

**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: Extension of Filing Date and
Scheduling Third Technical Conference for
the 2024 IRP - Prefiling Process (Phase 1)

RESOLUTION AND ORDER

I. Introduction & Procedural background

On August 24, 2020, the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") issued the Integrated Resource Plan ("IRP") Order ("IRP Order")¹. The IRP Order included a Section titled "*Preparing for the Next IRP Cycle*", containing action items and internal process improvements to be implemented by the Puerto Rico Electric Power Authority ("PREPA") for the next IRP.² The action items included specific technical elements about how the IRP considered energy efficiency, distributed generation, and storage, load forecasting, wind resources, resource need assessment, transmission and distribution and a Modified Action Plan.³

On October 14, 2022, the Energy Bureau issued a Resolution and Order conditionally approving LUMA's choice of contractor, contingent upon explicit contractor compliance with the Energy Bureau's Regulation 9021⁴ about filing an integrated resource plan.⁵ In that Order the Energy Bureau approved LUMA's request for confidentiality of Exhibit 1 of its August 31 Motion and noted that the contractor plans to use the PLEXOS model. The Energy Bureau directed LUMA and its contractor to use 2025 as the starting year for the IRP modeling, and to support an exercise considering the 20-year modeling horizon 2025-2044, using reasonable assumptions for demand and supply side resource development, and resource retirement likely to be in place in years before 2025. The Energy Bureau also ordered LUMA and its contractor to make input assumptions and output results available to stakeholders in industry standard electronic format (e.g., Excel file) to facilitate stakeholder review and quantitative analysis, especially for those without access to the PLEXOS software.

On March 31, 2023, LUMA filed its *Motion Submitting Update on IRP Technical Consultant Contracting Process, Request for Modification of Procedural Timeline and Request for Confidential Treatment* ("March 2023 Motion").⁶ In its Motion, LUMA requested an initial technical conference no earlier than May of 2023, due to contracting issues delays. As part of the March 2023 Motion, LUMA filed (under seal) an Exhibit 1, which explains the circumstances under which the process to contract the IRP Technical Consultant has been

¹ Final Resolution and Order on the Puerto Rico Electric Power Authority's Integrated Resource Plan, *In re: Review of the Integrated Resource Plan of the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2018-0001, August 24, 2020 ("IRP Order").

² IRP Order, pp. 285-289, ¶ 912-922.

³ IRP Order, pp. 285-287, ¶ 913-919.

⁴ *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, April 24, 2018 ("Regulation 9021").

⁵ Resolution and Order, *In re: Implementation of the Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan*, Case No. NEPR-MI-2020-0012, October 14, 2022.

⁶ See *Motion Submitting Update on IRP Technical Consultant Contracting Process, Request for Modification of Procedural Timeline and Request for Confidential Treatment, In re: Implementation of the Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan*, Case No. NEPR-MI-2020-0012, March 31, 2023 ("March 2023 Motion").



delayed. LUMA included as Exhibit 2 a 2024 IRP Status Update summary, suggesting that it is working towards resolving the potential contracting delay. LUMA also described in the IRP Status Update summary it has issued a Stakeholder Facilitator RFP to manage the stakeholder engagement process.

On July 1, 2023, Genera PR LLC ("Geneera") commenced operations and maintenance of the Puerto Rico Electric Power Authority's aging power-generation assets, also known as the "legacy" power plants, formerly operated by PREPA.⁷

On August 8, 2023, the Energy Bureau held an initiating technical conference for the 2024 Integrated Resource Plan ("IRP"). The technical conference included a presentation by LUMA on some of the agenda items concerning the technical parts of the IRP ("August 8 Presentation"). LUMA filed those materials. Presentation and discussion of other technical items from the agenda were postponed pending the availability of LUMA's selected technical contractor.

Jim
On September 7, 2023, the Energy Bureau approved the revised technical contract between LUMA and its selected technical contractor. The Energy Bureau scheduled a second pre-IRP filing period technical conference for October 31, 2023 from 10:00 AM to 5:00 PM.

