**GOVERNMENT OF PUERTO RICO**
**PUERTO RICO PUBLIC SERVICE REGULATORY BOARD**
**PUERTO RICO ENERGY BUREAU**

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| **IN RE:**<br><br>PUERTO RICO ELECTRIC POWER AUTHORITY RATE REVIEW | **CASE NO.:** NEPR-AP-2023-0003<br><br>**SUBJECT: LUMA's Rate Design Brief** |

# LUMA'S RATE DESIGN BRIEF

**TABLE OF CONTENTS**

**PAGE**

**GOVERNMENT OF PUERTO RICO**
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|---|---|
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**LUMA'S RATE DESIGN BRIEF**

**TO THE HONORABLE PUERTO RICO ENERGY BUREAU:**

**COME NOW** LUMA Energy, LLC ("ManagementCo"), and LUMA Energy ServCo, LLC ("ServCo"), (jointly "LUMA"), and respectfully state and request the following:

## I. Introduction

In cost-of-service ratemaking, regulators strive to approve rates that are reflective of the costs of the services rendered by a utility. As stated by the National Association of Regulatory Utility Commissioners ("NARUC"), the principles articulated by Professor James Bonbright's Principles of Public Utility Rates are widely accepted as the gold standard for the issues that regulators should consider when setting electricity rates.[1] LUMA's witness Mr. Sam Shannon ("Mr. Shannon") applied the "Bonbright Principles" in developing his recommended rate design for PREPA's rates. Exhibit 20.0, 21:493-22:514. One of the Bonbright Principles is the principle of

[1] Primer on Rate Design for Cost-Reflective Tariffs, USAID and NARUC, (2001), https://pubs.naruc.org/pub.cfm?id=7BFEF211-155D-0A36-31AA-F629ECB940DC.

"sufficiency" which requires that "electricity rates should allow a utility to recover its Revenue Requirement, that is, the costs of providing electricity service …. Sufficiency also considers the extent to which the electricity rates incentivize utilities to make continuing investments in the electricity system in order to ensure long-term viability and sustainability."[2] In order to satisfy this principle, the regulator and utility must conduct Revenue Requirement and Cost of Service studies ("COSS") to understand exactly how much it costs for the utility to provide reliable electric service to each class of customer. Mr. Shannon, an expert in rate design, conducted a COSS to allocate costs among the classes of customers, including residential, commercial and industrial as well as street lighting. Based on this COSS, Mr. Shannon developed rates for customers, including a customer charge and energy charges for each customer class that reflect cost causation. The proposed rates use the sales forecast developed by LUMA's witness and subject-matter expert, Ms. Joseline Estrada-Rivera ("Ms. Estrada"), applying sound and accepted forecasting methodologies.

## II. LUMA's load forecast methodology is sound and supports the proposed rate design.

PREB should accept LUMA's forecasts because they are reasonable, methodologically sound, and have not been meaningfully challenged. PREB should also reject proposals to annually update billing determinants because it would introduce unnecessary complexity and administrative burdens and inject regulatory uncertainty without proportionate benefits.

### A. The basics of LUMA's load forecast methodology.

Ms. Estrada, Director of Tariff & Budgets, Load Forecasting and Research at LUMA Energy ServCo, LLC, presented direct testimony supporting the load forecast used to establish LUMA's rates and revenue requirement for Fiscal Years 2026, 2027, and 2028. As Ms. Estrada explained: "Load forecast is an essential empirical analysis used to predict consumption,

[2] *Id.*, 8.

generation, and peak demand. The forecasted consumption forms the basis for determining: (1) revenue based on the current cost of each kWh; (2) revenue required to cover operational and maintenance expenses; and (3) ultimately, the establishment of each rate ($/kWh).” Exhibit 4.0, 18:348-352.

LUMA’s load forecast methodology employs regression models developed by Guidehouse (in collaboration with LUMA) to forecast base consumption for the three main customer classes: residential, commercial, and industrial. *Id.*, 5:96-98, 7:140-143. Regression models are “statistical techniques used to examine the relationship between an endogenous (or dependent) variable and one or more exogeneous (or independent) variables” and they can be used to “identify trends, forecast, and support informed decision-making.” *Id*., 6:121-124. The endogenous variable “is the variable you are trying to predict or explain.” *Id.,* 6:126. Exogenous variables are “variables that impact the trends and behavior of the endogenous variable.” *Id.,* 6:127-128. Here, the endogenous variable is consumption of electricity, and the exogenous variables are things that influence consumption patterns, like economic, demographic, and climatic factors. *Id.,* 18:355-357.

For each customer class, Guidehouse used monthly billing data going back to 2010 to identify the exogenous variables that best explained the trends for each class. *Id.,* 5:98-102. “These models are regularly assessed, with significant deviations closely monitored due to recent factors impacting these loads” in order to “ensure that the forecasts remain as accurate as possible[.]” *Id.*, 100-102. The residential regression model uses gross national product (GDP), population, and exogenous “variables that analyze the relationship between [cooling degree days (CDD)[3]] exceeding 500°F and the changes in demand after the COVID restriction period.” *Id.*, 7:145-148.

[3] Cooling degree days, or CDD, is a way to “estimate the demand for cooling energy required to maintain a comfortable indoor temperature.” Exhibit 4, 8:160-161. It is derived by taking the daily average temperature and subtracting 65°F. *Id.*, 8:161-163.

