mentioned deadlines and provide that these deadlines will be established at such time when the Market Baseline and Potential Studies are completed in accordance with the

comprehensive process described above and taking into account the necessary tasks, as described above, to achieve a robust, comprehensive and maximally cost-effective Three-Year Plan.

WHEREFORE, LUMA respectfully requests that the Energy Bureau (i) **take notice** of the aforementioned; (ii) **accept** the Revised TPP in Exhibit 1 herein in compliance with the Resolutions and Orders of October 23, 2024 and December 5, 2025; (iii) **approve** the Revised TPP, including its proposed budget; and (iii) **leave without effect** the deadlines in its Resolution and Order of October 23, 2024 to file the draft Three-Year Plan and hold the concomitant stakeholder engagement, file the final Three-Year Plan, and implement the Three-Year Plan (of April 15, 2025, June 15, 2025 and January 1, 2026, respectively), providing that these deadlines will be established once the Market Baseline and Potential Studies are duly completed and taking into account all required subsequent activities to prepare a robust, comprehensive and maximally cost-effective Three-Year Plan, as set forth in this Motion.

PRESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 31st day of January 2025.

We hereby certify that we filed this Motion using the electronic filing system of this Energy Bureau and that we will send an electronic copy of this Motion the Independent Office for Consumer Protection at hrivera@jrsp.pr.gov; PREPA at arivera@gmlex.net; and mvalle@gmlex.net; and agraitfe@agraitlawpr.com, info@sesapr.org, bfrench@veic.org, shanson@veic.org, evand@sunrun.com, jordgraham@tesla.com, forest@cleanenergy.org, customerservice@sunnova.com, javrua@sesapr.org, pjcleanenergy@gmail.com, and mrios@arroyorioslaw.com.

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Exhibit 1

Revised TPP

Transition Period Plan for Energy Efficiency and Demand Response

January 31, 2025

NEPR-MI-2022-0001

Executive Summary

LUMA is committed to working with the Puerto Rico Energy Bureau (Energy Bureau) in our mission to build a more reliable and more resilient energy system for the people of Puerto Rico. As the system operator, LUMA is responsible for implementing Puerto Rico's public energy policy and is committed to advancing key customer initiatives such as energy efficiency (EE) and demand response (DR) programs. Progress to date on these initiatives includes:

- **Energy Efficiency Education**: Reaching out to customers through social media, bill inserts, monthly email updates and a media campaign to raise awareness about LUMA's EE programs.
- **Energy Efficiency Kits:** Distributing more than 51,300 free EE kits to customers, resulting in over 19,810 MWh of energy savings.
- **Energy Efficiency Rebates:** Issuing more than 2,500 financial rebates to residential customers for purchasing high-efficiency equipment and providing approximately $84,000 in rebates to eight commercial customers, with additional pre-approved funds, reducing energy use and costs.
- **Community Streetlight Initiative**: Installing 166,300 streetlights across all 78 municipalities to improve safety and energy efficiency for customers and modernize the grid in all communities.
- **Customer Battery Energy Sharing Initiative**: Enrolling more than 7,600 customers in the Initiative, representing a storage capacity of 40 MW, to increase the supply of energy available during peak demand, improving service reliability and minimizing load shed impacts.

LUMA is submitting this addendum to the Transition Period Plan (TPP) in compliance with the Energy Bureau's Resolution and Orders dated October 23 and December 5, 2024, on Case No. NEPR-MI-2022-0001. The addendum covers an extended TPP period through FY2026 and reflects any necessary adjustments to ensure alignment with regulatory requirements and to support the implementation of EE and DR programs, before the comprehensive three-year program cycle starts in July 2026. Many of the original TPP sections are not repeated in this addendum for brevity.

In the preparation for this addendum to the TPP, LUMA leveraged recent insights from its quality assurance and control (QA/QC) processes. In addition, LUMA undertook a review of the TPP portfolio along with all programs and measures within the portfolio to support efforts towards achieving the FY2026 target of 0.5% energy savings as set by the Energy Bureau in the October 23 Resolution and Order, while continuing to maximize the use of program funds to deliver energy savings.

Based on the QA/QC review results, the most significant change is a shift away from lighting measures as a source of significant energy savings. For years, LED (Light Emitting Diode) lighting has been the "low-hanging fruit" driving cost-effective energy savings for utility energy efficiency programs in the Unites States and Canada. The phasing out of ENERGY STAR's Certification of lamp and luminaires as of December 31, 2024, signifies the completion of market transformation for residential lighting in the United States and a need for the utility industry to shift to other, often more expensive energy efficiency

Revised Transition Period Plan for Energy Efficiency and Demand Response

opportunities to drive portfolio energy savings. LUMA will await the results of the Energy Bureau's Market Baseline and Potential Studies to complete additional analysis to determine if there are any remaining sources of worthwhile residential lighting savings in Puerto Rico and whether LUMA's lighting offerings in the commercial and industrial sectors need to be revisited.

Beyond these changes, LUMA is proposing limited changes to the TPP program designs as they are meeting the principles, objectives and goals outlined in the approved TPP plan since its launch in FY2024 Q3. The specific limited changes proposed for each program are detailed in the relevant program sections below. These changes are based on the best available data as of the end of December 2024. LUMA's program QA/QC processes have and will continue to evaluate program data as it is received and as a result, LUMA may make changes to program strategies, measures and incentives to ensure programs continue to achieve objectives.

LUMA looks forward to using the third year of the TPP to continue building on its progress and preparing to launch the Three-Year Plan and its programs.

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List of Acronyms

ACRONYM	DEFINITION
AMI	Advanced Metering Infrastructure
BTM	Behind the Meter
BTU	British Thermal Units
BUGS	Backup Generators
CBES	Customer Battery Energy Sharing
C&I	Commercial and Industrial
CO2	Metric Tons of Carbon Dioxide
DDEC	Department of Economic Development and Commerce (in Spanish)
DE	Department of Education
DNER	Department of Natural and Environmental Resources
DR	Demand Response
DOH	Department of Housing
EE	Energy Efficiency
EPA	Environmental Protection Agency
EV	Electric Vehicle
EM&V	Evaluation, Measurement and Verification
GHG	Greenhouse Gas
GPM	Gallons Per Minute
HVAC	Heating, Ventilation and Air Conditioning
ISD	In-store Discount
kWh	Kilowatt hours
LED	Light Emitting Diode
MWh	Megawatt hours
MOU	Memorandum of Understanding
PP&A	Program Planning and Administration
PPCA	Power Purchase Cost Adjustment
PREPA	Puerto Rico Electric and Power Authority
QA/QC	Quality Assurance and Quality Control

Revised Transition Period Plan for Energy Efficiency and Demand Response

ACRONYM	DEFINITION
RD&D	Research, Development and Demonstration
SEER	Seasonal Energy Efficiency Ratio
TPP	Transition Period Plan
VFD	Variable Frequency Drive

1.0 Introduction

In response to the Energy Bureau's Resolution and Order of October 23, in Docket NEPR-MI-2022-0001, LUMA is pleased to present this addendum to the Transition Period Plan (TPP) for Energy Efficiency (EE) and Demand response (DR) programs.

As an addendum, much of the original TPP is still valid and relevant. For most of the programs, the Incentive Rationale, Program Theory and Objectives, Barrier Analysis and Evaluation, Monitoring and Verification sections are unchanged and have not been repeated here for the sake of brevity.

This addendum reflects the implementation of the TPP for a full fiscal year from July 1, 2026, to June 30, 2027 (Year 3).

1.1 TPP Portfolio Review

LUMA leveraged recent insights from its QA/QC processes and in addition, undertook a comprehensive review of the TPP portfolio and all programs and measures within the portfolio to ensure that the FY2026 program portfolio achieves the target of 0.5% energy savings as set by the Energy Bureau in the October 23 Resolution and Order while continuing to maximize the use of program funds to deliver energy savings. The review also assessed TPP programs for continued alignment to relevant principles, objectives and other considerations set out in the EE Regulation and DR Regulation and addressed in the approved TPP while taking into consideration any market developments.

LUMA has based its review on detailed analysis of results to date, stakeholder feedback, and the technical expertise of internal staff and that of its consultants. The review also leveraged information from published resources in Puerto Rico as well as Program Plans and Technical Reference Manuals from other jurisdictions. The Energy Bureau is currently conducting the first Market Baseline and Potential Studies for Puerto Rico, which will provide a wealth of information to guide program review. However, this data was unavailable to guide the development of FY2026 TPP programs.

Based on the QA/QC and review results, the most significant change is a shift away from lighting measures as a source of significant energy savings. For years, LED lighting has been the "low-hanging fruit" driving cost-effective energy savings for utility energy efficiency programs in the Unites States and Canada. The phasing out of ENERGY STAR's Certification of lamp and luminaires as of December 31, 2024, signifies the completion of market transformation for residential lighting in the United States and a need for the utility industry to shift to other, often more expensive energy efficiency opportunities to drive portfolio energy savings. LUMA will await the results of the Market Baseline and Potential Studies to complete additional analysis to determine if there are any remaining sources of worthwhile residential lighting savings in Puerto Rico and whether LUMA's lighting offerings in the commercial and industrial sectors need to be revisited.

In addition, LUMA is proposing limited changes to the TPP programs as the programs are performing well against the principles, objectives and goals outlined in the approved TPP. The specific limited changes proposed for each program are detailed in the relevant program sections below. Relevant change to all TPP programs is the additional strategic investment in improving program awareness and access, especially among hard-to-reach segments such as low-income customers.

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These changes are based on the best available data as of the end of November 2024 when the FY2026 planning period began. LUMA's program quality control processes have and will continue to evaluate program data that lead to changes to program strategies, measures and incentives as needed to ensure programs are maximizing objective results.

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1.2 Transition Period Plan Portfolio

The EE/DR portfolio will continue to be composed of various quick-launch programs and initiatives, each of which is intended to be expanded after the transition period. The TPP quick-launch programs will provide a greater understanding of the Puerto Rico market, customer needs and preferences, and how best to address barriers to adoption across LUMA's broad customer mix.

