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

IN RE: REVIEW OF THE PUERTO RICO ELECTRIC POWER AUTHORITY INTEGRATED RESOURCE PLAN	**CASE NO.:** NEPR-AP-2023-0004 **SUBJECT:** Requests of Information (ROI) – Post Initial Technical Hearing.

RESOLUTION AND ORDER

On March 19, 2026, the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") held an Initial Technical Hearing. During the Hearing LUMA presented its 2025 Integrated Resource Plan filing ("2025 IRP"). **Attachment A** of this Resolution and Order contains requirements of information ("ROI") arising from the Hearing and from LUMA's 2025 IRP.

Attachment B of this Resolution and Order contains ROIs arising from potential new or converted power plant options the Energy Bureau understands Puerto Rico Electric Power Authority ("PREPA") to be considering based on previous Energy Bureau orders[1] and/or current public policy. The nature and status of these considerations is relevant to the current 2025 IRP process[2]. The Energy Bureau **ORDERS** PREPA to, **on or before five business days from the notification of this Resolution and Order**, provide to LUMA the information necessary for LUMA to timely respond to the ROIs included in **Attachment B**.

The Energy Bureau **ORDERS** LUMA to, **within ten (10) business days from the notification** of this Resolution and Order, file its response to the ROIs included in **Attachment A** and **Attachment B** of this Resolution and Order.

Be it notified and published.

Edison Avilés Deliz
Chairman

Lillian Mateo Santos
Associate Commissioner

Antonio Torres Miranda
Associate Commissioner

NEGOCIADO DE ENERGÍA DE PUERTO RICO
NEPR
JUNTA REGLAMENTADORA DE SERVICIO PÚBLICO

[1] *See* IN RE: Competitive Procurement for New Generation Sources, Case No. NEPR-MI-2025-0001.

[2] *See* Act 1-2025 and Act 2-2025.

CERTIFICATION

I certify that the majority of the members of the Puerto Rico Energy Bureau has so agreed on April 1, 2026. I also certify that on April 1, 2026. Associate Commissioners Ferdinand A. Ramos Soegaard and Sylvia B. Ugarte Araujo did not intervene. I have proceeded with the filing of the Resolution and Order issued by the Puerto Rico Energy Bureau and a copy was notified by electronic mail to RegulatoryPREBOrders@lumapr.com; nzayas@gmlex.net; rcruzfranqui@gmlex.net; mvalle@gmlex.net; alexis.rivera@prepa.pr.gov; nzayas@gmlex.net; margarita.mercado@us.dlapiper.com; Yahaira.delarosa@us.dlapiper.com; lrn@roman-negron.com; regulatory@genera-pr.com.

I sign this in San Juan, Puerto Rico, today April 1, 2026.

Sonia Seda Gaztambide
Clerk

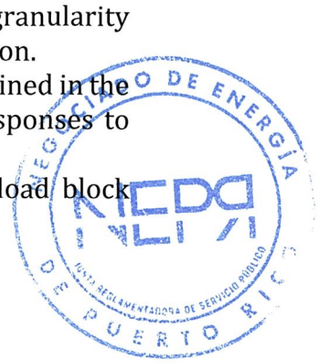
NEGOCIADO DE ENERGÍA DE PUERTO RICO
JUNTA REGLAMENTADORA DE SERVICIO PÚBLICO

Attachment A
Requests of Information ("ROIs") to LUMA – Post Initial Technical Hearing

1. Reference: PLEXOS model resource outage representation and certain data inputs and outputs, across all modules. IRP filing, Section 8.2.5-8.2.6, pages 247-250, and related workpapers and responses to Energy Bureau ROIs. Provide or confirm the following input assumptions or output results, in Excel file format if or as applicable, for the PRP scenario:

   Inputs:
   a. Chronology settings in PLEXOS for the LT model.
   b. Configuration settings in PLEXOS for LT, PASA, MT and ST modules.
      - This can be an update to the response provided by LUMA to the August 20, 2024 Energy Bureau ROI-2, which included an attachment file containing configuration parameters, with the filename RFI-LUMA-AP-2023.0004-20240820-PREB-001B.001_*Input_Assumptions_Parameters_and_Costs*.
   c. Derated available capacity inputs per unit for the LT model, for both generation and battery energy storage resources.
   d. Confirm or explain otherwise that each run of the LT module (foundational, and each iteration) uses the derated available capacity for each resource.
   e. Load blocks for the LT model
   f. PASA module stochastic simulation parameters for the foundational run. Include all information and data to demonstrate how the outage schedule is determined in PLEXOS. Please include any stochastic sampling settings, including the number of iterations, and any additional source material if applicable.
   g. If this is not already addressed in the response to above question sub-part, please explain how the forced outage data for existing units presented on pages 164-165 of the IRP was used in the LT, PASA, MT, and ST modules of the PLEXOS model.
   h. Confirm or explain otherwise that the available capacity values for all resources in the ST module runs are the full available capacity amounts, and not any derated capacity amount.

