

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

NEPR

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IN RE:
INFORMES DE PROGRESO DE
INTERCONEXIÓN DE LA AUTORIDAD
DE ENERGÍA ELÉCTRICA DE PUERTO
RICO

CASE NO. NEPR-MI-2019-0016

SUBJECT: Motion Submitting Outstanding Responses in Further Compliance with Bench Order Issued at the Compliance Hearing Held on May 6, 2024

**MOTION SUBMITTING OUTSTANDING RESPONSES
IN FURTHER COMPLIANCE WITH BENCH ORDERS ISSUED AT
THE COMPLIANCE HEARING HELD ON MAY 6, 2024**

TO THE PUERTO RICO ENERGY BUREAU:

COME NOW, **LUMA ENERGY, LLC** as Management Co., and **LUMA ENERGY SERVCO, LLC** (collectively, LUMA), through the respective undersigned legal counsel and respectfully state and submit the following:

I. Introduction

1. The captioned proceeding involves oversight by the Puerto Rico Energy Bureau of the Public Service Regulatory Board (“Energy Bureau”) of procedures to handle requests for interconnections of distributed generation systems and microgrids to the Transmission and Distribution System (“T&D System”), pursuant to Acts 57-2014 and 17-2019.

2. During a Compliance Hearing held on May 6, 2024, the Energy Bureau made five requests for information addressed to LUMA, to be submitted on or before May 21, 2024. On May 21, 2024, LUMA submitted partial responses to some of the requests for information posed by the Energy Bureau. However, LUMA requested an extension of time until June 11, 2024, to file its responses to the outstanding requests for information, namely: (1) a breakdown of the

supplemental study process, (2) options to recover the costs of supplemental studies, and (3) options to cover upgrade costs.

3. LUMA hereby submits its outstanding responses to the Bench Orders issued during the May 6, 2024, Technical Conference.

II. Relevant Procedural Background

4. Since July 2020, this Energy Bureau has required that the Puerto Rico Electric Power Authority (“PREPA”) submit quarterly progress reports on interconnections. *See* Resolution and Order of July 21, 2020. The docket of this proceeding also shows that the Energy Bureau has held several compliance hearings.

5. On May 7, 2021, the Energy Bureau issued a Resolution and Order in which it took notice of the transition process underway between LUMA and PREPA (“May 7th Resolution and Order”). On June 1, 2021, LUMA assumed its role as Operator of the T&D System per the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement dated as of June 22, 2020, as supplemented by the Puerto Rico Transmission and Distribution System Supplemental Terms Agreement.

6. In the May 7th Resolution and Order, the Energy Bureau ordered that LUMA shall file quarterly progress reports as stipulated in this proceeding. *See* May 7th Resolution and Order on page 1.

7. On August 27, 2021, this Energy Bureau issued a Resolution and Order directing LUMA to file a copy of the presentation to be offered in every compliance hearing with every Interconnection Progress Report.

8. On April 4, 2024, the Energy Bureau issued a Resolution and Order in which it instructed LUMA to file the Interconnection Progress Reports for the period of January through

March 2024 on April 25, 2024 (“April 4th Order”). It also scheduled the Compliance Hearing to discuss said report for May 6, 2024, at 10:00 a.m. Moreover, the Energy Bureau requested LUMA to incorporate certain information and data based on the specific definitions provided in the April 4th Order in all subsequent Interconnections Progress Reports.

9. On April 25, 2024, LUMA filed a *Motion Submitting Interconnections Progress Report for January through March 2024 and Supporting Materials*. LUMA submitted the Interconnection Progress Report for the January through March 2024 quarter, adhering to the requirements outlined in the Resolution and Order of July 21, 2020. Additionally, LUMA submitted the Distributed Generation Systems Data File (“DG Data File”) in compliance with the Resolution and Order of September 30, 2020. Moreover, in compliance with the April 4th Order, LUMA submitted the DG Data File divided by customer class, including residential, commercial, industrial, and agricultural sectors. Furthermore, LUMA included the presentation for the next Compliance Hearing and the additional data and information requested by the Energy Bureau in the April 4th Order.

10. On May 6, 2024, the Compliance Hearing for this instant proceeding was held. During the presentation, the Commissioners requested different information from the LUMA representatives on the quarterly progress report and matters related to the timeframe, customer communications, and costs of the supplemental studies after interconnection (“May 6th Bench Order”). The Energy Bureau made five requests for information during the Compliance Hearing. The Energy Bureau granted LUMA until May 21, 2024, to provide its responses to the different requests for information posed.