Figure 1: Transition Period Energy Efficiency and Demand Response Portfolio

2.0 Summary Tables of EE/DR Savings and Costs

While Section 2.02 of the EE Regulation sets non-binding energy savings targets to reduce consumption for the first two years of the Transition Period, the October 23 Resolution and Order sets a goal of 0.5% annual savings for FY2026. The objective of this section is to provide a quantitative overview of the TPP energy savings and program cost estimates for Year 3 from July 1, 2026, through June 30, 2027.

The shift away from lighting measures as a source of significant energy savings for the residential sector is the key driver for the FY2026 EE budget. For years, LED (Light Emitting Diode) lighting has been the "low-hanging fruit" driving cost-effective energy savings for utility energy efficiency programs in the Unites States and Canada. The phasing out of ENERGY STAR's Certification of lamp and luminaires as of December 31, 2024, signifies the completion of market transformation for residential lighting in the United States and a need for the utility industry including LUMA to shift to other, often more expensive energy efficiency opportunities to drive portfolio energy savings. For both EE and DR, LUMA will make ongoing adjustments to meet mandated targets. Adjustments may be made, as needed, to the eligible measure lists, incentive levels and other program elements that will impact the budget allocations summarized below in response to market conditions, customer uptake, and stakeholder feedback, while maintaining stable program offerings to avoid market confusion.

Table 1: Summary of EE/DR Portfolio Budget and Savings Estimates

DESCRIPTION	YEAR 3
Total Estimated Annual Savings (MWh)	82,388
Total Estimated Annual Peak Demand Savings (MW)	74
Total Estimated Lifetime GHG Savings (MT CO2)	1,119,626
Total Energy Efficiency Program Cost ($M)	$41.0
Total Demand Response Program Cost ($M)	$13.58
Total Estimated Program Cost ($M)	$54.6

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Table 2: Summary of EE Budget and Savings Estimates by Sector[1]

MARKET SECTOR	FY2025 SALES FORECAST (MWh)	YEAR 3 PROGRAM BUDGET	ANNUAL ELECTRICITY SAVINGS (MWh)	LIFETIME ELECTRICITY SAVINGS (MWh)	PEAK DEMAND SAVINGS (MW)	MARKET SECTOR
Residential Sector	6,548,617	$24,050,000	48,241	751,723	34.9	Residential Sector
Low-Income	885,719	$7,829,600	19,109	290,062	2.96	Low-Income
Non-Low-Income	5,662,898	$16,220,400	29,131	461,661	31.91	Non-Low-Income
Commercial, Industrial and Agriculture (C&I) Sector	9,929,025	$10,350,000	34,147	481,623	39.6	Commercial, Industrial and Agriculture (C&I) Sector
Small Business	2,235,152	$5,150,000	16,880	238,712	1.85	Small Business
Other Commercial/ Industrial and Agricultural Sector	7,693,873	$5,200,000	17,267	242,911	37.72	Other Commercial/ Industrial and Agricultural Sector
Government/ Public Sector	-		-	-	-	Government/ Public Sector
Portfolio Total	**16,477,642**	**$34,400,000**	**82,388**	**1,233,346**	**74**	**Portfolio Total**

[1] Costs for Education and Outreach and Cross-Cutting PP&A are not included in this summary as they serve all EE programs.

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Table 3: Summary of EE/DR Budget and Savings Estimates by Program[2]

PROGRAM	YEAR 3 PROGRAM BUDGET	ANNUAL ELECTRICITY SAVINGS (MWh)	LIFETIME ELECTRICITY SAVINGS (MWh)	PEAK DEMAND SAVINGS (MW)
Residential Rebates	$17,300,000	35,524	578,027	4.9
Residential Kits	$1,500,000	7,902	115,377	1
In-store Discounts	$5,250,000	4,814	58,319	1
Business Rebates	$10,300,000	33,760	477,424	3.7
Business Kits	$53,000	387	4,199	0.0
CBES	$5,285,375	n/a	n/a	28.0
Backup Generators Pilot	$6,304,600	n/a	n/a	35.8
Total Energy and Peak Demand Savings		**82,388**	**1,233,346**	**74**

[2] Costs for EE Education and Outreach and Cross-Cutting PP&A are not included in this summary.

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Table 4: Summary of EEDR Portfolio Budget and Cost Breakdown

ENERGY EFFICIENCY PORTFOLIO	PROGRAM PLANNING AND ADMINISTRATION (PP&A)	PARTICIPANT INCENTIVES	BUDGET BY PROGRAM
Incentives and Incentive Program Administration			
Residential Rebates	$3,700,000	$13,600,000	$17,300,000
Residential Kits	$360,000	$1,140,000	$1,500,000
In-store Discounts	$1,750,000	$3,500,000	$5,250,000
Business Rebates	$1,900,000	$8,400,000	$10,300,000
Business Kits	$37,000	$13,000	$50,000
Program Planning, Promotion and Cross-Cutting Administration			
Education & Outreach Program	$4,400,000	n/a	$4,400,000
Cross-Cutting Admin & Evaluation Costs	$2,200,000	n/a	$2,200,000
Total EE Portfolio	**$14,347,000**	**$26,653,000**	**$41,000,000**
DEMAND RESPONSE PORTFOLIO	**PROGRAM PLANNING AND ADMINISTRATION (PP&A)**	**PARTICIPANT INCENTIVES**	**BUDGET BY PROGRAM**
CBES Program	$1,057,075	$4,228,300	$5,285,375
Backup Generators Pilot	$2,521,800	$3,782,760	$6,304,560
DR Pilots Program	$2,000,000	n/a	$2,000,000

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Total DR Portfolio	**$5,367,400**	**$8,011,060**	**$13,378,460**
TPP Year 3 Incentive and Administrative Budget	**$19,714,400**	**$34,664,060**	**$54,378,460**

1) Program Planning and Administration (PP&A) includes all the program delivery costs (e.g., internal labor, employee expenses and overhead; vendor-related labor and expenses; software, materials; legal etc.) except for the incentive budget used to defray the measure costs. The PP&A budget therefore includes program administration, marketing, research and analysis, program planning, technical assistance training, and program Evaluation, Measurement and Validation (EM&V) among others. For the purposes of budgeting for the TPP, LUMA has allocated the EE program budget based on a 65% allocation of the total budget to incentives and 35% to PP&A. For CBES, 80% of the budget is allocated to incentives, and 20% is allocated to PP&A. For the Backup Generators Pilot, 60% is allocated to incentives, while 40% is allocated to PP&A.

2) Participant Incentives are defined as including rebates for equipment and product discounts. For the TPP, the participant incentives are exclusively to defray eligible measure costs. For DR, incentives constitute ongoing participation incentives to enrolled customers for agreeing to allow greater access to customer battery resources. The type and level of incentive varies by program and is stated in the program descriptions in Section 3.0 and 4.0 of this report.

3) EE Cross-Cutting Administration and Evaluation includes costs that are not directly allocated to existing programs, such as preparing regulatory reporting, annual and 3-year plans, research and analysis, QA/QC, EM&V. It also includes costs related to new and improved administrative and operational systems (Information Technology, Application Systems) for continued program implementation.

3.0 Program Offerings Energy Efficiency

3.1 Program Offerings Energy Efficiency

As noted in *Section 1.0: Introduction*, much of the original TPP is still valid and relevant. For most programs, the Incentive Rationale, Program Theory and Objectives, Barrier Analysis and Evaluation, Monitoring and Verification are unchanged and have not been repeated here for the sake of brevity.

3.2 Energy Efficiency Education and Outreach

3.2.1 Program Description and Services Offered

The aim of the Education and Outreach Program is to utilize marketing and communications, strategic partnerships, and sector focused initiatives to increase customer and stakeholder awareness and understanding of energy efficiency and demand response opportunities for achieving energy bill savings and to drive customer uptake of those technologies. This program is crucial to driving participation in TPP programs.

3.2.2 Target Customers

The target population includes all customers.

3.2.3 Key Program Changes

The key changes for the EE Education and Outreach program cover four areas:

A. **Integrated Program Marketing Strategy and Management:** The program review revealed opportunities to create better synergies among marketing and communications efforts across TPP programs, particularly for those efforts that have significant cross-promotional benefits. In addition, as the objective of marketing and communications efforts within the TPP are to reach customers and educate them on the TPP program and benefits, the administration of all marketing and communications budgets, costs and efforts will now be managed under the Education and Outreach program for FY2026.

B. **Program Marketing and Communications:** The Program will continue to provide and improve information that is easy to understand on energy efficiency technologies and energy bill reduction strategies for the home and business. The program messaging will also highlight the importance of saving energy and identify opportunities during critical periods. This will continue to be delivered through various channels including through LUMA Regional Service Centers and will contain information on customer actions, benefits and other programs offerings. The program will also continue to include online informational tools and resources. In Q3 once staff transitions in key government program offices are complete and new points of contact established for government-led residential energy programs, LUMA will restart stakeholder engagement with the objective of developing an EE brand under which programs will be marketed for the first Three Year Plan period.

C. **Strategic Partnerships:** The program will continue to build upon and expand relationships with strategic partners to advance awareness, understanding and deployment of EE and DR programs. This includes but is not limited to:

- Building partnerships with federal and locally funded programs providing in-kind or financial support for advancing EE and DR programs to co-market programs and further reducing the financial barriers to customer participation.
- Deepening coordination and collaboration with local government programs through agencies such as the Department of Economic Development and Commerce (DDEC in Spanish), Department of Housing (DOH), Department of Education (DE) and others to achieve collective goals of economic development, equity, grid stability and energy transformation.
- Expanding partnerships with trade allies, which has been critical for the early success of TPP energy efficiency incentive programs and developing trade-specific initiatives (e.g. treasure hunts, energy audits/assessments) to support program uptake for key customer segments such as business and low-income, and training to expand the energy workforce.
- Working with retailers to promote TPP incentive programs particularly for business owners and in low-income neighborhoods.
- Launching strategic initiatives that serve TPP goals in partnership with LUMA's Key Accounts and Community Engagement teams, leveraging their existing close working relationships with business and the community.