"For the commercial model, the selected variables are GNP and CDDs." *Id.*, 7:150-151. Industrial consumption was adjusted to account for the impact of combined heat and power, or CHP, systems, and then modeled using GNP as the exogenous variable. *Id.,* 7:152–8:158.

After forecasting base consumption for the three main service classes and adding the static consumption amounts for smaller customer classes, load modifiers are applied to the base forecast to account for the impact of electric vehicles, energy efficiency reductions as stipulated by current law, and direct generation by customers. *Id.*, 4:87–5:94, 6:115-119.

Ms. Estrada's analysis concluded that the load forecast for FY2026 is 7.2% below levels forecasted in 2017, when the current rates were established, and 5% below the forecast developed for FY2025. *Id.*, 20:391–393, 21:402–415. She testified that projected load is expected to further decline in FY2027 by 7.9% and FY2028 by 9.9%, with all three main service categories (residential, commercial, and industrial) expected to decline each year. *Id.,* 19:379-20:401.

**B. LUMA's load forecast is methodologically sound.**

LUMA developed its load forecast using established statistical techniques that are standard across the utility industry and consistent with approaches used by major utilities and Independent System Operators across North America. Exhibit 72, 13:150–16:191. PREB's own consultant, Mr. Zachary Ming ("Mr. Ming") of Energy and Environmental Economics, Inc., agreed that LUMA's use of a regression-based methodology is reasonable and "standard in load forecasting." Exhibit 61.0, 21. Mr. Ming ultimately concluded that LUMA's current methodology and results are reasonable and recommended that PREB should "adopt LUMA's final load forecast." *Id.*, 27.

LUMA has also "made significant improvements to its load forecasting methodology" in recent years, which has improved the forecast accuracy. Exhibit 4.0, 4:71-74.[4] As trends in

[4] LUMA "has completed five out of seven phases of its established load forecast enhancement plan, which includes conducting internal governance and organizational design, reviewing current and future

consumption patterns have changed, "LUMA has updated the industrial models to account for [those facts] and to produce a more accurate forecast." Exhibit 72.0, 32:454–33:500. For example, for industrial consumers, the volume of self-generation has grown in recent years, and the model has accounted for this effect in a way that allows "the model to isolate the true relationship between electricity use and its drivers without distortion from self-generation." *Id.*, 32:457-469. By adapting to observed consumption changes, LUMA is able to improve accuracy and ensure its "methodology is consistent with how many jurisdictions in North America account for energy efficiency (EE) and demand side management (DSM) programs within load forecasting." *Id.*, 33:479–34:500.

While witness Dr. Ramón J. Cao García ("Dr. Cao") raised various criticisms of LUMA's load forecast, these criticisms were fully addressed by Ms. Estrada and largely rejected by Mr. Ming. *See generally* Exhibit 72.0, 9–59; Exhibit 61.0, 21–23. Mr. Ming agreed with LUMA that Dr. Cao's argument that LUMA's model used too many binary variables was "not persuasive" because "binary variables are standard for capturing categorical factors without numeric values," such as "monthly and seasonal variations and the impact of COVID-19 in certain years." Exhibit 61.0, 21. Mr. Ming also defended LUMA's use of Gross National Product ("GNP") as the key economic variable as reasonable while also disagreeing with Dr. Cao's idea to include disposable personal income in the regression. LUMA's decision to use GNP as the key economic variable is reasonable." *Id.*, 22. Finally, Dr. Cao's argument that electricity price should be included in the residential regression model is inconsistent with observed data showing that "electricity demand in Puerto Rico is relatively inelastic." Exhibit 72.0, 17:213.

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methodologies, and establishing data requirements." Exhibit 4.0, 4:72-74. *See also* Exhibit 61, 23 (Mr. Ming disagreed with Dr. Cao regarding accuracy of *current* load forecast based on alleged errors in prior forecast.)

During the hearing, there was some concern expressed about differences between the load forecast presented for rate-setting process and the forecast used for integrated resource planning (IRP). The IRP forecast was designed with a different purpose in mind. The record demonstrates that for rate-setting, the goal is to forecast what customers will actually consume and pay for in order to design reasonable and appropriate rates that satisfy revenue requirements, whereas the IRP forecast must plan for resource adequacy to meet all electricity demands on the System (including things such as electricity loss during transfer and delivery, which is load that will never reach or be directly charged to a customer). Tr. 12/15, 206: 22-207:15, 282:8-285:4, 287:9–17, 288:7-289:1, 296:14-297:5, 18–298:3; Exhibit 979. The IRP results in higher estimated loads, which helps to plan for adequate resources and improves reliability outcomes. PREB Commissioners confirmed this important distinction between the two forecasts, with Commissioner Ferdinand Ramos-Soegaard noting that the two forecasts are "essentially for two different purposes. In the rate case, the important part is to have the billing determinant . . . [and so] the load forecast that we're pursuing in the rate case is for bill[ing] determinants." Tr. 12/15, 298:10-16. Because you cannot directly charge for electricity lost in transit that is not delivered to customers, "you can't include the losses" in the forecast used for rate design. *Id.*, 298:16-22.