11. On May 21, 2024, LUMA filed a *Motion Submitting Partial Responses in Compliance with Bench Order Issued at the Compliance Hearing Held on May 6, 2024*. LUMA

submitted partial responses to those requests posed by the Energy Bureau, which were related to an explanation for applying a 30-day window in the quarterly report and customer communications on the fee for supplemental studies. Moreover, LUMA requested an extension to submit its responses to the remaining requests for information by June 11, 2024, as those requests were being discussed amongst different LUMA departments to present comprehensive and responsible options to this Energy Bureau.

III. LUMA's Responses to the Outstanding Bench Orders

12. In further compliance with the May 6th Bench Order, LUMA respectfully requests that this Energy Bureau receive and accept the outstanding responses to the remaining requests for information posed during the Compliance Hearing, hereby submitted as Exhibit 1 to this Motion. The responses address those requests for information related to the completion timeline of the supplemental studies, options to approach cases where customers reject paying the fee for a supplemental study, and LUMA's approach to the various upgrade cost scenarios. Conducting supplemental studies is an essential activity for LUMA, given the critical safety implications these studies have on the system. Therefore, it is necessary to identify a predictable and reliable source of funding to enable LUMA to conduct the required supplemental studies, enable the efficient integration of distributed generation resources and ensure the stability and reliability of electric service and infrastructure.

13. LUMA understands that some of the options outlined in Exhibit 1 may require clarification by this Energy Bureau of PREPA's *Regulation to Interconnect Generators with the Electric Distribution System of the Puerto Rico Electric Power Authority and Participate in Net Metering Programs*, Regulation 8915 ("Regulation 8915") or inclusion of such concepts in the proposed *Generating Facility and Microgrid Interconnection Regulation* ("Proposed

Interconnection Regulation”) that this Energy Bureau is considering in Case No. NEPR-MI-2019-0009 (“Interconnection Regulation Proceeding”).

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** the responses to the outstanding requests for information posed during the Compliance Hearing as Exhibit 1 to this Motion; provide any relevant input on the implementation proposals set forth in Exhibit 1; and **deem** LUMA in compliance with the May 6th Bench Order.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this June 11th, 2024.

I hereby certify that I filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this motion to the attorney for PREPA, Alexis Rivera, arivera@gmlex.net. Notice will also be sent to the Office of the Independent Consumer Protection Office, Lcda. Hannia Rivera Diaz, hrivera@jrsp.pr.gov, and to counsel for the Puerto Rico Solar Energy Industries Association Corp. (“SESA”), javrua@sesapr.org.



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Exhibit 1



Response to May 6th Technical Conference Bench Orders

NEPR-MI-2019-0016

JUNE 11, 2024

May 6th Technical Conference Bench Orders

NEPR-MI-2019-0016

Response: TC-RFI-LUMA-MI-2019-0016-20240611-PREB-004

INTRODUCTION

LUMA Energy, LLC ("LUMA") submits this document in response to the Bench Orders issued by the Puerto Rico Energy Bureau ("Energy Bureau") during the Technical Conference held on May 6, 2024. The purpose of this response is to address the inquiries and requests made by the Energy Bureau regarding the completion timeline for Supplemental Studies and supplemental study and network upgrade cost recovery options and scenarios.

It is standard industry practice to perform Supplemental Studies before interconnecting Distributed Energy Resources (DERs), including DG, to the grid. Supplemental Studies are crucial for ensuring the safe and reliable operation of Puerto Rico's electrical grid. These studies are designed to thoroughly evaluate the potential impacts of integrating Distributed Generation (DG) into the existing grid infrastructure. Without proper studies and the implementation of necessary upgrades, DG can introduce several risks, including adverse voltage conditions, line and equipment overloads, protection miscoordination, and other unsafe operational issues. Such risks not only threaten the stability and reliability of the power system but also compromise the safety of both the grid and its users.

By carrying out Supplemental Studies, LUMA can identify and mitigate potential issues before they escalate, ensuring that DG can be integrated efficiently into the grid. As Supplemental Studies and upgrades are made, not only does the DG capacity of the system improve, but also it improves the grid's ability to integrate all distributed energy resources (DERs), including, for example, electric vehicles, microgrids, demand response, and others.