JAB
SBK
On October 31, 2023 the Energy Bureau held its second technical conference in the pre-filing phase of the 2024 IRP. LUMA presented a slide deck with materials covering the items on the agenda. During the October 31 technical conference, the Energy Bureau requested additional information from LUMA. Some of the information requested were to be filed shortly after the conference, and other were to be filed before the next technical conference. The requested materials include: i) corrections to identified inaccuracies on a few slides; ii) formal filings to ask for an extension to file the IRP in June instead of March 2024, and to request flexibility in how quantitative weights may be needed if a scorecard is included in the IRP filing; iii) resiliency value forecasts and the associated computational steps for any resiliency value attributed to resources as part of the IRP; and iv) updated information about the electric vehicle forecast for certain municipalities.

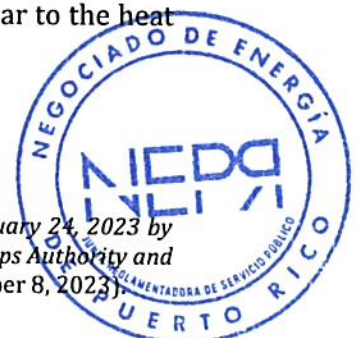
OSU
On November 1, 2023 LUMA submitted a *Motion Submitting Amended Presentation in Compliance with Bench Order Issued During Second Technical Conference*, containing Exhibit 1, which is a corrected version of the presentation used during the October 31, 2023 technical conference. Minor corrections to seven slides were included in Exhibit 1.

On November 14, 2023 LUMA filed a *Motion Submitting Supplemental Response to Request for Information Number 5 in Compliance with Bench Order ("ROI 5 Motion")*. LUMA's supplemental response explained why the electric vehicle ("EV") forecast had zero values for some municipalities in the PR100 Study data.

On November 14, 2023 LUMA submitted a *Request for Modification of Timeline for 2024 IRP Filing*. LUMA requests a filing date of June 28, 2024 to let it work with its contractor Black and Veatch ("B&V") and to complete B&V and LUMA tasks, as indicated on slide 45 of LUMA's October 31, 2023 presentation at the second technical conference for the 2024 IRP.

On November 14, 2023 LUMA submitted a *Request for Flexibilization of Requirement to Use a Quantitative Weighted Scorecard Methodology to Select Preferred Portfolio as Included in the 2020 IRP Order ("Flexibilization Request")*. LUMA's request explained LUMA's position that weighting the attributes of a resource portfolio can be a subjective exercise. LUMA's requests "eliminat[ing] the requirement for LUMA to define a relative weighting of the objectives defined for the 2024 IRP". LUMA proposed to use color-coded matrices, similar to the heat map concept, to convey information about the IRP resource portfolios.

⁷ Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement dated January 24, 2023 by and among The Puerto Rico Electric Power Authority, The Puerto Rico Public-Private Partnerships Authority and Genera PR, LLC. Available at [Microsoft Word – 404180776_30.docx \(pr.gov\)](#) (last visit, December 8, 2023).



II. DISCUSSION AND FINDINGS

Filing Date for the 2024 IRP

The original filing date for the 2024 IRP was March 2024. The contract for LUMA's technical contractor was not approved until September of 2023, based on the need for LUMA to first address potential conflicts of interest associated with its chosen contractor, B&V, in consideration of other work undertaken in Puerto Rico. LUMA has requested an extension to the filing date from March 2024 until June 28, 2024, to allow enough time for its contractor's analysis of resource planning issues and LUMA's parallel (and for some areas, sequential) analysis of transmission and distribution issues.⁸

Jim
Completing the next IRP is a critically important step for Puerto Rico, to continue its transformation of the electricity system to one supported by increasing amounts of renewable energy and retirement of the oldest and most polluting of the electricity generation resources on the Island. The Energy Bureau recognizes the need to allow LUMA sufficient time to develop the 2024 IRP, but also notes the critical importance of LUMA adhering to a modified schedule that allows an extension of the time for filing the IRP.