**C. Dr. Hopkins' proposed changes to account for EE programs should be rejected.**

Dr. Asa Hopkins ("Dr. Hopkins"), a PREB consultant, filed an expert report proposing alterations to LUMA's load forecast to account for what he characterized as increased savings from programmatic EE programs. Exhibit 58.0. Dr. Hopkins' proposal is unrealistic for Puerto Rico. Dr. Hopkins recommended significantly higher cumulative sales adjustments from EE programs than those included in LUMA's forecast, proposing cumulative sales adjustments of 16.2 GWh in FY26, 91.4 GWh in FY27, and 232.5 GWh in FY28. *Id.*, 16. To derive these estimates for FY27 and FY28, Dr. Hopkins reviewed "the rate at which utility energy efficiency programs have grown

across the states," using data from the American Council for an Energy-Efficient Economy and identifying 12 states for comparison based on their historical EE program growth trajectories. *Id.*, 9. However, on cross-examination, Dr. Hopkins' analysis was shown to be fundamentally flawed because he failed to consider whether the 12 reference states bore any meaningful similarity to PREPAs unique circumstances. Tr. 12/15, 328:16–330:23. Specifically, Dr. Hopkins failed to consider PREPA's bankruptcy status, system remediation requirements, and budget impacts. When asked whether the EE programs in any of the 12 reference states were implemented by a municipal utility like PREPA that is in bankruptcy, Dr. Hopkins candidly admitted: "Not that I'm aware of." *Id.*, 329:4-18. Indeed, he did not even review the issue in his search for states to use for comparison because, he claimed, "that wasn't a concern." *Id.*, 329:20–330:3. This admission reveals a fundamental analytical gap. PREPA's bankruptcy status is a critical distinguishing factor that should have been considered in any comparative analysis of EE program ramp-up capabilities.

Perhaps most significantly, Dr. Hopkins failed to calculate or consider the budgets or investments that would be required to achieve the EE savings he proposed. *Id.*, 330:16-23. Dr. Hopkins admitted that he "did not calculate budgets," and he did not consider the actual dollar amount needed for those EE programs. *Id.*, 315:17-316:23, *see also id.,* 327:14-19. Dr. Hopkins also acknowledged that he did not quantify the upfront costs that his proposed ramp-ups would require. *Id.*, 328:1-15.[5]

Additionally, it would be premature to adopt Dr. Hopkins' EE savings projections. Dr. Hopkins admitted during cross-examination that PREB has not yet approved the EE programs for FY27 and FY28 that would be necessary to achieve the savings he projects, and participation levels

[5] Dr. Hopkins also failed to consider whether any of the 12 reference states involved utilities that have system remediation plans comparable to PREPA's requirements but admitted that the electric grids in those states are in better shape than Puerto Rico's grid. Tr. 12/15, 330:5-13.

for FY27 and FY28 are unknown. *Id.*, 316:25-317:8, 16-21. When asked whether having information on the actual EE programs that would be implemented in FY27 and FY28 would be "relevant to estimate energy savings from those programmatic EE programs," Dr. Hopkins admitted that such "information would enable the [PREB] to make better assessments as to what to expect." *Id.*, 317:23-318:7.

Importantly, PREB itself has already addressed this issue. In its November 25, 2025, order in Case NEPR-MI-2022-0001 (Exhibit 1017), PREB determined that "setting annual estimates of programmatic energy efficiency savings is premature." Tr. 12/15, 323:8-324:4. PREB further stated that making such determinations "requires information from LUMA's 2026-2028 EE plan that will be filed in 2026," because that plan "will include information about the pace at which EE programs can be ramped up during fiscal years, 2027 and 2028." Exhibit 1017. Despite this clear guidance, and Dr. Hopkins' own involvement in the order, Dr. Hopkins maintained his recommendations. Tr. 12/15, 324:13325:16. This position is inconsistent with PREB's own determination that such projections are premature.

During the evidentiary hearing, Dr. Hopkins testified in support of Mr. Ming's proposal for annual billing determinant updates. Dr. Hopkins' statements on the issue should be rejected because said position appeared nowhere in his expert report, as Dr. Hopkins admitted during the evidentiary hearing. *Id.*, 319:5-25.[6]

Finally, it was revealed during cross-examination that Hearing Examiner Scott Hempling was involved in the preparation and review of Dr. Hopkins' expert report. Dr. Hopkins confirmed

[6] Dr. Hopkins admitted that he coordinated with E3 (Mr. Ming's firm) to ensure this new position made it onto the record which is another admission that the proposal was not included in his report: "I worked out with the folks from E3 to suggest that needing to make sure we got onto the record my clarification of my advice regarding the impact of Mr. Ming's report on annual forecasting. . . ." *Id.*, 338:4-25, 339:1-7.

that Mr. Hempling reviewed the report before it was filed. *Id.*, 339:14-19. Mr. Hempling also provided input on the scope and structure of Dr. Hopkins' report and even advised on language. *Id.*, 340:13-134:23, 342:10-25. Should PREB elect to modify the load forecast based in any part on Dr. Hopkins' recommendations, LUMA respectfully submits that the extent of the Hearing Examiner's involvement in the preparation of Dr. Hopkins' report raises procedural concerns and potential conflicts that should be carefully considered.