D. **Private Sector and Customer Segment-Focused Initiatives:** The program will explore initiatives for sector-focused marketing, communications, education, training, technical assistance, demonstration projects, outreach and partnerships to make TPP incentive programs even more accessible for audiences such as business and low-income households. It is expected that many of these initiatives will be designed in close collaboration with strategic partners as described above.

3.2.4 Incentive Strategy and Rationale

The Education and Outreach program does not offer participant incentives. For the TPP, Participant Incentives are defined as including rebates for equipment and product discounts. Participant incentives are exclusively intended to defray eligible measure costs. However, the program may use contests, prizes, grants and/or in-kind donations of technical support to encourage uptake of TPP programs and incentives (as allowable). Depending on budget and feasibility of implementation, the program may also explore payments-for-performance to partners to help secure low-income participation in TPP incentive programs for instance. These costs will be recorded as PP&A costs.

3.2.5 Benefits: Estimated Energy Savings and Program Costs

The education and outreach program is comprised of educational tools, information resources and outreach initiatives to increase customer and stakeholder understanding of energy efficiency and demand response technologies for achieving energy bill savings. Energy and greenhouse gas savings will be achieved but are "hard-to-measure." The aim of this program is to increase customer awareness of EE and DR as drive participation in TPP incentive programs. The program seeks to provide information to all LUMA customers, however, at this time it is difficult to estimate the number of customers that will be reached by this initiative.

Table 5: Estimated # Participants, Costs for Customer Education/Awareness Program

DESCRIPTION	YR. 3 ESTIMATE
Energy Savings (MWh)	N/A
Planned Participants	TBD
Total Costs ($)	**$4,400,000**

3.3 Residential Rebate Program

3.3.1 Program Description and Service Offered

The Residential Rebate Program provides customers with a financial incentive ($/unit) for purchasing and installing high-efficiency measures from a list of eligible measures. Customers are required to submit a rebate application by mail, email or online to LUMA (depending on application system capabilities). LUMA's implementation contractor reviews and approves the application and processes an incentive check. Details about each project are recorded in a detailed tracking database to ensure accurate reporting and verification.

3.3.2 Eligible Customers

All residential customers, including low-income customers. As ordered by the Energy Bureau in its February 16, 2023, Resolution and Order LUMA will provide low-income customers with higher incentives than are available for non-low-income customers.

3.3.3 Key Program Changes

LUMA is implementing three key changes for the Residential Rebate Program:

A. **Tiered Incentive Structures and Unit Limits for Key Measures:** Consistent with the purpose of the TPP, LUMA uses insights from the EE Program experience and data from the Puerto Rico market as part of its QA/QC processes to ensure programs are maximizing savings. As reported in FY2025 Q1, within the Residential Rebate Program, high consumer demand for Heating, Ventilation and Air Conditioning (HVAC) rebates, specifically mini-split air conditioning units, was evaluated in early FY2025 to understand the types of systems consumers are buying most. In the TPP, the original assumption was that market demand would concentrate on larger mini-split units requiring higher incentives to encourage customer adoption. However, program data has since shown that market demand has been concentrated on smaller, less expensive units. This shift towards smaller units impacts the average savings for this measure and points to a need to change and restructure the measure incentives to improve cost effectiveness.

   The incentive change was instituted for FY2025 Q3 through adoption of a tiered incentive structure for mini-split air conditioners with different incentives "tiers" based on the unit size purchased. LUMA's quality control processes will continue to monitor market data to identify any additional measures for which a tiered-incentive structure will improve program outcomes. In addition, LUMA will consider both program & per household limits for the number of products per measure type for which rebate incentives can be provided. This will provide another tool to balance the objectives of energy savings and LUMA's commitment to bridging gaps in access to EE and fostering inclusivity across diverse income groups.

B. **Sales Channel-Focused Program Marketing:** LUMA's program review shows a marked difference in the success of measures offered through trade ally-channels and those offered through retail channels. Program marketing, communication, education and outreach efforts to HVAC and Solar Water Heater trade allies have had a clear and positive impact on uptake of those measures. As a result, the program will continue to invest in engagement with trade allies as outlined in the Education and Outreach section. However, there has been low participation for measures that are sold primarily through retail channels – such as ENERGY STAR certified refrigerators, freezers and window air conditioners. This suggests there is limited customer awareness and low retail sale staff promotion of the program. To address this, and as mentioned in the Education and Outreach section above, LUMA will explore investing additional education and outreach resources to engage retail sales staff to increase their awareness of the program and encourage them to make customers aware of the program and benefits for participating. In addition, LUMA will investigate the costs and benefits of in-store displays and signage to increase retail customer awareness of the program and implement on a limited scale in select retail outlets as available funding permits.

C. **Increasing Low-Income Participation:** Ensuring access and availability of incentives for low-income households in EE programs is an important program priority. While the Education and Outreach section of this plan outlines additional marketing investment to increase the uptake for this customer segment, the program reviewed rebate program design and identified several other additional opportunities to improve low-income customer participation.

- **Enhanced Application Process:** LUMA is exploring modifications to the application process for rebates and other program incentives that will help improve data requisition and enable LUMA to confirm low-income status and track low-income customers more effectively.
- **Adjustment of Incentive Levels:** LUMA will continue to adjust incentives to equal 25%-50% of incremental measure costs as additional program and market data become available. Using that data, LUMA can also identify key measures that may be cost prohibitive to low-income customers and for which higher incentive levels may be warranted to ensure program accessibility for low-income customers. Feasibility assessment for increasing low-income incentives for one or more measures will follow any needed adjustments to low-income qualifications as discussed above.

3.3.4 Eligible Measures

Table 6: EE Residential Rebate Program Measure List presents current eligible measures, indicative estimates of savings per measure and the current proposed incentive per measure. The measure savings estimates largely rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes. LUMA will make ongoing adjustments, as needed, to the eligible measure lists, incentive levels and other program elements that will impact budget allocations summarized below in response to market conditions, customer uptake, and stakeholder feedback, while maintaining stable program offerings to avoid market confusion.

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Table 6: EE Residential Rebate Program Measure List

END-USE	ELIGIBLE MEASURES	SAVINGS PER MEASURE (kWh)	INCENTIVE PER MEASURE ($) RESIDENTIAL	INCENTIVE PER MEASURE ($) LOW-INCOME
HVAC – Ductless Split	Tier 1: ≤12,000 British Thermal Units (BTU), 21 Seasonal Energy Efficiency Ratio (SEER) minimum	889	250	350
	Tier 2: 12,001 – 24,000 Btu, 20 SEER minimum	1,429	375	500
	Tier 3: 24,001 – 36,000 Btu, 19 SEER minimum	1,842	575	750
	Tier 4: 36,001 – 60,000 Btu, 16 SEER minimum	1750	750	1,000
HVAC – Window Units	Window Air Conditioner	234	130	175
Water Heating	Solar Water Heater	1940	550	775
Water Heating	Tankless Water Heater	119	60	85
Food Services	ENERGY STAR Refrigerator	51	210	280
	ENERGY STAR Freezer	43	210	280

3.3.5 Estimated Energy Savings and Program Costs

Table 7: Estimated Savings, # Participants, and Costs for the Residential Rebate Program below provides an initial estimate of energy savings and costs for the Residential Rebate Program during the Transition Period.

Table 7: Estimated Savings, # Participants, and Costs for the Residential Rebate Program

DESCRIPTION	YR. 3 ESTIMATE
Annual Electricity Savings (MWh)	35,524
Lifetime Electricity Savings (MWh)	578,027
Peak Demand Savings (MW)	4.9

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DESCRIPTION	YR. 3 ESTIMATE
Gross Lifetime GHG Savings (MT of CO2)	524,730
Planned Participants	37,100
Total Costs ($)	**$17,300,000**

3.4 EE Residential Kits Program

3.4.1 Program Description and Service offered

The EE Kits Program provides a free mail-order "kit" containing simple EE measures such as LED lightbulbs, advanced power strips and LED nightlights along with educational material about all LUMA EE incentive programs. Customers complete a simple web-based form to request a kit, which is then mailed at no cost to them. In addition, EE kits can be distributed to customers directly at community events, regional service centers, and through other local/regional marketing initiatives. The EE Kit Program reaches a broader audience than the Residential Rebates program and helps to raise interest and awareness of the Rebates and other residential energy efficiency programs.

3.4.2 Eligible Customers

In FY2026, only low-income customers will be eligible to receive EE kits.

3.4.3 Key Program Changes

LUMA is implementing three key changes for the EE Residential Kits program:

- **Low-Income Target Audience:** As highlighted in the FY2025 quarterly reporting, LUMA will focus its Residential EE Kits Program efforts on engaging and supporting low-income communities which are most in need of energy-efficient solutions. LUMA will market kits to this customer segment through the Education and Outreach Program activities and initiatives.
- **Enhanced Application Process:** As discussed in the EE Residential Rebate Program updates, LUMA is exploring modifications to the application process for EE kits that will help improve data requisition and enable LUMA to confirm low-income status and track low-income customers more effectively.
- **Lighting:** The ENERGY STAR Certification for lamps and luminaires was sunset on December 31, 2024, due to widespread market penetration of energy efficient lighting. As of FY2025 Q3, LED lamps and luminaires will no longer be counted towards program energy savings. LUMA will await results of the Energy Bureau's Market Baseline and Potential Studies to determine whether the market transformation for lighting for Puerto Rico's low-income communities is complete; or whether data suggests that LED lighting programs for this customer segment can continue to help reduce customer energy use and costs.