   Outputs:
   i. Confirm or explain otherwise that the unit-specific outage data in the tab "OtgRate" in the "solution spreadsheets" workpaper files are an annual average of the combined forced plus planned outage rate, reflect the result of the "foundational" outage run, and at hourly granularity are used as an input to the ST modeling for iteration 1 and all remaining iterations.
   j. Concerning module run sequences: Why does LUMA state at page 248 that "The outages are unknown at the time of the LT simulation but are known and available by the conclusion of the ST simulation", if the outage schedule is actually known at the end of the PASA module run?
   k. Provide battery energy storage resource outputs from the MT runs that inform the ST runs, or confirm (or explain otherwise) that the "Batteries Net Generation" tab in the "Attachment 4B" Excel files provided in the January 15, 2026 responses to Energy Bureau ROI 4 contain the same data and temporal granularity as the MT run outputs.
   l. Provide generation by unit for the LT runs, at the temporal granularity reflected in the LT run, for the foundational run and for each iteration.
   m. Confirm that all hours generation by unit from the ST runs are contained in the "Attachment 4B" Excel files provided in the January 15, 2026 responses to Energy Bureau ROI-4.
   n. Provide the LT run Expected Unserved Energy levels at the LT load block granularity for the PRP.



o. At page 247 of the IRP LUMA states, "Review of early simulation results showed that material differences in the results between runs were caused by the differences in the schedules of the planned and forced outages".
- What was the nature and the source of the differences in the schedules of planned and forced outages?
- What was the nature of the "material differences" in the results between runs?
- Does "between runs" means between iterations, or between modules, or something else? Explain.

2. Reference: LUMA response to Energy Bureau ROI 4(a) of December 3, 2025. Foundational outages results provided in filename "LUMA 0616 Sc1_Foundational outages existing units.csv".

a. The referenced file with foundational outage information contains results indicating unit outages but does not indicate the MW associated with each unit. Provide an updated Excel file including the MW capacity rating for each unit (for all entries) that would be available if the unit was not in an outage condition for the ST module run. Confirm or explain otherwise that this capacity rating is an available capacity rating, and not a derated capacity amount.

b. What is the forced outage schedule for each unit after the foundational ST simulation results? Provide an Excel file showing these results, and confirm or explain otherwise that it is different from the outage schedule seen in the "LUMA 0616 Sc1_Foundational outages existing units.csv" file, since that file contains the schedule of both planned and forced outages.

3. Reference: Table on slide 35 of the 3/19/26 Initial Technical Hearing presentation, Illustrative Foundational Run Output.

a. "Illustrative" sample hourly outage schedule. Confirm or explain otherwise that the table on slide 35 is reflective of the hourly outage schedule from the foundational run used for LUMA's modeled scenarios.

4. Reference: Table on slide 36 of the 3/19/26 Initial Technical Hearing presentation, Illustrative ST Model Results for Unserved Energy (USE) by TPA.

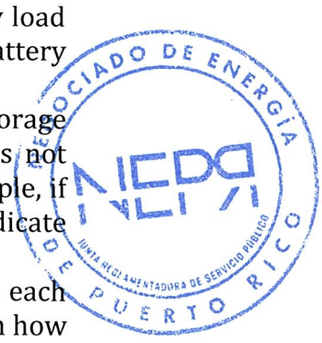
a. State which iteration of the ST module runs is reflected in the unserved energy results on the table listed in slide 36. Confirm or explain otherwise that the table reflects the PRP scenario.

b. For the scenario reflected in the illustrative results provided in the table, provide a single Excel file with the ST model hourly dispatch results for October 31, 2030, for 1) the foundational run that produced the foundational results, and 2) each of iteration 1, 2, 3 and 4. For all ST model run dispatch results, include hourly load and hourly output for each resource, including all available generation and battery energy storage resources.

c. In the same Excel file, account in full for the available battery energy storage resource capacity, both utility scale and distributed scale, if such capacity is not providing energy in any of the hours included for October 31, 2030. For example, if the battery is providing spinning or control reserve capacity or is on outage, indicate such.

d. For October 31, 2030, provide the "fixed load adder" amounts used at each iteration to increase the LT load, at the finest temporal granularity, and explain how the model translated unserved energy amounts at an hourly granularity in the ST run to a different temporal granularity in the LT run.

e. Provide the LT run temporal granularity used for October 31, 2030, if or as applicable.