### D. Mr. Ming's proposal for annual billing determinant updates should be rejected.

Despite Mr. Ming's repeated acknowledgement that LUMA's forecasting methodology was reasonable, Mr. Ming also recommended that PREB "direct LUMA to periodically, or at least annually, update its demand billing determinants to ensure they reflect the most recent change to customer loads." Exhibit 61, 28.[7] LUMA disagrees with Mr. Ming's recommendation that PREB approve only the methodologies, not the rate values, for certain classes because, according to Mr. Ming, "for FY2027 and FY2028, LUMA should calculate rates each year based on the latest billing determinant forecasts." *Id.,* 104.

This proposal is problematic for multiple reasons. First, it contradicts Mr. Ming's own acknowledgment that LUMA's forecast "is reasonable for the three-year forecast horizon, since ratios of the billing determinants of each rate class to billing determinants of each customer class are unlikely to shift significantly." *Id.*, 27. Using a three-year, multi-year rate plan is an accepted practice within the industry and consistent with other jurisdictions, such as New York and Ohio. Tr. 12/16, 43:11-19.

[7] Dr. Hopkins testified in support of the proposal for annual billing determinant updates during the evidentiary hearing. As discussed above, this position—introduced for the first time at the evidentiary hearing—should be rejected.

Second, there can be no dispute that LUMA relied on the most recent data available, and the models were intended to account for changes over time, but Mr. Ming suggests that the models be continuously updated each year to include newly available data anyway. Exhibit 61.0, 18–19, 26–27. To be clear, Mr. Ming testified that his interest in recommending annual updates was intended to make forecasts more accurate over time for the sake of accuracy alone—to make it "more accurate even without known issues"—and he did not contradict the reasonableness, effectiveness, or practicality of using the current models for the rate design. Tr. 12/16, 21:3-13. As Mr. Shannon explained, reasonableness rather than exacting accuracy is the criteria to be used for evaluating a sales forecast. *Id.*, 11:1-15. Dr. Susan Tierney agreed, noting that the "future is uncertain, so you cannot get accuracy in a forecast" and that "reasonableness would be the standard that [she] would suggest for thinking about forecasts." *Id.*, 37:11-17.

Updating billing determinant forecasts on an ongoing basis does not necessarily improve the results; the structure of the rate design accounts for the inherent uncertainty present in forecasts. *Id.*, 11:17–15:6. With a standard margin of error for a forecast at 10 percent in either direction, it creates a band of "20 percentage points of range[,] which is considered normal for the industry for forecasting." *Id.*, 11:1-15. With a sales forecast that is reasonable, variability over time "washes out in the end generally" because it is known "that the actuals are going to be up or down and that some classes may be higher, some classes may be lower." *Id.*, 14:4-18. "[O]n the whole, the premise is that it all kind of works out or regresses to the mean . . ." *Id.*, 14:12–14.

Third, Mr. Ming's proposed annual update approach would undermine the stability that ratepayers and the utility need. The benefit of multi-year rate plans is to provide stability and predictability for customers, utilities, and regulators alike. As Commissioner Antonio Torres-Miranda noted, the purpose of the current "rate procedure was to establish rates for three years

because the people of Puerto Rico, they need stability." *Id.*, 45:2-5. Setting rates in the way LUMA proposes allows for predictability because for future increases, everyone knows "exactly by what amount," allowing customers to "set their program or their economic business model based on those three years, even though we know that there is an increase." *Id.*, 46:17-23. Mr. Shannon supports this, noting "[i]n my experience, and I'm going to turn to the large industrial customers and the commercial customers, they value predictability [in] rates. And so, knowing what the rates are for the next three years is valuable to that segment of the population. Likewise, I would anticipate that the renewable energy community, knowing what the rates are going to be for the next three years is valuable to that industry. So there is value in the certainty of knowing what the rates will be. There's also a value of not having to go through an administrative process every year when we can set the rates today and be done until the next time the rate case comes in." *Id.*, 40:10-24.

Frequent updates to billing determinants would undermine these benefits without providing meaningful improvements in accuracy. As Commissioner Torres-Miranda observed, Mr. Ming's proposal would mean that every year would see "an adjudicative hearing to discuss what we discussed [in these proceedings] . . . with all the parties and to determine what are the billing determinants that we're not going to be sure if that's the right ones anyway and then do . . . a mini hearing to see if [the] rates go up or go down." *Id.*, 46:23–47:6. Even Mr. Ming acknowledged that his proposal would result in such an administrative burden and such a burden is "a con of [his] proposed approach." *Id.*, 47:8-12. This is in addition to the fact that the updates are not necessary to have a reasonable result. Commissioner Torres-Miranda said it best: "[W]e can't be having this stress given to the people of Puerto Rico every three months" and "changing the [billing] determinants every year." *Id.*, 45:7-11.