3.4.4 Eligible Measures

Table 8: EE Kits Program Measure List presents the eligible measures and estimates of energy and demand savings per measure that could be included in FY2026 kit releases. Not all measures will be

included in all kits. The measure savings estimates largely rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes. LUMA will make ongoing adjustments, as needed, to the eligible measure lists, incentive levels and other program elements that will impact budget allocations summarized below in response to market conditions, customer uptake, and stakeholder feedback, while maintaining stable program offerings to avoid market confusion.

Table 8: EE Kits Program Measure List

MEASURE	ANNUAL ENERGY SAVINGS PER UNIT (MWh)	ANNUAL DEMAND SAVINGS PER UNIT (MW)
1.5 Gallons Per Minute (GPM) Multifunction Fixed Showerhead	0.095	0.024
1.0 GPM Bubble Spray Bathroom Aerator	0.0018	0.001
1.5 GPM Dual Spray Kitchen Aerator	0.027	0.007
Pipe Insulation Wrap	0.111	0.016
Advanced Power Strip (Tier 1)	0.038	0.004

3.4.5 Estimated Energy Savings and Program Costs

Table 9: Estimated Savings, # Participants, and Costs for the Residential EE Kits Program below provides an initial estimate of energy savings and costs for the Residential EE Kits Program for Year 3 of the Transition Period.

Table 9: Estimated Savings, # Participants, and Costs for the Residential EE Kits Program

DESCRIPTION	YR. 3 ESTIMATE
Annual Electricity Savings (MWh)	7,902
Lifetime Electricity Savings (MWh)	115,377
Peak Demand Savings (MW)	1.37
Gross Lifetime GHG Savings (MT of CO2)	104,739
Planned Participants	18,000

Total Costs ($)	**$1,500,000**

3.5 In-Store Discount Program

3.5.1 Program Description and Services Offered

The In-store Discount (ISD) Program offers in-store discount for eligible measures at participating retail stores. Customers receive discounts paid for by the program via point-of-sale price markdowns or ticket price buydowns. Critical to the success of the ISD program are the relationships with retail, wholesale, and manufacturer partners, formalized through memorandums of understanding (MOUs). These partners, motivated by midstream incentives and the potential for increased sales, collaborate with LUMA to offer customers energy-efficient products at market discounts. They also ensure rigorous data management of purchased measures to monitor program impact and costs effectively.

The program employs various participation strategies based on factors such as product availability and the maturity of retailer systems. A common approach is the buydown strategy, which shifts the responsibility for marketing and discount tracking upstream to product wholesalers or manufacturers. This approach is especially effective for manufacturers with multiple program-qualified products and for smaller or independent retailers whose point-of-sale systems may lack the sophistication required for detailed program data.

Another strategy utilized in the program is the markdown model. In this approach, retailers partner directly with LUMA to offer discounts on program-qualified products, regardless of manufacturer. Under this model, the retailer assumes responsibility for both marketing and tracking discounts.

In both strategies, the MOUs with partner retailers and manufacturers clearly outline the agreed-upon scope and participation details, ensuring transparency and mutual understanding.

3.5.2 Eligible Customers

All customers shopping in participating retail stores.

3.5.3 Key Program Changes

LUMA is implementing three key changes for the ISD program:

- **Low-Income Target Audience:** As highlighted in LUMA's response to the October 23 Resolution and Order, LUMA is currently reaching out to independent retailers located in disadvantaged communities to encourage their participation. This approach will increase the ISD program accessibility to low-income customers. It is worth noting though, while this strategy is demographically and geographically aimed at serving low-income customers, it does not have the distinct ability to validate income level at the point of purchase. Therefore, the efforts undertaken will assume a proportional amount of measure attribution to this population, until other methods for validation can be conceived.
- **Lighting:** The ENERGY STAR Certification for lamps and luminaires was phased out on December 31, 2024, due to widespread market penetration of EE lighting. As of FY2025 Q3, general service LED lamps and luminaires will no longer be included in the ISD program.

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- **Expanding list of Measures:** LUMA will work to expand the list of eligible measures in the ISD program to products such as window air conditioners, refrigerators, indoor and outdoor lighting fixtures. A key input to the analysis for expanding the list of measures will be the Energy Bureau's Market Baseline and Potential Studies which is due to be published sometime in FY2025. LUMA will also test and analyze the risks and benefits of offering "incentives" for the same products through two programs – Residential Rebate and ISD.

3.5.4 Eligible Measures

Table 10: In-Store Discount Program Measure List presents the current list of eligible measures and estimates of energy and demand savings per measure. The measure savings estimates largely rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes. LUMA will make ongoing adjustments, as needed, to the eligible measure lists, incentive levels and other program elements that will impact budget allocations summarized below in response to market conditions, customer uptake, and stakeholder feedback, while maintaining stable program offerings to avoid market confusion.

Table 10: In-Store Discount Program Measure List

MEASURES	SAVINGS PER MEASURE (kWh	INCENTIVE PER MEASURE
Clothes Washers	136	$210
Clothes Dryers	166	$210
Room Air Conditioners	234	$65
Ceiling Fans	63	$35
LED Lighting	18-170	$0.98-$8/unit

3.5.5 Estimated Energy Savings and Program Costs

Table 11: Estimated Savings, # Participants, and Costs for the In-Store Discount Program below provides an initial estimate of energy savings and costs for the ISD Program for Year 3 of the Transition Period.

Table 11: Estimated Savings, # Participants, and Costs for the In-Store Discount Program

DESCRIPTION	YR. 3 ESTIMATE
Annual Electricity Savings (MWh)	4,814
Lifetime Electricity Savings (MWh)	58,319
Peak Demand Savings (MW)	0.64
Gross Lifetime GHG Savings (MT of CO2)	52,942
Planned Participants	31,200
Total Costs ($)	**$5,250,000**

3.6 Business Rebate Program

3.6.1 Program Description and Services Offered

The Business Rebate Program offers business customers a financial incentive for purchasing and installing eligible measures. To participate, customers are required to submit a rebate application by mail, email or online to LUMA (depending on application system capabilities). LUMA reviews and approves the application and processes an incentive check. Details about each project are recorded in a detailed tracking database to ensure accurate reporting and verification.

A prescriptive financial incentive ($/unit) is offered for the installation of eligible measures. The program currently provides rebates for a variety of frequently purchased equipment covering the key business end-uses.

3.6.2 Eligible Customers

All commercial and industrial customers.

3.6.3 Key Program Changes

LUMA is implementing two key changes for the Business Rebate program:

- **Sales Channel-Focused Program Marketing:** Consistent with the approaches for the Residential Rebate program as outlined in the Education and Outreach section, LUMA will expand investment in engagement with trade allies to also target business customers for trade ally – channel measures. These initiatives are highlighted in the Education and Outreach program section above and will be administered through this program.
- **Encouraging "Early Replacement" as appropriate:** Incentives are particularly attractive for customers when existing equipment fails ("Replace on Burnout"). However, many of the eligible

measures in the Business Rebate program could be economically deployed on an "Early Replacement" basis. LUMA will develop marketing and messaging for to encourage more "Early Replacement" where it makes sense for customers. As described in the Education and Outreach section above, this could include strategic partnerships with LUMA Key Accounts teams, trade allies and other organizations to market programs, provide technical assistance (e.g. through treasure hunts and energy audits/assessments) to customers to assess cost-effective early replacement opportunities.

- **Lighting:** LUMA will continue to offer business lighting rebates as it awaits the results of the Market Baseline and Potential Studies and the completion of additional analysis to determine whether its lighting offerings business need to be revisited.

3.6.4 Eligible Measures

Table 12: Business Rebate Program Measure List presents the current list of eligible measures and estimates of energy and demand savings per measure. The measure savings estimates largely rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes. LUMA will make ongoing adjustments, as needed, to the eligible measure lists, incentive levels and other program elements that will impact budget allocations summarized below in response to market conditions, customer uptake, and stakeholder feedback, while maintaining stable program offerings to avoid market confusion

Table 12: Business Rebate Program Measure List

END-USE	MEASURE	SAVINGS PER MEASURE (kWh PER UNIT)	INCENTIVE PER MEASURE ($ PER UNIT)
HVAC	Rooftop AC	205-414	$100-$175 per ton
HVAC	Chillers	151-402	$50-100 per ton
Lighting	Linear Fluorescent	17-63	$5-10 per unit
Lighting	LED Troffer	99-258	$25-30 per unit
Lighting	Omni directional	56	$10 per unit
Lighting	Exit sign	283	$10 per unit
Lighting	Exterior LED, <35W	266.5	$40 per unit
Lighting	Exterior LED, 35W-149W	668.3	$100 per unit
Lighting	Exterior LED, 150W-220W	1336.6	$175 per unit
Lighting	Exterior LED, >220W	2870	$280 per unit

Sensors	Occupancy Sensor	46	$20 per sensor
Water Heating	Water Heating	2775	$550 per unit
Envelope	Window Film	8.1	$1 per sq ft
Pumps	Pool Pump Variable Frequency Drive (VFD)	2149	$200/unit
Food Services	Refrigerator	338	$100 per unit
Food Services	Combination Oven	16236	$800 per unit
Food Services	Convection Oven	2064	$350 per unit
Food Services	Fryer	2121	$350 per unit
Food Services	Ice Machine	2125	$500 per unit
Food Services	Freezer	819	$100 per unit
HVAC – Ductless Split	Tier 1: ≤12,000 Btu, 21 SEER minimum	737.3	$250.00
	Tier 2: 12,001 – 24,000 Btu, 20 SEER minimum	1152.6	$375.00
	Tier 3: 24,001 – 36,000 Btu, 19 SEER minimum	1429.2	$575.00
	Tier 4: 36,001 – 60,000 Btu, 16 SEER minimum	982.2	$750.00
HVAC – Window Units	Window Air Conditioner	419	$130.00

3.6.5 Estimated Energy Savings and Program Costs

Table 13: Estimated Savings, # Participants, and Costs for the Business Rebate Program below provides an initial estimate of energy savings and costs for the Business Rebates program for Year 3 of the Transition Period.