The Technical Conference of May 6th highlighted the importance of these studies in maintaining grid integrity. During the conference, the Energy Bureau requested detailed information on the timeline and process for completing Supplemental Studies, as well as options for recovering the costs associated with performing such studies. LUMA's response provides a breakdown of the steps involved in conducting these studies, including the time required for each phase. Additionally, LUMA offers a range of options to ensure equitable cost distribution among all Net Energy Metering (NEM) customers, addressing both immediate and long-term financial considerations.

May 6th Technical Conference Bench Orders

1.SUPPLEMENTAL STUDIES COMPLETION TIMELINE

REQUEST

Breakdown of the hours required to complete the Supplemental Studies.

RESPONSE

Supplemental Studies are crucial for maintaining the reliability and efficiency of the electrical distribution system. They ensure that new connections or modifications do not negatively impact the grid's stability and performance. By identifying potential issues such as voltage drops, thermal overloads, and short-circuit risks, these studies enable proactive measures to prevent significant problems. Supplemental Studies optimize system performance by improving load distribution and voltage regulation and guide necessary infrastructure upgrades, such as reinforcing power lines or upgrading transformers. Supplemental Studies also enhance system protection by assessing and recommending improvements to existing protection schemes.

Supplemental studies are part of the due diligence required for maintaining safety and reliability standards, ensuring compliance with broader regulatory requirements. Furthermore, they support the integration of renewable energy sources by planning for variability and ensuring the grid can accommodate more of these resources. Overall, Supplemental Studies provide essential insights that facilitate informed decision-making and strategic planning, ensuring a robust and efficient electrical distribution system.

Supplemental Studies can be summarized to include the following components with the approximate timing; the duration of a study depends on the specifics of the connection and its location (i.e. feeder by feeder).

Phase	Duration (hrs)	Description
Model Preparation	1.5	This step involves creating a detailed model of the electrical distribution system and the various energy sources connected to it for study purposes. We start with the Geographic Information System (GIS) data of the system, which provides a visual map and essential information. We then update the model to ensure it accurately represents the current state of the system. This includes calculating certain electrical properties and incorporating data on energy usage and the different energy sources.
Study Process	1.5	Next, LUMA integrates this model into specialized software called Synergy to conduct various studies. These studies include: <ol style="list-style-type: none"> Load Allocation: Distributing the electrical load across the system. Load Flow: Analyzing the voltage levels and thermal limits within the system. Short-Circuit Studies: Examining the system's protection measures and identifying potential stability issues.

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Phase	Duration (hrs)	Description
Cluster Results	2.25	Once all analysis has been completed, a summary of results is provided, highlighting any problems at both the system-wide level and the local level (such as service transformers). Then LUMA recommends solutions to address these issues.
Individual Report	0.5	Drafting of individual study report.
Asset Verification	3	To ensure accuracy, a field crew inspects any equipment that may need upgrading, confirming any issues identified during the study.
TOTAL	8.75	

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2.SUPPLEMENTAL STUDY OPTIONS

REQUEST

Provide options for clients who have not paid the Supplemental Studies fee.

RESPONSE

The following options are proposed in response to the Energy Bureau's inquiry regarding scenarios for customers who have yet to pay the \$300 Supplemental Study fee set forth in Regulation to Interconnect Generators with the Electric Distribution System of the Puerto Rico Electric Power Authority and Participate in Net Metering Programs, Regulation 8915 ("Regulation 8915"). For the Energy Bureau's benefit, LUMA also includes in its response options for collection of fees for future projects. The proposed options discussed below are preliminary suggestions and the implementation of some of these options may require the modification, amendment or clarification of PREPA's *Regulation to Interconnect Generators with the Electric Distribution System of the Puerto Rico Electric Power Authority and Participate in Net Metering Programs*, Regulation 8915 or inclusion of such concepts in the proposed *Generating Facility and Microgrid Interconnection Regulation* ("Proposed Interconnection Regulation") that the Energy Bureau is considering in Case No. NEPR-MI-2019-0009.

Future Projects

1. Flat Rate- Preferred Option

All customers today pay a flat application fee of \$100. To cover collective forecasted Supplemental Studies and upgrade costs that arise from DG penetration, this fee could be increased to include a flat contribution for such costs. The specific amount for this contribution would have to be determined, but could be forecasted on a recurring basis, for example during an IRP process, which will ensure all costs are covered and align to any adjustments made in approach, technologies, or labor necessary. The implementation of this proposed approach would require the modification of Regulation 8915 to allow for the increase of the application fee to include this additional flat contribution fee.