## III. LUMA and PREB consultants are largely in agreement in their recommendations on rate design.

There is significant alignment between LUMA and PREB's consultants on rate design. While Mr. Ming's report noted some aspects of the methodology he did not agree with, when he tested the sensitivity of the class cost allocations to the methodological choices, he found that they were not significant, thus, he recommended that PREB approve LUMA's COSS methodology. Exhibit 61.0, 64. He also recommended that the PREB adopt the proposed General Residential Service ("GRS") rate structure and concluded that the $20/month customer charge for FY2028 was reasonable. *Id.* at 103. For GRS, Mr. Ming recommends "a flat energy rate instead of an inclining block rate." *Id*., 104. Mr. Shannon notes that flat rates are simpler, but that inclining rates are preferable for incentivizing conservation: "Inclining block rates send a price signal that encourages energy conservation because the rates increase with consumption." Exhibit 70, 7:283-286. However, he indicates that he has no objection to using a flat rate for GRS. Mr. Ming also recommended that the PREB approve LUMA's proposed Lifeline Residential Service ("LRS") and Residential Service for Public Housing Project ("RH3") Customer Charges. Exhibit 61.0, 103.

For the General Services at Secondary Distribution Voltage ("GSS") charge, LUMA recommended a charge of $25/month for FY2026 increasing to $75/month in FY2028, whereas Mr. Ming recommends a $25/month customer charge by 2028. *Id.*, 103. Mr. Shannon noted that LUMA's "proposed GSS customer charge increases would bring these rates more in line with the customer-classified costs" and he "do[es] not endorse Mr. Ming's proposal to limit the GSS customer charge to $25 per month in FY2028." Exhibit 70, 4:199-203. However, Mr. Shannon notes there is a large amount of middle ground between the two proposals and PREB can make policy decisions on which to adopt between the two goalposts of $25 and $75 per month. *Id.*, 4:200-206.

For the Commercial and Industrial ("C&I") rate classes, except GRS, General Service at Primary Voltage ("GSP"), and General Service at Transmission Voltage ("GST"), Mr. Ming recommends that the Energy Bureau adopt LUMA's proposed rate design methodologies. Exhibit 61.0, 104.

LUMA and Mr. Ming agreed regarding the need for a plan for future TOU rate implementation[8] and in the future to either introduce a demand charge in the GSS rate or separate the GSS rate class into two or more rate classes based on maximum demand.[9] Likewise, LUMA agrees with PREB consultant Ms. Whited on the base amount of the revenue decoupling mechanism and the design of the mechanism, including the rate adjustment frequency, inclusion of outages and use of a decoupling rider.[10]

### A. LUMA's proposed customer and energy charges strike an appropriate balance and will not adversely impact solar development.

LUMA's proposed customer and energy charges are designed to better allocate costs and properly account for costs and benefits where they are being realized. LUMA has shown "that its proposed monthly customer charge does not have [the] purpose or effect" of seeking to "recover

[8] Exhibit 61, 104 (recommending "that the Energy Bureau direct LUMA to develop a robust plan to study and implement TOU rates in the coming years, such that TOU rates can be rolled out on a large scale as soon as possible").

[9] *Id.* (recommending "that the Energy Bureau direct LUMA to either introduce a demand charge in the GSS rate or separate the GSS rate class into two or more rate classes based on maximum demand").

[10] Exhibit 59, 9-13 (recommending "that PREB approve a decoupling mechanism based on the utility's total revenue requirement target for all customer classes."); Exhibit 73, 4:69-89. Exhibit 59, 10 (recommending "that PREB approve a full revenue decoupling mechanism that applies only to fixed costs recovered through base rates" and further explaining that "[v]ariable costs, such as fuel and purchased power costs, are already recovered through riders, which pass through these costs directly to customers."); Exhibit 73, 4:81-89, 6:127-133.

costs that are currently recovered through kWh charge" and LUMA justified that "its rate design [is] based on rate design policy, not solar policy."[11]

Mr. Datta claims that LUMA's proposal "appears to be a thinly veiled attempt to transfer far more overheads and distribution system expenses as fixed costs to residential and NEM [Net Energy Metering] customers beyond the actual costs of interconnecting, metering, billing and account management…" Exhibit 55.0, 27:21-24. As Mr. Ming correctly characterizes it, "Mr. Datta's argument is that an increased fixed charge would correspond to a lower volumetric charge, all else equal." Exhibit 61, 102. That this is not the case as Mr. Ming noted: "Mr. Datta disregarded the increase in revenue and rates in LUMA's application. LUMA did not propose a reduction in the volumetric charge. Rather, LUMA proposed an increase in the volumetric charge that would actually lead to a significant improvement in the economics for rooftop solar relative to current rates." *Id.*

Mr. Shannon addressed this at the hearing. When asked if "[t]his design, increasing customer charges, weakens price signals associated with energy consumption," Mr. Shannon explained: "No, sir. Because, remember that the volumetric rate is also increasing by a lot in this case. So the price signal remains and it's actually stronger than it is under the status quo because we're raising the energy charges a lot as well." Tr. 12/16, 77:17-19, 78:7-12. When asked, "Wouldn't the higher fixed rates in the context of low energy users discourage measures like energy efficiency?," Mr. Shannon responded, "No, because the energy efficiency, like if you adopt it, say you buy a more efficient refrigerator, the value to the customer is in the price that is avoided, which

[11] Hearing Examiner's Order Establishing (a) Agenda for the September 29 Conference, and (b) Certain Procedures for the Evidentiary Hearing, September 29, 2025, Appendix D, 3. The order also notes that "SESA and SUN therefore need not spend scarce resources arguing about the appropriateness of using the customer charge to recover fixed costs normally recovered through the kWh consumption charge." *Id.*

is the energy charge. We're raising the energy charge under the proposal here by a substantial amount as well. And so, again, that price signal for the energy efficiency calculation becomes more valuable as well." *Id.*, 78:13-25, 79:1.