Table 13: Estimated Savings, # Participants, and Costs for the Business Rebate Program

DESCRIPTION	YR. 3 ESTIMATE
Annual Electricity Savings (MWh)	33,760
Lifetime Electricity Savings (MWh)	477,424
Peak Demand Savings (MW)	3.69
Gross Lifetime GHG Savings (MT of CO2)	433,403
Planned Participants	3,098
Total Costs ($)	**$10,300,000**

3.7 Business Energy Efficiency Kits

The Business EE Kits program was not included in the original TPP submission, but LUMA identified a need for such a program in May 2024 and the program was launched in FY2024 Q3. A full program description is provided here to augment the program information provided in the original TPP submission.

3.7.1 Program Description and Service Offered

The Business EE Kits program provides a free mail-order “kit” containing simple EE measures such as LED lightbulbs and advanced power strips, along with educational material about all LUMA EE incentive programs. Customers complete a simple web-based form to request the Business EE Kit, which is then mailed at no cost to them. In addition, Business EE Kits can be distributed to the customer directly at community events, regional service centers, and through other local/regional marketing initiatives. Business EE Kits will help reach a broader audience and help raise interest and awareness for the Business Rebates and Education and Outreach programs.

3.7.2 Eligible Customers

Only owners of LUMA accounts with commercial or industrial rate tariffs are eligible to receive Business EE Kits.

3.7.3 Program Theory and Objectives

Like Residential EE Kits, free Business EE Kits will be provided to customers to generate cost-effective energy savings, while raising awareness of LUMA’s new EE programs and providing basic energy educational materials. By providing simple, free energy savings opportunities for low-cost business measures, the program will provide customers with opportunities to achieve energy and bill savings as

well as opportunities to reduce greenhouse gases and help Puerto Rico achieve its energy efficiency target.

3.7.4 Barrier Analysis

Table 14: Barrier Analysis - Business EE Kits Program

	BARRIER	RISK	HOW THE PROGRAM WILL ADDRESS
Lack of knowledge of EE opportunities	✓		The program will provide basic EE measures and educational materials that raise interest and awareness of EE opportunities.
Lack of customer capital to purchase EE products	✓		The program provides free kits containing simple low-cost EE measures.
Lack of availability of eligible products	✓		LUMA will provide the EE kits directly to customers upon request through LUMA's web-portal or directly through Education and Outreach initiatives such as events, Trade Ally partnerships, direct customer outreach.
Uncertainty of energy savings estimates	✓	✓	LUMA has selected measures that are known to be cost-effective. LUMA will continue to refine energy savings estimates using data collected from participating projects.

3.7.5 Key Program Changes

As noted, the Business EE Kits program was launched in FY2024 Q3. Based on LUMA's review of the program performance since its launch, LUMA has identified two key program changes to improve performance and respond to changing market conditions.

- **Enhanced Application Process:** LUMA is exploring modifications to the application process for Business EE Kits that will help improve data requisition and enable LUMA to confirm industry uptake by sector.
- **Lighting:** The ENERGY STAR Certification for lamps and luminaires were phased out on December 31, 2024, due to widespread market penetration of energy efficient lighting. As of

FY2025 Q3, general service LED lamps and luminaires will no longer be counted towards program energy savings. LUMA will await results of the Energy Bureau's Market Baseline and Potential Studies to determine whether the market transformation for lighting for Puerto Rico's business sector is complete, or that data suggests that LED lighting programs for specific industry sectors can continue to help reduce customer energy use and costs.

3.7.6 Eligible Measures

Table 15: Business EE Kits Program Measure List presents the current list of eligible measures and estimates of energy and demand savings per measure that could be included in FY2026 kit releases. LUMA anticipates developing a segment or sub-segment specific kit to better reflect the main end-uses and low-cost equipment used in each of the targeted segments and sub-segments. As such, not all measures listed will be included in all kits. The measure savings estimates largely rely on inputs and assumptions from other jurisdictions and represent indicative estimates for planning purposes.

Table 15: Business EE Kits Program Measure List

MEASURE	ANNUAL ENERGY SAVINGS PER UNIT (MWh)	ANNUAL DEMAND SAVINGS PER UNIT (MW)
Bath Aerator (1.0 GPM)	29	0.004
Kitchen Aerator (1.5 GPM)	47	0.006
LED Exit Sign Retrofit	269	0.031
Power Rinser Pre-Rinse Spray Valve (1.1 GPM)	224	0.042
Air Purification System	80	0.000

3.7.7 Estimated Energy Savings and Program Costs

Table 16: Estimated Savings, # Participants, and Costs for the Business EE Kits Program below provides an initial estimate of energy savings and costs for the Business EE Kits Program for Year 3 of the Transition Period.

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Table 16: Estimated Savings, # Participants, and Costs for the Business EE Kits Program

DESCRIPTION	YR. 3 ESTIMATE
Annual Electricity Savings (MWh)	387
Lifetime Electricity Savings (MWh)	4,199
Peak Demand Savings (MW)	0.05
Gross Lifetime GHG Savings (MT of CO2)	3,812
Planned Participants	300
Total Costs ($)	**$53,000**

3.7.8 Evaluation, Measurement and Verification

The proposed evaluation, measurement and verification objectives and procedures for the Business EE Kits program are provided in *Table 17: EM&V for Business EE Kits Program.*

Table 17: EM&V for Business EE Kits Program

EM&V OBJECTIVES AND PROCEDURES	HOW THE PROGRAM WILL ADDRESS EM&V OBJECTIVES AND PROCEDURES
Program objectives	• Achieve savings target • Raise awareness of energy efficiency measures and programs
Evaluation objectives	• Document energy and demand savings • Provide verification and due diligence of project savings • Improve the design and implementation of existing and new/future programs through process evaluation
Key impact evaluation procedures	• Review tracking database and make recommendations for improvement
Key process evaluation procedures	• Program documentation review, including program plans or filings, marketing materials, and implementation contractor contract documents • Review redemption process and make recommendations for improvement of customer journey • Conduct interviews with utility program staff and implementation contractors

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	• Conduct surveys with sample of customers to obtain information on the effectiveness of program design, measure installation rate, marketing, and program delivery, and to assess customer satisfaction
Key Performance Indicators	• Energy savings reported and verified • Demand savings reported and verified • Total participants reported and verified • Total measure quantities by measure type reported and verified
Suggested schedule	• Conduct impact and process evaluation bi-annually
Plan for working with the Energy Bureau's EM&V contractor	• Respond to requests and provide information requested in a timely manner as available • Require implementation contractors to respond to requests and provide information requested in a timely manner as available

4.0 Demand Response Programs

LUMA is working to build a comprehensive demand response portfolio to bolster Puerto Rico's grid resilience and enhance emergency resource flexibility. Through continual research and stakeholder engagement, LUMA is identifying promising new demand response approaches, designs innovative programs tailored for the local context, and proposes programs and pilots that will provide essential data and insights to inform strategic growth of the demand response program portfolio.

LUMA launched its first DR program, the Customer Battery Energy Sharing (CBES) program, as a pilot in FY2024. As requested by the Energy Bureau and described herein, LUMA will transition the CBES pilot to a permanent program.

LUMA has previously explored the potential for a Backup Generators (BUGS) program and is currently working towards launching such a program in late FY2025 as requested by the Energy Bureau. As noted in the *Motion to Submit January 2025 Report on the Development of the Backup Generators Emergency Demand Response Program* submitted on January 15, 2025, LUMA's development efforts have uncovered a potential significant barrier to customer participation in a BUGS program that it is working to clarify and address through discussions with key stakeholders. If this barrier can be overcome expeditiously, LUMA expects to be able to launch a BUGS program for the summer of 2025.

Finally, LUMA is requesting funding support for LUMA's demand response research, development and demonstration activities which will support developing pilots for emerging and to be considered flexible resource types such as behavioral demand response, Electric Vehicles (EV) charging load management, and public sector building load management and geographically targeted demand response programs that may transition to full programs once pilot results are validated.

Details of these DR initiatives are provided in the following sections.

4.1 Customer Battery Energy Sharing (CBES) Program

Many elements of TPP programs remain unchanged from the original TPP. Other sections of the TPP focus on program launch activities are no longer relevant for Year 3 of the programs. These sections and elements are not included here for the sake of brevity. For the CBES program that includes the following elements: Rationale, Program Theory and Objectives, Barrier Analysis and EM&V.

4.1.1 Program Description

CBES is a Demand Response program leveraging distributed batteries as an energy resource during grid emergencies. The CBES provides compensation to approved DR Aggregators for discharging their enrolled customers' Behind the Meter (BTM) batteries during CBES program events in response to dispatch instructions provided by LUMA. Customer participation in CBES program events is voluntary, and participating customers may opt out of any CBES program event at any time.

Eligible residential and commercial customers are enrolled in the program through an approved DR Aggregator, who is responsible for enrolling customers in the program, dispatching battery resources of participating customers during CBES program events called by LUMA and compensating these customers for the energy provided. Customers may only participate in the program by signing up with a

DR Aggregator. Events are called in situations that pose a significant and immediate threat to the stability and reliability of the electrical grid.

Incentive Strategy: LUMA provides a standard non-negotiable performance payment of $1.25/kWh (as approved by the Energy Bureau in Resolution and Order of August 29, 2023, in Docket NEPR-MI-2022-0001) to DR Aggregators for their aggregation services, who, in turn, provide compensation to participating customers for operating their batteries during CBES program events according to the DR Aggregators' unique business model and customer value proposition.

4.1.2 Eligible Customers

The CBES is designed to leverage existing BTM batteries. The Program targets residential and commercial customers with BTM batteries that are registered in the LUMA Net Energy Metering (NEM) Program.

4.1.3 Key Program Changes

On October 23, 2024, the Energy Bureau issued a resolution and order determining that the Customer Battery Energy Sharing ("CBES") Pilot should be transitioned into a permanent program. LUMA's key recommendations for transitioning the CBES Pilot into a full program emphasize increasing participation and reliability of the resource provided by demand response events while minimizing the impact on participating customers during this transition.