2. Reverse interconnection flow to determine if Supplement Studies (and Upgrades) are needed before interconnecting DG.

This is a standard industry practice for ensuring the safe and reliable interconnection of DGs. It involves evaluating and studying feeder conditions before allowing interconnection. Automatic interconnection, as it stands, leaves the utility—and subsequently customers—without proper visibility of what is being integrated into the system relative to existing constraints, potentially leading to unsafe conditions. This proposed action would likely require amending Act 114 to condition interconnection in systems of 25 kW or less to completion of the Supplemental Studies and necessary upgrades.

The utility would still be held accountable to modified performance indicators, to be defined, ensuring NEM customers receive the benefits of interconnection and energy exportation as soon as possible while maintaining safe grid operations. As LUMA's grid continues to evolve with smart inverter settings, Advanced Metering Infrastructure (AMI), and network data flows, these additional mechanisms can further improve the performance and operation of distributed generation resources within the system.

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Under this option, the developer's responsibilities would not change. Developers would continue to be responsible for grid upgrade costs.

Pending Projects (backlog)

1. Negotiate payment based on modified backlog study- Preferred Option

If the client's discount is less than \$300, this payment arrangement will apply only to this specific backlog situation and won't be used for other cases.

If the actual costs of the backlog cases result in a per-study fee less than the regulatory specified \$300, the client(s) will be granted a one-time waiver to pay the cost in full. This approach would result in a discount if the fee were less than \$300, or potentially a fee higher than \$300 if actual costs exceeded the specified amount.

2. Enforcement of Existing Regulation

Implement the original course of action by reimbursing the actual cost of Supplemental Studies, amounting to \$300 per required NEM Customer. This amount as stated in the regulation is also shared during the NEM application process as part of the acknowledgement of the terms and conditions of their interconnection agreement with the utility.

This approach would allow the utility to collect the backlog payments owed, as well as apply it to all future applications which are subject to Supplemental Studies.

3. Distribute the \$300 fee across all NEM Customers

The unpaid backlog and existing \$300 fee (or the established Supplemental Studies cost) would be integrated into a flat-fee application cost. This option would require the modification of Regulation 8915 and amendment of Act 114.

May 6th Technical Conference Bench Orders

3. UPGRADE COSTS OPTIONS

REQUEST

Provide options to pay for system upgrade costs.

RESPONSE

In response to the inquiry regarding options for upgrade costs, the following are proposed. It should be noted that these proposed actions discussed below are preliminary suggestions and that the implementation of some of these scenarios will require the modification, amendment or clarification of the current Regulation to Interconnect Generators with the Electric Distribution System of the Puerto Rico Electric Power Authority and Participate in Net Metering Programs, Regulation 8915 ("Regulation 8915") or evaluation in the context of the proposed *Generating Facility and Microgrid Interconnection Regulation* ("Proposed Interconnection Regulation") that the Energy Bureau is considering in Case No. NEPR-MI-2019-0009.

1. Flat-Rate: Preferred

This measure aims to prevent non-NEM ratepayers from bearing the costs of upgrades due to interconnections, ensuring equitable distribution of grid upgrade expenses among all DG system owners. The current application fee could be updated to include provisions for Network Upgrades required by NEM customers, socializing these costs within NEM customers

Similar to the Supplemental Studies flat fee approach suggested in Response #2, a flat fee could be added to the existing \$100 application fee. This fee would aim to cover the forecasted Distribution System Grid Upgrades resulting from Distributed Generation (DG) penetration and current grid conditions. The specific amount for this contribution is yet to be determined but could be forecasted on a recurring basis, such as inclusion with the Integrated Resource Plan (IRP), ensuring costs are covered and aligned with adjustments in approach, technologies, or labor. The implementation of this proposed approach would require the modification of Regulation 8915 to allow for the increase of the application fee to include this additional flat contribution fee. Also, this option would require the amendment to Act 114.

2. Business as usual

Follow law 114 to identify cost-causer distributed generation project and invoice the cost-causer's developer for the identified upgrade.

3. Fee recovery mechanism

An adjusted rate strategy would involve charging all interconnected customers a modified NEM rate to account for necessary upgrades resulting from increased Distributed Generation. A discount can be applied from the NEM tariff to cover the entirety of the identified upgrades. This way, the financial burden is shared among those who benefit from NEM, without passing the responsibility to non-NEM customers. This strategy could also consider a rate based on installed system capacity. This option would require the modification of Regulation 8915 and amendment of Act 114.