Contrary to Datta's claims, LUMA's proposed structure appropriately allocates costs between the volumetric and the fixed customer charge in a way that reflects the current operations of the grid and customer cost causation. As explained by Mr. Shannon, LUMA's proposed rate design "does not go as far as [a straight-fixed variable approach] in terms of placing all fixed costs into the fixed or demand component, but it attempts to collect a greater share of revenue from fixed and demand charges on the customer's bill." Exhibit 20.0, 22:520-522. As a result, "[t]his rate design will provide some revenue stability to the utility and make it easier for the utility to withstand downward trends in consumption. As customers use less energy, the grid becomes less important as a commodity delivery network and more as a service and power support function. Rebalancing the revenue share of the different rate components better reflects this shift in how the electric grid is being used by customers." *Id.*, 522-527.

LUMA's proposed rate design maintains proper price signals and incentivizes energy efficiency in customer behavior. As the Hearing Examiner properly pointed out, "while rates undoubtedly do affect solar penetration, a rate case is not a forum for making policy on solar energy."[12] However, it is worth noting that LUMA's proposed customer charge will not negatively impact solar penetration in Puerto Rico and also is a reasonable allocation of customer and energy charges.[13]

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[12] Hearing Examiner's Order Establishing (a) Agenda for the September 29 Conference, and (b) Certain Procedures for the Evidentiary Hearing, September 29, 2025, Appendix D, 4. As a result of this Order, much of Mr. Datta's testimony on this topic was withdrawn. *See* Exhibit 55, 29–33.

[13] Datta argued that LUMA's proposed rate design will "adversely [affect] existing NEM customers due to a reduction in revenues, and will slow the adoption rate of new NEM customers due to longer payback

**B. LUMA's proposed rate structure properly addresses low income customers.**

LUMA generally agrees with Mr. Ming's recommendation "that the subsidy level provided to low-income rate classes [be] determined by the Energy Bureau … The Energy Bureau can choose to direct LUMA to increase the discount level relative to existing rates, which would be necessary to achieve rate levels for the low-income rate classes similar to LUMA's proposal." Exhibit 61, 64-65. LUMA and Mr. Ming agree that there should be a fixed percentage discount for low-income customers. *See* Tr. 12/15, 361:5-18. As Mr. Shannon testified, his approach to use the revenue allocation to achieve the discount "is the simpler approach" because "[w]e adjust the revenue allocation so that those low-income classes see a [] discount. That's already baked in. It doesn't have to be reconciled every year through the SUBA[14] rider. It's just there. … It doesn't have to be adjusted. It just can ride on for, until the next rate case when they readjust the revenue requirement and revenue allocations do the same method there. So it's more of an administratively simpler approach…" *Id.*, 363:17-364:12.

Mr. Ming recommended that the PREB accept LUMA's proposal to collect Contributions in Lieu of Taxes ("CILT") and Subsidies ("SUBA") riders through a fixed customer charge but he proposed to exclude low-income residential rate classes from these riders. *Id.,* 101. Mr. Shannon did not agree that there is a need to exempt the low-income customers from the SUBA/CILT riders, but he recognized this is a matter of policy for PREB. "At the end of the day, it is up to the Energy Bureau to decide if the low-income customers should contribute to these discounts and the CILT payments." Exhibit 70, 6:258–7:278.

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periods, *ceteris paribus*, based on the existing revenue requirements." Exhibit 55, 24:7-10. On Cross-examination, Mr. Datta admitted that if the volumetric charge increases, as LUMA proposes, the payback period decreases. Tr.12/16, 241:22-242:2.

[14] Although the transcript refers to a "super" rider, the witness said "SUBA rider" in his testimony in the Evidentiary Hearing held on December 15,2025. *See* NEPR-AP-2023-0003 at 2:26:45.

### C. LUMA's proposed GSP and GST rate structure is more customer-friendly than Mr. Ming's alternative.

LUMA disagrees with Mr. Ming on the rate structure for General Service at GSP and GST. Mr. Ming recommends "a flat energy charge equal to the (lower) second tier volumetric energy charge and an increased demand charge to recover any revenue lost from eliminating the tiered structure." Exhibit 61.0, 104. Mr. Shannon pointed out that the bill distribution based on load factor is tighter under the Utility's original proposal and given the large increase to the class, keeping the distribution of bill impacts tight is a key consideration. Exhibit 70.0, 9:308-312. Also, Mr. Shannon explained that to achieve Mr. Ming's rate design, the demand charges need to be increased substantially and there are fewer ways for customers to reduce a uniform, all-hours demand charge. *Id.*, 9:312-315. He would be more likely to endorse Mr. Ming's proposal if this were a time-of-use rate with an on-peak demand charge so customers could shift load to off-peak times to help offset the increased demand charge. *Id.*, 9:315-319. Further, Mr. Shannon's testimony demonstrated that Mr. Ming's proposed rate design "would place more of the increase on low-load factor customers." *Id.*, 8:302-303, Table 1, 8:306.