The TPP provides a summary of key recommendations from the review of the CBES program that are detailed in the Motion proposing its plan for the CBES Pilot's transition and future growth.

As the CBES Team and its partners, including the National Laboratories (NREL), uncover more information and findings on the optimal state of this program, LUMA anticipates that the program will continue to evolve.

A. **Program Design and Term:** LUMA recommends a three-year term for the full-scale program, beginning on July 1, 2025. The three-year term is expected to provide a higher level of certainty and credibility for both aggregators and customers about the longevity of their enrollment and investment in CBES. Additionally, the three-year time frame will enable LUMA to scale the enrollments optimally and at a steady rate, qualifying the CBES Program as a resilient and reliable resource for its system operations and Puerto Rico's power grid. This recommendation is also in line with various BTM DR programs in the United States. Taking into consideration the extension of the transition period, LUMA anticipates an annual review of the program terms prior to July 1, 2026, upon which time if any necessary adjustments are required will be proposed to the Energy Bureau for approval as part of the three-year plan.

B. **Program Enrollment, Participation and Budget:** In FY2026, the CBES program will aim to reach 19,500 customers at the end of the 3-year period, expanding as quickly as possible to help with future generation shortfalls. By the end of fiscal year 2025, the CBES Program will aim to have 18 MW of firm discharge capacity per event while having enrolled approximately 8,500 customers. LUMA also anticipates that the target firm capacity will increase to 28 MW by the end of fiscal year 2026, and that it will eventually achieve 40MW in the third year of operation. If enrollment can be accelerated at a faster rate, LUMA will be able to accommodate the increase in customers and firm

capacity, however this may require budget review and approvals by the Energy Bureau for the potential to exceed planned spending in pursuit of emergency load flexibility availability.

To increase enrollment, LUMA will partner more closely with aggregator partners to coordinate and enhance combined program marketing and recruitment tactics. As part of the necessary enhancements to the program, LUMA will leverage a device level DERMS platform to further optimize performance data, dispatch and control strategies.

4.1.4 Estimated Peak Capacity and Program Costs

The total program costs include customer incentives plus the program administration costs. *Table 18: Estimated Capacity, # Participants, and Costs for CBES Program* shows the peak demand savings, planned participants and total costs in year 3 of the program.

Table 18: Estimated Capacity, # Participants, and Costs for CBES Program

DESCRIPTION	FY2026 BUDGET
Peak Capacity per Event (MW)	28
Planned Participants	13,500
Participant Incentive Payments ($)	$4,228,334
Program Planning and Administration Costs (PP&A) ($)	$1,057,075
Total Costs ($)	$5,285,375

4.2 Backup Generators DR Program

LUMA's efforts will build upon LUMA's BUGS Pilot program design for filed in the original TPP. As noted in a previous section, LUMA's recruitment efforts for the pilot met with limited interest from customers and uncovered a significant barrier preventing customer participation in in the BUGS program: Air permit limitations on the use of backup generators. LUMA believes there will be no enrollment in the pilot without a waiver of these restrictions from the federal Environmental Protection Agency (EPA) and the Puerto Rico Department of Natural and Environmental Resources (DNER) for permit holders with backup generators.

To address this, LUMA requests the support of the Energy Bureau to convene DNER and the EPA and other key stakeholders to outline a commonsense approach for balancing the important goals of clear air regulations with those of grid stability during the summer 2025 peak season, and potentially beyond.

Assuming that air permit barrier will be resolved, LUMA is proposing a BUGS program design largely consistent with that described in the original TPP submission – highlights of which are provided below. The final program design may evolve as development progresses.

To mitigate any persisting challenges with the air permitting issue, LUMA proposes parallel pilots via the Demand Response Pilot Initiative outlined later in the plan.

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4.2.1 Program Description

Participating customers will voluntarily reduce their load and/or shift load to back up generators during DR events, triggered by reliability/emergency conditions on the grid. In the near term, the program will target the largest 100 customers with BUGS and will subsequently expand to a broader segment of Commercial and Industrial (C&I) customers. The curtailment method and the type of end-uses curtailed during DR events depend on the facility type. Customers will be provided day-of notification of DR events (when possible) and will be required to respond to events within a pre-defined time in response to emergency grid conditions.

4.2.2 Incentive Strategy

The program will pay customers for the nominated capacity reduction during DR events and customers will be provided a capacity payment for the nominated amount ($/kW-month), even if DR events are not called. When DR events are called, participants receive an additional energy compensation ($/kWh) based on actual energy reduced during DR events.

4.2.3 Program Theory and Objectives

The program's objectives are to demonstrate large customers willingness and capability to provide load reductions in response to grid emergency conditions and system peak demand periods, provide learning experience to LUMA on designing, launching, and implementing DR activities, and provide insights on requirements for scaling up to a DR program offer to other C&I customers in the future.

Emergency DR events will be triggered by emergency conditions on the grid and therefore this program will help improve reliability and eventually reduce energy costs during high demand periods. The reduction in energy use during reliability/emergency grid conditions will help relieve stress on the grid during critical periods and avoid/lower the possibility of outages.

4.2.4 Eligible Customers

In the near term, the program will target LUMA's largest 100 customers with back-up generators and will subsequently be offered to a larger segment of C&I and potentially residential customers during later stages.

4.2.5 Barrier Analysis

Table 19: Barrier Analysis for Backup Generators DR Program

BARRIER/RISK	BARRIER	RISK	HOW THE PROGRAM WILL ADDRESS
Lower than expected enrollment		✓	The program will provide customer incentives and direct outreach to alleviate customer concerns and communicate program benefits.
Regulatory Risks		✓	The program will work with policymakers and regulators to resolve limitations of federal and local air quality permits for backup generators.
Billing and settlement	✓	✓	There is uncertainty about how to perform billing and settlement for customer incentives within LUMA current

			billing system. If LUMA billing system does not have the ability to perform these activities, incentives will need to be conducted through an external implementation contractor or aggregator.
Low response to DR events		✓	Program will closely monitor customer response to DR events using interval meter data or other performance tracking systems (that allows viewing of hourly load profiles of enrolled customers), and address how the DR event response rate could be increased through additional customer outreach methods and stronger messaging.
Limited controls to manage and shift load	✓		Program will work closely with C&I participants to access necessary controls to manage and shift load.

4.2.6 Marketing Strategy

The program marketing and customer outreach efforts will be customized based on business type, ability to shift/curtail load, presence of backup generator and/or energy storage systems, and other specific customer needs. Direct marketing and customer outreach and enrollment will involve working closely with customers to convey program benefits and assess customer needs and expectations from program participation.

4.2.7 Benefits: Estimated Peak Demand Savings and Program Costs

The estimated peak demand reduction is based on demand analysis and information on backup generation for top 100 customers with an aspirational participation rate of 6-10%. Based on the original program design, which is subject to change, participants would receive an estimated $5/kW-month capacity payment all year round based on confirmed availability and an additional 38 cents/kWh for performance of energy shifted during requested dispatch emergency conditions. These incentive assumptions were adapted from similar program offers by the Hawaiian Electric Company and will be revisited based upon market response and further cost effectiveness considerations of the resource against other alternative resources. The total anticipated program costs include the incentive costs plus the program administration costs and are shown below.

Table 20: Estimated Capacity, # Participants, and Costs for CBES Program

DESCRIPTION	YEAR 3 ESTIMATE
Total Peak Capacity per Event (MW)	35.8
Estimated Participants (#)	6 to 10
Total Costs ($)	**$6,304,560**

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4.2.8 Implementation Strategy

LUMA plans to manage this program internally, with external support as needed to carry out the following business functions:

- ***Define Program Parameters and Initiate Load Control Events***
  - Define event criteria (reliability/emergency).
  - Define program parameters (e.g., applicable months, event hours, event duration, annual limit on event hours, event frequency).
  - Initiate load control events.
- ***Marketing, Customer Recruitment & Outreach***
  - Undertaking marketing, customer education, and outreach with third-party implementation support, as needed, especially as the program scales up.
- ***Data Support and Performance Analysis***
  - Obtaining customer interval data and tracking program performance, with third-party implementation support, as needed.
- ***Billing and Settlement***
  - Billing and settlement of customer incentive will likely be conducted in coordination with the third-party contractor during the Transition Period as LUMA's internal billing system will require additional time to integrate these features.
- ***Evaluation, Measurement and Verification (EM&V)***
  - Providing data and information for ex-post impact and process evaluation of the program by the Energy Bureau's independent third-party evaluator.
- ***Customer Service and Satisfaction***
  - Assessing customer satisfaction at all major customer touchpoints.

4.2.9 Program Timeframe

The table below shows the key activities for program development and implementation over the duration of the TPP based on an anticipated launch in late Q4 FY2025.

Table 21: Estimated Program Launch Timeframe for Backup Generators DR Program

PRE-LAUNCH ACTIVITIES	FY2025 Q3	Q4	FY2026 Q1	Q2	Q3+
Finalize Biling and Settlement Procedures					
Finalize Program Design Details and Program Operational Requirements					
Finalize Event Dispatch Procedures					
Begin Customer Outreach and Enrollment					
Program Launch & Implementation					

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4.2.10 Evaluation, Measurement, and Verification (EM&V)

Table 22: EM&V for Backup Generators DR Program

EM&V OBJECTIVES AND PROCEDURES	HOW THE PROGRAM WILL ADDRESS EM&V OBJECTIVES AND PROCEDURES
Program objectives	• Improve grid reliability and provide bill savings opportunities to customers
Evaluation objectives	• Document demand savings • Provide verification and due diligence of project savings • Improve the design and implementation of existing and new/future programs and programs through process evaluation
Impact evaluation	• The impact evaluation will entail establishing a method for determining baseline demand (based on standard EM&V methods and protocols) and measuring load reduction/shifting during DR events vis-à-vis the customer baseline load, using interval meter data at customer sites. • Impact evaluation will provide ex post and ex ante estimates of the following metrics: o Average per event impacts (kW) o Aggregate seasonal/annual impacts (kW)
Process evaluation	• The process evaluation whether program objectives were fulfilled, assess customer satisfaction with the program and provide suggestions for future improvements. • The evaluation process will include the following: o Review program documentation, including program plans or filings, marketing materials, implementation contractor contract documents, and program website(s) o Conduct customer satisfaction surveys and focus group discussions (if possible). o Interviews with LUMA program manager and other program staff and implementation contractor.
Key Performance Indicators	• Average event savings (reported and verified) • Aggregate program savings (reported and verified) • Total enrolled customers (reported and verified) • DR event response rate • Customer satisfaction
Suggested schedule	• Conduct impact and process evaluation bi-annually
Plan for working with EM&V contractor	• Provide access to program data, evaluation plans, and reports to the Energy Bureau's EM&V contractor. Facilitate regular meetings to align methodologies, share insights, and address feedback.