5. Reference: Section 5.1 of the IRP, including Figure 58: Target Expected Unserved Energy (page 175), PRP scenario model results for Unserved Energy (table below from LUMA workpapers), and LUMA Monthly Generation Performance Reports (https://lumapr.com/wp-content/uploads/2026/02/2025.12-December_Generation-Performance-Report.pdf and https://lumapr.com/wp-

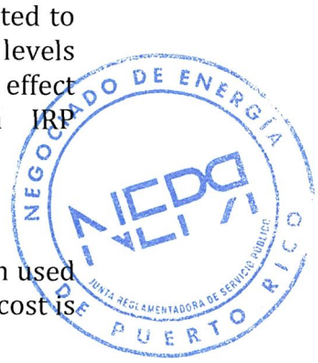
content/uploads/2025/01/2024.12_Generation-Performance-Report.pdf). Also, LUMA's December 2025 Resource Adequacy report, for Fiscal Year 2026.

PRP "Solution Spreadsheet" Results - ST Unserved Energy	Unserved Energy, GWh	Unserved Energy Hours	Max Unserved Energy, MW
2024	225	1,230	1,007
2025	52	375	705

a. Based on the monthly generation performance reports that capture full-year results for 2024 and 2025, provide LUMA's best estimation of the actual level of annual unserved energy (in MWh) in Puerto Rico due to generation shortfall events and unit performance load shed events for each of 2024 and 2025. Provide any per-customer use assumptions or other assumptions used to provide the estimate.
b. Explain how the magnitude, pattern, and type of event leading to actual amounts of unserved energy in 2024 and 2025 was or was not considered when determining the foundational results that define the planned, forced, and combination of planned and forced outages used in the ST module.
c. Did LUMA consider the actual unserved energy results (*i.e.*, the loss of load resulting from the load shed events documented in the monthly generation performance reports) from 2024 or 2025 when structuring, analyzing, or revising the methods used for unit outage representation in the PLEXOS modeling for the IRP?
d. Provide any further discussion concerning a comparison between the PRP scenario modeled unserved energy amounts in the 2024 and 2025 calendar years, and LUMA's estimate of actual unserved energy in Puerto Rico in 2024 and 2025 calendar years, including the extent to which the information or the analysis contained in the Fiscal Year 2026 resource adequacy report intersects with the assumptions made for the IRP modeling.

6. During the Initial Technical Hearing Commissioner Ramos noted that the distributed solar PV amounts "fixed" into the model (for example, slide 65 of the presentation) seemed very low, as the actual annual amounts over the past few years have been on the order of multiple hundreds of MW per year, rather than the tens of MW per year seen on the slide. LUMA states at page 116 of the IRP that it utilized its own February 2024 forecast for distributed solar PV. LUMA's submittal to the Energy Bureau on January 27, 2026 contained historical data showing more than 250 MW per year of distributed solar PV installations during each of 2023 and 2024 (LUMA filing at https://energia.pr.gov/wp-content/uploads/sites/7/2026/01/FY2026-Q2-Performance-Metrics-by-Area-Renewable-and-DSM-Active.xlsx).
   a. What information was LUMA using when it developed the distributed solar PV forecast shown in Figure 20 of the IRP (page 117), which appears to significantly undercount the distributed solar PV that has been installed in 2024 and 2025?
   b. What is LUMA's current estimate of the amount of distributed solar PV forecast for installation in 2026 through 2030, and the years beyond 2030?
   c. If the level of distributed solar PV used in the PRP modeling was updated to consider the actual amounts in place now, and the potentially increased levels over each of the next five years relative to what is in the model, what effect does that have on the underlying PRP or LUMA's overall IRP recommendations?

7. Reference: slide 56, Fuel Transition and cost of biodiesel.
   a. Provide the explicit costs ($/kW, and total cost) of biodiesel conversion used in the PLEXOS model for any existing resource for which a conversion cost is included.



b. Confirm or explain otherwise that all new biodiesel resources or conversion of new gas resources are modeled with a zero-capital cost for conversion.