**Table 1: Effective Cost of Power ($/kWh)**

| | GSP Customer (200 kW billed demand) | | GST Customer (1,000 kW billed demand) | |
|---|---|---|---|---|
| Load Factor | Shannon Rates | Ming Rates | Shannon Rates | Ming Rates |
| 25% | 0.383 | 0.395 | 0.320 | 0.339 |
| 35% | 0.359 | 0.360 | 0.298 | 0.304 |
| 45% | 0.343 | 0.340 | 0.284 | 0.285 |
| 55% | 0.330 | 0.328 | 0.272 | 0.272 |
| 65% | 0.321 | 0.319 | 0.263 | 0.264 |
| 75% | 0.315 | 0.313 | 0.257 | 0.258 |
| 85% | 0.310 | 0.308 | 0.252 | 0.253 |

### D. The proposed rate design addresses practicability.

As Mr. Shannon testified, his rate design proposal addressed practicability concerns through revenue allocation. Exhibit 153. As discussed in Exhibit 153, in the revenue allocation

process, Mr. Shannon developed three specific principles to recommend to LUMA relying on Bonbright's principles[15] and his extensive experience designing rates both at the Public Service Commission of Wisconsin and as an expert rate consultant.

Mr. Shannon's revenue allocation for the test years tried to balance three goals. Exhibit 20.0, 19:450–20:456. First, given the size of the overall increase request, he determined that no customer class should receive a decrease from present rates. *Id.* Second, the low-income residential customers' increase was capped at a maximum of 30%. Finally, no class should receive an increase greater than two times the overall utility percentage increase. Because the residential class showed a large increase in the COSS based on cost causation, assigning such an increase in year one would violate the third principle which aims to moderate customer class increases. *Id*. As he explained, the challenge with revenue allocation in this case is to make progress towards setting rates that more closely match the costs to serve each customer class, and while it would be faster to increase residential rates by a single large jump in rates, the increase was spread out over the three years. *Id.*, 20:463-470.[16] This caused some other rates to increase in the initial years, but those rates would decrease as the residential rate ramps up. *Id.*, 20:468-470. The proposal also incorporates a discount for low-income customers and maintains the Residential Fixed Rate available to customers living in public housing. *Id.*, 20:472-474. For other low-income classes, LRS, customers

[15] "For the rate design step, I attempted to adhere to the general principles for rate design described by James Bonbright… Some of these general principles for rate design include consideration of issues such as the practicality of the rate design in terms of understandability, effectiveness in yielding total revenue requirements, revenue stability from year to year, stability of the rates themselves, with a minimum of unexpected changes, fairness in the apportionment of total costs, avoiding undue discrimination, etc." Exhibit 153, 2.

[16] "I developed a proposal for a phased-in approach to increasing the General Residential Service (GRS) and General Service at Secondary Distribution Voltage (GSS) customer charges starting with $10 and $25 per month growing to $20 and $75 per month, respectively, consistent with the principle of gradualism." Exhibit 153, 2.

who need the Nutritional Assistance Program Criteria, and RH3, the 30 percent cap on increases results in them paying less than the GRS customers. *Id.*, 20:472-21:483.

### E. LUMA's Outage Recovery Rider will provide for necessary additional funding in recovery situations.

LUMA proposed an Outage Recovery Rider to replenish the Outage Reserve Account of the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement ("T&DOMA") and provide funding for major recovery operations that exceed the reserve account's standard funding. *Id.*, 36:821-824. As Mr. Shannon described, LUMA intends "to use the Outage Recovery Rider to replenish the reserve account and cover expenses for storms and disasters that exceed the reserve account balance. The rider will only operate for a limited amount of time set by the Energy Bureau to recover the authorized funding." *Id.*, 36:826-834.

Mr. Figueroa acknowledged the importance of an outage event recovery rider in his testimony, noting that "[b]y establishing a dedicated rider, LUMA aims to create a clear and consistent mechanism for recovering both past and future outage event costs. This will ensure that funds used for emergency response are replenished without having to divert money from accounts designated for planned activities." Exhibit 1.0, 93:1726-1729. This should not be limited just to hurricanes, but should include all major outages where the costs exceed the reserve account balance. *Id.*, 79:1450-1461. "Ultimately, this approach is intended to protect the utility's liquidity and financial stability by preventing the depletion of funds allocated for other essential operations." *Id.*, 93:1729-1731.

PREB's approval of the Outage Recovery Rider will provide the notice and approval from PREB needed to allow the utility to recover costs for outage and storm recovery without taking away from other properly budgeted line items. Tr. 12/16, 280-303. This is consistent with the reality that utilities are generally allowed to recover their costs and, moreover, there is no violation

of retroactive ratemaking in allowing the Outage Recovery Rider to provide for recovery of costs already incurred because it will not change the rates billed to customers for past consumption. *Id.*, 299:23–300:10; *see also* LUMA' Revenue Requirement Brief, 102–04.