4.3 Demand Response Pilots Initiative

4.3.1 Program Description

Following the same proven approach that was successfully applied for the CBES pilot, LUMA will develop and execute up to three pilots for emerging demand response resources in FY2026. Pilots serve as controlled environments to explore the potential of demand-side flexibility to address grid challenges while gathering valuable insights for broader implementation. Successful pilots can be readily expanded to full-scale programs once results are validated, as was the case with the CBES pilot.

The three most promising demand response opportunities LUMA has identified for potential piloting in FY2026 are:

1. Parallel emergency demand response pilots to the BUGS pilot described above such as behavioral demand response that will reinforce efforts to maintain grid stability during the summer 2025 peak season.

2. Geographically deployed demand response to address locational grid constraints

3. Load Management pilots for EV charging and public sector buildings

The aim of this initiative is to augment the CBES program and develop complementary solutions to the BUGS program to build a robust demand response portfolio to bolster Puerto Rico's grid resilience and enhance emergency power resource flexibility.

4.3.2 Program Theory and Objectives

Pilot programs serve as controlled environments to explore the potential of demand-side flexibility to address grid challenges while gathering valuable insights for broader implementation.

The objectives for each demand response pilot will be unique and specific to the pilot, but generally the objectives are expected to include testing or confirmation of one or more of the following features of a potential full-scale DR program:

1. **Technology Testing**: Pilots allow for the deployment and evaluation of emerging technologies such as Advanced Metering Infrastructure (AMI), automated load control devices, and EV charging management systems. This helps identify the technical feasibility, integration challenges, and performance capabilities of these technologies.

2. **Incentive Strategy:** A key test parameter for DR pilots will be around optimizing incentive payments to customers to maximize participation and capacity provided during DR events.

3. **Customer Engagement Strategies**: Pilots provide opportunities to explore how customers respond to incentives, pricing models, and behavioral prompts. Understanding customer behavior helps shape engagement strategies that encourage sustained participation in DR programs.

4. **Operational Insights**: By simulating real-world grid conditions, pilot programs test how demand response resources can be activated to reduce peak demand, enhance flexibility, and maintain grid stability. This informs operational protocols for scaling DR programs.

5. **Data Collection and Analysis**: Pilots generate valuable data on performance metrics, including load reduction potential, cost-effectiveness, and customer response rates. These insights support evidence-based decision-making and program optimization.

6. **Scalability and Market Integration**: Pilots test the scalability of DR strategies and assess their compatibility with existing regulatory, market, and grid structures. Lessons learned help identify pathways to transition pilots into full-scale programs.

7. **Risk Mitigation and Continuous Improvement**: Testing new approaches in a pilot environment mitigates risks associated with full-scale implementation. This iterative process allows for refinement of program design based on pilot outcomes.

By focusing on these core elements, LUMA's DR Pilots Initiative can help develop new demand response initiatives that are effective, customer-centric, and aligned with the evolving needs of the energy system.

4.3.3 Eligible Customers

Pilot programs will target a variety of customer segments.

4.3.4 Barrier Analysis

Table 23: Barrier Analysis for DR RD&D Program

Barrier/Risk	Barrier	Risk	How the Program will Address
Lack of Funding	✓		Advocate for dedicated pilot funding in budgets, partner with stakeholders for co-funding, seek grants.
Customer Participation	✓		Conduct targeted outreach, provide attractive incentives, and communicate benefits clearly to customers.
New Technology Risk		✓	Pilot smaller-scale integration first, collaborate with technology vendors, and ensure robust testing.
Performance Uncertainty		✓	Use pilot projects to model various scenarios, set realistic objectives, and apply adaptive management.
Lack of Stakeholder Alignment	✓		Foster collaboration through regular stakeholder meetings and clearly defined roles and responsibilities.
Market and Economic Factors	✓		Develop pilots with flexible funding mechanisms and adaptable customer incentives.

Grid Events		✓	Design pilots with contingency plans and include grid resilience tests as part of the evaluation.

4.3.5 Marketing Strategy

The program's marketing and customer outreach efforts will be customized based on pilot program target customers and design. Direct marketing and customer outreach and enrollment will involve working closely with customers to convey program benefits and assess customer needs and expectations from pilot program participation.

The marketing strategy may also include engagement and promotion through LUMA's website and social media channels by providing information such as program description, frequently asked questions and answers, and contact information for more information on programs.

4.3.6 Benefits: Estimated Peak Demand Savings and Program Costs

Although each pilot is expected to achieve some limited peak demand savings, the primary focus of each pilot will be on addressing the specific pilot objectives and, ultimately, informing the design of scalable, effective DR programs.

LUMA anticipates core initiative costs of $200,000 and expects that the cost for each pilot will fall in the range of $500,000 to $1,000,000. Using an estimate at the lower end of this range ($600,000 per pilot) and assuming three pilots are implemented in FY2026, LUMA is seeking up to $2,000,000 for this initiative.

Table 24: Estimated Costs for DR Pilots Initiative

DESCRIPTION	YEAR 3 ESTIMATE
Total Peak Demand Savings (MW)	N/A
Estimated Participants (#)	TBD
Total Costs ($)	**$2,000,000**

4.3.7 Implementation Strategy

The DR Pilot Initiative budget will support the following core activities:

- **Build Foundational Capacity**
  - Establish a dedicated team: Recruit a multidisciplinary team with expertise in program management, technology evaluation, customer engagement, and data analysis.
  - Develop internal processes: Create clear processes for pilot program design, execution, and evaluation.
  - Engage Stakeholders: Develop relationships with regulators, technology vendors, customers, and community leaders to build support and gather input.
- **Preliminary Research and Analysis**

- Assess grid needs and opportunities: Identify critical areas where DR can provide value (e.g., peak load reduction, renewable energy balancing).
- Benchmark best practices: Study successful DR Research, Development, and Demonstration (RD&D) programs and pilot designs from other utilities or regions.
- Inventory available technologies: Evaluate existing DR technologies and emerging solutions for potential applicability.

- **Pilot Roadmap Development**
  - Prioritize Pilots: Select pilot concepts based on potential impact, feasibility, and alignment with program goals (e.g., behavioral DR, EV load management).
  - Set milestones: Define short-term and long-term deliverables, such as launching pilots, evaluating results, and scaling successful initiatives.
  - Budget planning: Develop a detailed budget to support all phases of the program, ensuring flexibility for pilot-specific costs.

The key output of the above core activities will be one or more Pilot Workplans that will be submitted to the Energy Bureau for approval before the pilot program is implemented. Each Pilot Proposal will cover the following key aspects of the pilot: objectives, target customers, implementation plan, budget and EM&V. As noted, each pilot program proposal will be provided to the Energy Bureau for their review and approval before the pilot is implemented. The final report issued at the completion of the pilot will:

- Assess pilot program performance against predefined metrics, such as load reduction, customer satisfaction, and cost-effectiveness.
- Provide EM&V results to validate pilot program outcomes and ensure reliable data.
- Summarize the pilot's successful strategies, challenges, and areas for improvement.
- Highlight input from stakeholders, regulators, and the broader energy community to demonstrate progress and build support.
- Recommend a clear Go / No Go decision with recommendations for the transition of successful pilot programs into full-scale DR programs.

4.3.8 Program Timeframe

The table below shows the key activities for program development and implementation over the duration of the TPP. The timelines below provide illustrative timetables for the duration of activities required before program launch.

Table 25: Estimated Program Launch Timeframe for DR RD&D Program

PRE-LAUNCH ACTIVITIES	FY2025 Q3	Q4	FY2026 Q1	Q2	Q3+
Core Activities					
Pilot Proposals (timing is illustrative)					
Execution of Approved Pilots					

4.3.9 Evaluation, Measurement, and Verification (EM&V)

As described above, each proposed pilot will have a specific EM&V plan designed to address the pilot program objectives and, ultimately, inform a decision to scale up to a full-scale program.

5.0 LUMA Streetlighting Conversion Program

The LUMA Street Lighting Conversion Program is a large-scale initiative aimed at repairing, replacing, and upgrading Puerto Rico's streetlight infrastructure. Due to natural disasters, including hurricanes and earthquakes, approximately 70% of the 500,000 streetlights across the island are damaged and require intervention. Within this, an estimated 15% of distribution streetlights pose a physical safety hazard and require immediate hazard mitigation.

A key component of this effort is the **Community Streetlight Initiative**, a $1.2 billion FEMA-funded program designed to modernize streetlight infrastructure by upgrading to applicable codes and standards. These upgrades include transitioning to **light-emitting diode (LED) technology** and installing **stronger poles capable of withstanding 160 mph winds**.

LUMA conducts field assessments to categorize assets based on their health—evaluating the **likelihood of failure** and **consequence of failure**—assigning an asset score from 0 (worst) to 4 (best). In accordance with **Puerto Rico Energy Public Policy Law No. 17 (April 11, 2019)**, all existing high-pressure sodium (HPS) lamps will be replaced with LEDs. Additional program activities include ensuring proper data entry into the GIS system, grounding of all streetlights per local regulations, and repairing any associated underground feeds. Future efforts will explore the **implementation of a smart streetlighting system**.