JAB
The Energy Bureau **APPROVES** LUMA's request to modify the timeline for the 2024 IRP filing, to June 28, 2023. The Energy Bureau simultaneously **WARNS** LUMA that no further IRP schedule adjustments are to be made to this filing date. The Energy Bureau **ANTICIPATES** formalizing a comprehensive schedule in the Spring of 2024 for post-filing technical conferences if or as necessary, and for an IRP hearing during 2024.

Use of Scorecards in the IRP

Simon
SM
Regulation 9021 does not *require* the use of scorecards in the IRP. Regulation 9021 notes that LUMA shall "use the minimization of the present value of revenue requirements ["NPVRR"] as the primary selection criterion", as LUMA indicates it will do.⁹ The Regulation also notes that LUMA shall consider other criteria, and that the IRP shall include a detailed discussion of many factors,¹⁰ but there is no firm requirement that a scorecard be used.

SM
The Regulation notes that "where meeting these needs is associated with quantifiable costs, these costs shall be included in the calculation of the present value of revenue requirements". One implication of this part of the Regulation is that certain discernable costs may not be part of the NPVRR computed by the underlying resource modeling done by LUMA or B&V, but that nonetheless such costs could be added – outside the PLEXOS model framework, for example – to develop a "final" NPVRR metric. For example, scenario analysis using different net load forecasts - due to the effect of energy efficiency implementation - could directly consider the costs of such implementation, but they can be used outside the PLEXOS resource accounting to determine the NPVRR to be used for scenario comparison purposes.

The Energy Bureau's IRP Order in 2020 indicated that if PREPA used a scorecard, it needed to assign quantitative weights to the parts considered to indicate the relative ranking of a plan. The purpose would be to remove the subjective value different parties may give to attributes of any resource plan. LUMA's proposed approach, based on the information presented does not include direct use of a "scorecard" similar to that used by PREPA in the 2020 IRP.

⁸ See, e.g., slide 45 of the corrected version of LUMA's October 31, 2023 presentation at the Second Technical Conference for the 2024 IRP.

⁹ Slide 42 of the corrected version of LUMA's October 31, 2023 presentation at the Second Technical Conference for the 2024 IRP.

¹⁰ Regulation 9021, Section 2.03 (H) (2) (D) (ii and iii).



LUMA's plan to use "heat map"¹¹ visual information based on the present value of revenue requirements is reasonable, to discern the differences across portfolios. The Energy Bureau **EXPECTS** LUMA to follow Regulation 9021 and include detailed discussion of other factors that may not have quantitative information comparable to that of the NPVRR metric. The Energy Bureau also **EXPECTS** that LUMA would include discernable costs, as relevant and appropriate, that may be treated outside the immediate PLEXOS modeling structure when developing scenario NPVRR values, under Regulation 9021.

Next Technical Conference – Certain Transmission Issues

As indicated in the agenda for the October 31, 2023 technical conference, and as noted by LUMA in its presentation materials, subsequent technical conferences in the IRP pre-filing period will be to address transmission and distribution analysis, and other Regulation 9021 elements as necessary. While the agenda indicated a potential December date for the next technical conference, the Energy Bureau is mindful of the now-later date for the IRP filing.

The next in-person technical conference will be held on **January 30, 2024, at 10AM** and will address certain transmission system issues in Regulation 9021 that concern the ability of the existing and planned system to incorporate new renewable energy (especially solar PV resources) and renewable integration resources (especially battery energy storage systems). The Energy Bureau requires LUMA to discuss in this technical conference these key elements of Regulation 9021:

- Features of the transmission system, as described in Section 2.03 (J) (1) (a) (i):
 - i. A summary of the characteristics of all existing transmission and subtransmission facilities of thirty-eight kilovolts (38 kV) or higher;
- The ability of the existing system to interconnect new renewable generation and battery storage projects, as described in Section 2.03 (J) (1) (a) (ii):
 - ii. A discussion of whether the transmission system constrains the transfer of electricity from existing projects, potential new projects, or projects under development or consideration, including a description of its ability to interconnect intermittent renewable generation projects and microgrids, as applicable, and with as much specificity as practical;
- For potential planned transmission facilities, a detailed narrative description of planned transmission and sub-transmission facilities, over the next ten years as described in Section 2.03 (J) (1) (d), including i. through iv.:
 - i. New lines, including any requirements of new rights-of way;
 - ii. Lines in which changes in capacity, either in terms of current, voltage or both, are scheduled to take place; and
 - iii. Other changes in transmission lines or rights-of-way, which would be considered as substantial additions.
 - iv. A listing of all proposed substations including size and location
- For potential planned transmission facilities, the ability of the system to "permit power exchange" with newly interconnecting independent power producers, especially those contracted or under contract consideration for the tranches of renewable energy and battery storage projects, and as described in Section 2.03 (J) (1) (d) (ix):
 - ix. A high-level analysis of PREPA's transmission system's ability to permit power interchange with microgrids and other independent power producers. PREPA should provide examples of interconnection studies from recent renewable integration projects.
- Any waivers LUMA may be aware of at this time, to consider for particular requirements of Regulation 9021 as they pertain to sections about existing or planned transmission, and transmission system analysis.

¹¹ LUMA Flexibilization Request, Exhibit 1 "IRP Scorecard Requirements", November 14, 2023, page 2.



The purpose of the technical conference is for LUMA to present its current prescriptions for practically, effectively, and speedily addressing Puerto Rico's need to connect new renewable resources and integrating resources such as battery energy storage systems, as **GUIDED** by Regulation 9021's elements about new resource interconnection.

The Energy Bureau **DIRECTS** LUMA to consider carefully and insightfully the above parts of Regulation 9021 and present information that both covers the spirit and letter of the above transmission sections of Regulation 9021; while simultaneously considering ongoing lessons learned through LUMA's studies and processes to date - and planned - for interconnection studies for tranches 1, 2, 3, and later tranches of renewable energy procurement in Case No. NEPR-MI-2020-0012. LUMA **MUST** discuss in its presentation both bulk "network" transmission and interconnecting transmission whose purpose is at least to allow for interconnection of new resources, but whose functionality allows such assets to be used more broadly as part of a strengthened transmission or sub-transmission system.

Through this Resolution and Order the Energy Bureau **GRANTS** LUMA wide latitude in developing a fulsome presentation that addresses the above issue in a manner aligned with LUMA's considerations of other parts of resource development required in Regulation 9021, and a presentation that will invite discussion by the Energy Bureau and other stakeholders.

The Energy Bureau also **ORDERS** LUMA to file its presentation for the Third Technical Conference 3 business days before the noticed date of the Third Technical Conference.

III. CONCLUSION

The Energy Bureau **APPROVES** LUMA's request for an extension to file the 2024 IRP, to June 28, 2024.

The Energy Bureau **TAKES NOTICE** of LUMA's plans to use "heat map" approaches to present visual information about the net present value of revenue requirement metrics to be used in scenario analysis in the IRP.

The Energy Bureau will conduct a third in-person technical conference on January 30, 2024, at 10:00 am. at which LUMA will present information on certain parts of the transmission sections of IRP Regulation 9021.¹²

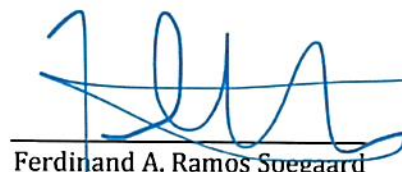
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Associate Commissioner



Antonio Torres Miranda
Associate Commissioner

¹² The in-person technical conference shall be held at the Energy Bureau's Hearing room located on the 8th floor, World Plaza Bldg., San Juan. The Energy Bureau will allow any request for a person to appear virtually with a valid justification.



CERTIFICATION

I certify that the majority of the members of the Puerto Rico Energy Bureau agreed on December 20, 2023. Also certify that on December 20, 2023, I have proceeded with the filing of this Resolution and Order and was notified by email to lionel.santa@prepa.pr.gov; ana.rodriguezrivera@us.dlapiper.com; brannen@genera-services.com; kbolanos@genera-pr.com; regulatory@genera-pr.com. I also certify that on December 20, 2023, I have moved forward with filing the Resolution and Order issued by the Puerto Rico Energy Bureau.

I sign in San Juan, Puerto Rico, today, December 20, 2023.



Sonia Seda Gaztambide
Clerk