**F. LUMA's proposed revenue decoupling mechanism is necessary and appropriate.**

A utility revenue decoupling mechanism is a regulatory tool that breaks the link between the volume of energy a utility sells and the revenue it collects to cover fixed costs.[17] By adjusting rates to match a pre-set revenue target, it removes the disincentive for utilities to promote energy efficiency and conservation and eliminates some of the risks of sales volatility for both the utility and the consumer. LUMA proposed a revenue decoupling mechanism as described by Mr. Figueroa.[18] Exhibit 73. PREB's consultant, Ms. Whited, and LUMA are largely aligned on many aspects of the revenue decoupling mechanism. However, LUMA disagrees with Ms. Whited that the revenue decoupling mechanism should not include weather normalization.[19] As Mr. Figueroa stated, accounting for weather normalization "is necessary because the sales forecast incorporates weather-normalized sales units adjusted for cooling degree days, and so the actual revenues for a fiscal year would be adjusted to remove the effect of deviations due to weather. Because the sales forecast already uses weather-normalized sales, the authorized target revenues will be a weather-normalized number. Evaluating the target against the weather-normalized actual billed sales ensures a true apples-to-apples comparison." Exhibit 73, 7:149-155.

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[17] *See* Decoupling Policies: Options to Encourage Energy Efficiency Policies for Utilities, NREL (2009), https://docs.nrel.gov/docs/fy10osti/46606.pdf.

[18] A revenue decoupling mechanism "provid[es] an annual true-up in the event that actual billed revenues are less than target revenues." Exhibit 73, 2:39-40.

[19] Exhibit 59, 10 ("It is reasonable for PREB to adopt a full decoupling mechanism (i.e., one that also controls for weather variability) because the utility's fixed costs do not change based on weather.").

LUMA also disagrees with Ms. Whited's recommendation for a "soft cap on upward rate adjustments and no cap on downward adjustments (refunds)."[20] Instead, as stated by Mr. Figueroa, "[a]ny cap should be bidirectional such that the utility has a reasonable opportunity to both collect and credit customers as needed. To the extent that there is an overcollection, then a cap would provide an opportunity for a portion of the overcollection to be reinvested into the system to support incremental investments that may be urgently required or otherwise provide incremental benefits to customers. In the event that PREPA gains access to capital markets in the future, then the proposed cap on credits for overcollection can be reassessed." Exhibit 73, 9:192-200; Tr. 12/16, 147:8-23.

Further, Mr. Figueroa proposed that for any additional overcollection above that cap, "the Bureau would have the discretion to authorize whether that amount gets added to the future year's revenue requirements as additional expenditures above what would be the authorized revenue requirement under normal scenarios." Tr. 12/16, 131:19-24. For example, if there is a cap of 3% for the revenue decoupling mechanism, but an actual overcollection of 5%, the additional 2% over-collected amount would remain in a designated account until PREB approved its use. *Id.*, 132:7-21. LUMA recommends that PREB use a process similar to the reconciliation process used for subsidies, which occurs on an annual basis. Consistent with that process, LUMA would submit the

[20] Exhibit 59, 11; Tr. 12/16, 153:6-17 (Ms. Whited: "If LUMA underrecovers by five percent, they are entitled to implement a surcharge up to three percent the following year to collect those funds that are under recovery, and the rest of it would be deferred to the next year. And, if they overcollect the following year, then that offsets the previous year's undercollection to the extent that the additional funds offset it. So that would be my proposals, that you just defer amounts over the three percent surcharge, above the three percent surcharge, until you can collect them or until the next rate case.").

actual revenue requirement or actual collections against the approved revenue requirement and proceed with the adjustments that the Bureau authorizes.[21]

LUMA has proposed a revenue decoupling mechanism that would apply in FY 2028, reconciling revenues from FY 2027. Exhibit 20.0, 31:704-713. Assuming the next rate case may occur sometime around FY2028, LUMA "suggests that the next rate case may be premature to evaluate this mechanism" as "it is unlikely that there will be enough information available regarding the application and implementation of the decoupling mechanism to support any modifications. Accordingly, LUMA proposes that any assessment of the decoupling mechanism be performed after such mechanism has been in place for at least more than one fiscal year." Exhibit 73, 9:205–10:214.

**WHEREFORE,** LUMA requests that PREB **accept** LUMA's COSS methodology and LUMA' load forecasts; **reject** Mr. Ming's proposal to update billing determinants; and requests PREB **approve** LUMA's rate design proposal and base rates for the PREPA's rate schedules, as discussed above, and also the proposed riders, including the Outage Recovery Rider and decoupling mechanism and decoupling rider.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 17th day of February, 2026.

**WE HEREBY CERTIFY** that this document was filed using the electronic filing system of this Energy Bureau and that electronic copies of this document will be served onto the following mailing list: mvalle@gmlex.net; alexis.rivera@prepa.pr.gov; jmartinez@gmlex.net; jgonzalez@gmlex.net; nzayas@gmlex.net; Gerard.Gil@ankura.com; Jorge.SanMiguel@ankura.com; Lucas.Porter@ankura.com; mdiconza@omm.com;

[21] Tr. 12/16, 133:5-15. *See also id.* 154:5-16 (Mr. Figueroa: "in the case of an over collection that the credit not be open-ended because of that we fear that might create cash flow concerns for the utility again and I think as I stated in my testimony, once PREPA is in a more stable financial situation, then this position can be reassessed, but today, we believe that is a, that just simply puts more strain on the liquidity position for the utility, and there is, I think the Bureau should have the opportunity to decide if they believe that there's any benefit in reinvesting a portion of that over collection.").

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***/s/ Margarita Mercado Echegaray***