5.1 Program Objectives

The Street Lighting Conversion Program is designed to achieve multiple critical objectives:

- **Increase energy efficiency** through the replacement of HPS lamps with LED streetlights.
- **Enhance reliability** by upgrading infrastructure to modern standards.
- **Improve resiliency** to withstand extreme weather conditions.
- **Reduce operation and maintenance costs** by deploying durable and energy-efficient lighting solutions.
- **Enhance public safety and customer experience** by restoring streetlights to full operational status.

5.2 Eligible Assets

All public streetlights on Puerto Rico's transmission and distribution system, with a prioritized focus on assets that pose immediate safety hazards.

5.3 Key Program Developments

LUMA is implementing three key enhancements to the Street Lighting Conversion Program:

A. **Hazard Mitigation Focus:** As part of the initial assessment phase, LUMA has identified approximately 15% of damaged streetlights as an **immediate safety hazard**. Addressing these hazards is a primary priority before full-scale modernization efforts.

B. **LED Conversion & Resiliency Improvements:** In compliance with **Law No. 17 (April 11, 2019)**, all HPS lamps will be replaced with LED technology, improving efficiency and reducing energy consumption. Additionally, the replacement process includes the installation of **stronger, wind-resistant poles**.

C. **Smart Streetlighting System Evaluation:** LUMA is evaluating the **feasibility of a smart streetlighting system**, which would enable remote monitoring and control of lighting infrastructure, optimizing efficiency and response times.

5.4 Estimated Energy Savings and Program Costs

Table 26: Estimated Energy Savings and Program Costs (FY2026) provides an initial estimate of energy savings and program costs for the Street Lighting Conversion Program during the Transition Period.

Table 26: Estimated Energy Savings and Program Costs (FY2026)

DESCRIPTION	FY2026 ESTIMATE
Annual Electricity Savings (MWh)	TBD
Planned Unit Replacements (#)	TBD
Total Costs ($M)	**TBD**

*LUMA is currently conducting the FY2026 budgeting process, which has yet to be finalized for this program.

5.5 Implementation Timeline

The **Street Lighting Conversion Program** officially launched in **June 2022** and is projected to continue through **2040**.

LUMA remains committed to executing this program efficiently while ensuring compliance with regulatory requirements and maximizing benefits for Puerto Rico's communities.

6.0 EE Rider and Rollover Breakdown for FY2026

The EE Rider and Rollover provide LUMA with a secure funding source to implement the portfolio of EE programs. The EE Rider is the mechanism established by the Energy Bureau to recover the cost of energy efficiency programs from all customers on a per kilowatt-hour basis. The Rollover, approved by the Energy Bureau in its October 23, 2024, Resolution and Order, will enable LUMA to achieve greater efficiency savings through maintaining and scaling its EE programs. In the following sections (6.0 and 7.0) LUMA provides a breakdown of revenues and spending for EE Rider and Rollover and EE Rider and PPCA Estimates for FY2026.

See *Table 27: Breakdown of Revenues and Spending for EE Rider and Rollover.*

Table 27: Breakdown of Revenues and Spending for EE Rider and Rollover

FY25 + ROLLOVER BUDGET	PP&A	INCENTIVES	TOTAL
Residential Rebates	$2,014,617	$3,739,054	$5,753,671
In-Store Discounts	$842,211	$1,563,585	$2,405,796
EE Kits	$318,137	$1,382,335	$1,700,472
Business Rebates	$1,789,886	$3,322,887	$5,112,773
Education and Outreach	$2,069,658		$2,069,658
Cross Cutting	$2,069,658		$2,069,658
Total			**$19,112,028**

7.0 EE Rider and PPCA Rider Estimates for FY2026

7.1 EE Program Cost Recovery

As shown in Table 28: Funding Sources and Cost Recovery for EE Programs (FY2026) LUMA estimates an EE budget of approximately $41M would be required in Program Year 3 to achieve savings targets of 0.5% (82,388 MWh). The shift away from lighting measures as a source of significant energy savings for the residential sector is the key driver for the FY2026 EE budget. For years, LED lighting has been the high-impact, low-cost measure driving cost-effective energy savings for utility energy efficiency programs in the Unites States and Canada. The phasing out of ENERGY STAR's Certification of lamp and luminaires as of December 31, 2024, signifies the completion of market transformation for residential lighting in the United States and a need for the utility industry, including LUMA, to shift to other —often more expensive— energy efficiency opportunities to drive portfolio energy savings. The Energy Bureau has previously established the EE Rider to recover the cost of EE programs from all customers on a per kilowatt-hour basis. The EE Rider factor is calculated by dividing the total estimated amount to be recovered by the total estimated FY kWh sales. The estimated EE Rider factor during FY2026, subject to the availability of the appropriate recovery mechanism, is $0.0025/kWh, as shown in Table 28.Table 28: Funding Sources and Cost Recovery for EE Programs (FY2026)

Table 28: Funding Sources and Cost Recovery for EE Programs (FY2026)

PROGRAM	A) TOTAL PLANNED PROGRAM BUDGET ($M)	C) ALLOCATION OF FUNDS FROM EXISTING RATES AND OTHER PROGRAMMATIC REVENUES ($M)	D) INCREMENTAL RATEPAYER FUNDS REQUIRED FROM EE RIDER ($M)
Residential Programs	$24,050,000	$0	$24,050,000
C&I Programs	$10,350,000	$0	$10,350,000
Education & Outreach Program	$4,400,000	$0	$4,400,000
Cross-Cutting Planning, Administration & Startup Costs	$2,200,000	$0	$2,200,000
Total Portfolio of Programs	**$41,000,000**	**$0**	**$41,000,000**

7.2 Forecast of FY2026 DR Program Costs

As shown in *Table 29: FY2025 Funding Sources and Cost Recovery for DR Programs* below, LUMA estimates an DR budget of approximately $13.4 million would be required in Program Year 3. LUMA does not have any funding allocated from existing rates for FY2026, therefore the incremental funds (column C) required from the PPCA will be the full FY2026 budget amount.

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Table 29: FY2025 Funding Sources and Cost Recovery for DR Programs

PROGRAM	A) FY2026 TOTAL PLANNED PROGRAM BUDGET ($M)	B) FY2026 ALLOCATION OF FUNDS FROM EXISTING RATES ($M)	C) FY2026 INCREMENTAL FUNDS REQUIRED FROM PPCA ($M)
CBES Program	$5,285,375	$0	$5,073,900
Backup Generators Pilot	$6,304,560	$0	$6,304,560
DR RD&D Program	$2,000,000	$0	$2,000,000
Total Portfolio of Programs	**$13,589,935**	**$0**	**$13,378,460**

7.3 FY2025 DR Program Cost Recovery

On July 31, 2023, the Energy Bureau issued a Resolution and Order in Case No. NEPR-MI-2020-0001, In Re: Permanent Rate of the Puerto Rico Electric Power Authority, in which it determined, among others, that the cost of DR programs will not be part of the EE rider and ordered LUMA to contemplate the DR programs as part of the proposal of factors corresponding to the purchase power charge adjustment (PPCA) mechanism.

On August 11, 2023, the Energy Bureau issued a Resolution and Order in which in its relevant part, ordered LUMA to file on or before August 23, 2023, for the Energy Bureau's approval, the associated cost related to the compensation to be offered to the DR aggregators and/or ratepayers that participate in the DR program to be recovered through the PPCA thus establishing that the costs associated with DR programs will be recovered through the PPCA.

It is worth noting that through the Resolution and Order issued on March 21, 2024, the Energy Bureau clarified that LUMA should not be constrained by quarterly budgets and may expand participation in the battery emergency DR program. Moreover, LUMA is required to inform the Energy Bureau if it anticipates needing to restrict participation due to budget constraints for their consideration.

The PPCA factor is calculated by dividing the total estimated amount to be recovered by the total estimated FY2025 kWh sales. The PPCA factor for CBES cost recovery is estimated to be $0.00081/kWh for FY2026, as shown in *Table 30: FY2025 PPCA Estimation for DR Programs*. This figure represents an illustrative estimate of the PPCA factor for CBES, this estimate will be finalized through the quarterly PPCA reconciliation process.

Table 30: FY2025 PPCA Estimation for DR Programs

ITEM	AMOUNT	REFERENCE
Incremental Funds Required from PPCA ($)	$13,589,935	LUMA estimate
Estimated Retail Sales for FY2025 (kWh)	16,477,642,313	Load Forecast FY2025

Energy Efficiency Adjustment for FY2025 ($/kWh)	$0.00082	L1/L16

8.0 Quality Assurance and Evaluation, Measurement, and Verification

The objective of this section is to provide updates on how LUMA's quality assurance/quality control and verification process will be conducted and how this will integrate with EM&V contractors that will be selected by the Energy Bureau. The elements delineated in the original TPP remain applicable and unchanged; therefore, they have been excluded here to maintain conciseness. LUMA welcomes the opportunity to collaborate with the selected EM&V contractor early in the process to achieve understanding and alignment between the parties regarding the EE and DR portfolio. Updated EM&V budget for Year 3 of the TPP has been provided below.

8.1 EM&V Budget

The EM&V budget for each program in Year 3, which is part of the program administration budget, can vary significantly depending on scope of work of the selected EM&V contractor. For Year 3, LUMA estimates from 1% to 2% of the total EE/DR Portfolio budget. *Table 31: Estimated Budget for Planned Evaluation by the Energy Bureau's EM&V Contractor* below details the total EM&V budget.

Table 31: Estimated Budget for Planned Evaluation by the Energy Bureau's EM&V Contractor

	YEAR 3 PROGRAM BUDGET	YEAR 3 EVALUATION BUDGET RANGE
All Programs	$54,589,935	$500,000 - $1,100,000