8. Reference: slides 69 and 70, Issues with Modeling Results
   a. For issue number 2 (slide 69) and issues number 3 and 4 (slide 70) provide documentation of the actual FOM and VOM component cost effects, and the resulting PVRR cost effects.
   b. For issue number 1 (slide 69) state what the level (MWh, and $) of incorrect generation and costs are for the months prior to the intended operation date.

9. Reference: transmission system modeling, slide 72, "peak solar" and "peak demand" cases.
   a. For the "peak solar" PSSE modeling case for each of 2026 and 2034, provide in an Excel file the assumed generation and battery energy storage dispatch levels (MW) by unit, and the total MW load and MW loss levels represented in the modeling. Provide any further explanation or reference to the Transmission Studies report as needed concerning the generation or battery energy storage resource configurations used.
   b. For the "peak demand" PSSE modeling case for each of 2026 and 2034, provide in an Excel file the assumed generation and battery energy storage dispatch levels (MW) by unit, and the total MW load and MW loss levels represented in the modeling. Provide any further explanation or reference to the Transmission Studies report as needed concerning the generation or battery energy storage resource configurations used.

10. Reference: slide 58 of the Initial Technical Hearing presentation, Planning Reserve Margin. Table 51 at page 177 of the IRP contains the Planning Reserve Margin ("PRM") for the PRP scenario. "Capacity Chart" tab of the "solution spreadsheet" workpaper files.
    a. Provide an Excel file (or indicate where in the filing or the workpapers the table is located) with the equivalent table of total capacity, total dispatchable capacity for peak load, system peak load, and planning reserve margin for each of the other scenarios modeled, including core and supplemental scenarios.
    b. Provide a direct comparison of the annual planning reserve margin and the associated dispatchable capacity for the PRP and Scenario 12. Explain why the higher levels of dispatchable capacity seen in scenario 12 (relative to the PRP) are required.

11. Reference: hourly marginal energy cost, all years, for the PRP scenario.
    a. Provide an Excel file with the hourly marginal energy cost in Puerto Rico that results from the PLEXOS ST modeling for all years, all hours for the PRP scenario. If the TPA zones "split", provide the hourly marginal energy cost by zone.

Attachment B
Requests of Information ("ROIs") to PREPA

1. Reference: Current considerations and discussion for converted or new gas plant in two separate regions of Puerto Rico.
    a. AES coal plant conversion to gas / Guayama region. Provide all relevant technical and economic information PREPA currently has concerning the estimated potential conversion of the AES coal plant from coal to gas. This must include each of the following:
        i. timing of conversion, including the estimated start of conversion and completion date,
        ii. the firm MW size of the completed, converted plant,
        iii. the type of operation of the completed, converted plant (e.g., combined cycle, steam only, other) and the number and nature of the fuels used or able to be used,
        iv. the cost of conversion,
        v. the fuel and O&M costs for the converted plant,
        vi. the source of fuel for the converted plant,
        vii. the overall contractual structure of the planned converted plant, and how it compares with the current contractual structure of the AES coal plant,
        viii. the emission output profile of the converted plant,
        ix. any other relevant information that would inform the best estimate of the levelized cost of energy contemplated from the converted coal plant over the planned operating lifetime,
        x. the intended operation from 2050 onward, after Puerto Rico must produce all energy from renewable-only resources, and
        xi. if the converted plant is planned from the start to be able to use renewable fuels.
    b. Costa Sur steam plant / Peñuelas region. Provide information PREPA has concerning the following considerations associated with information received in response to the Puerto Rico Public-Private Partnerships Authority Costa Sur New Generation Facility Procurement Process, based on an RFQ issued in February of 2026.
        i. timing of completion of potential new plant,
        ii. the firm MW size of the plant,
        iii. the type of operation of the plant (e.g., combined cycle, steam only, other) and the number and nature of the fuels used or able to be used,
        iv. the cost of building the plant, including all interconnection and other network cost estimates associated with the plant
        v. the fuel and O&M costs for the plant,
        vi. the source of fuel for the plant,
        vii. the overall contractual structure of the planned plant,
        viii. the emission output profile of the converted plant,
        ix. any other relevant information that would inform the best estimate of the levelized cost of energy contemplated from the plant over the planned operating lifetime,
        x. the intended operation from 2050 onward, after Puerto Rico must produce all energy from renewable-only resources,
        xi. if the plant is planned from the start to be able to use renewable fuels, and
        xii. How the plant's construction and operation will reflect the existence of current power plant assets (Costa Sur, EcoElectrica) and planned new battery and fossil generation plants in the region.