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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**: LUMA's Motion Submitting Responses to Requests for Information in Compliance with Resolution and Order of October 8, 2026

MOTION SUBMITTING RESPONSES TO REQUESTS FOR INFORMATION IN COMPLIANCE WITH RESOLUTION AND ORDER OF OCTOBER 8, 2026

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

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

I. Procedural Background

1. On October 6, 2026, the Puerto Rico Energy Bureau ("Energy Bureau") entered a Resolution and Order directing LUMA to file its response to the requests for information included in Attachment A of said order, within ten (10) business days ("October 6th Order"). On October 8, 2026, the Energy Bureau issued a Resolution and Order, notified on October 9, 2026, modifying the October 6th Order "to the extent necessary to SUBSTITUTE the previously issued Attachment A with the updated Attachment A included herein" ("October 8th Order").

2. Per the October 8th Order, the updated Attachment A "supersedes" the Attachment A to the October 6th Order. Attachment A contains the responses to the fourth set of 2025 IRP post-filing requests for information regarding: (i) marginal energy costs for the Preferred Resource Plan ("PRP") scenario; (ii) legacy and new unit outage representation in PLEXOS©; (iii) the costs of utility-scale battery, solar photovoltaic, and fossil-fueled resources; and (iv) battery usage in PLEXOS©. The October 8th Order directed LUMA to file its responses to the fourth set of 2025

IRP post-filing requests for information included in the updated Attachment A within ten (10) business days from its notification. Accordingly, LUMA's responses are due on October 26, 2026.

3. As ordered, LUMA's responses are based on the results of its October 17, 2025, Integrated Resource Plan ("IRP") filing. LUMA respectfully notes, however, that the recommended PRP and the other resource plans included in the October 17, 2025, filing are outdated due to significant updates to the assumptions and inputs (e.g., generating resources, fixed decisions, and load) that have occurred since that filing. As directed in the October 8th Order, LUMA will file on or before October 30, 2026, a modified PRP, identified as the PRP Prime ("PRP'"), together with the solution spreadsheet and associated documentation. Following the filing of the PRP', and after the Energy Bureau and its consultants have had an opportunity to review and approve the updated assumptions and inputs, LUMA intends to develop and file an updated recommended PRP, together with any additional scenarios requested by the Energy Bureau.

4. In compliance with the October 8th Order, LUMA hereby submits its responses to the requests for information included in the updated Attachment A, as *Exhibit 1* to this Motion. *Exhibit 1* includes the following attachments: (i) RFI-LUMA-AP-2023.0004-20261008-PREB-01; (ii) RFI-LUMA-AP-2023.0004-20261008-PREB-02-05 ("PREB-02"); and (iii) RFI-LUMA-AP-2023.0004-20261008-PREB-05-04 ("PREB-05").

II. Request for Confidential Treatment

5. LUMA respectfully submits that certain information included in *Exhibit 1* to this Motion be designated as confidential and protected from public disclosure because it consists of proprietary information that belongs to non-party[1] generators and that LUMA holds subject to

[1] As used in this Motion, the term "non-party" refers solely to the generators and other entities that own the information at issue and provided it to LUMA, but that are not the party to which the October 8th Order is directed or the party

confidentiality obligations, and of Critical Energy Infrastructure Information ("CEII"). The proprietary information is protected from disclosure as a trade secret under the Industrial and Trade Secret Protection Act of Puerto Rico, Act 80-2011, P.R. Laws Ann. tit. 10, §§ 4131-4141, and as trade secret information and commercial or financial information whose disclosure would cause substantial competitive harm under Article 4(ix) and (x) of the Puerto Rico Open Government Data Act, Act 122-2019, P.R. Laws Ann. tit. 3, § 9894 (2025). The CEII is protected from disclosure under 18 C.F.R. § 388.113 and the Critical Infrastructure Information Act of 2002, 6 U.S.C. §§ 671-674. All such information is further protected pursuant to the Energy Bureau's Policy on Management of Confidential Information ("Policy on Confidential Information"). *See In Re: Policy on Management of Confidential Information in Procedures Before the Commission*, Case No. NEPR-MI-2016-0009, Resolution (P.R. Energy Bureau Aug. 31, 2016), *as amended by* Resolution (P.R. Energy Bureau Sept. 20, 2016).

a. Applicable Laws and Regulations to Submit Information Confidentially Before the Energy Bureau

6. The bedrock provision on the management of confidential information filed before this Energy Bureau is Section 6.15 of Act 57-2014, known as the "Puerto Rico Energy Transformation and Relief Act." It provides, in pertinent part, that "[i]f any person who is required to submit information to the Energy [Bureau] believes that the information to be submitted has any confidentiality privilege, such person may request the [Energy Bureau] to treat such information as such . . . ." P.R. Laws Ann. tit. 22, § 1054n (2025). If, after appropriate evaluation, the Energy Bureau determines that the information should be protected, "it shall grant such protection in a manner that least affects the public interest, transparency, and the rights of the

producing the information in response thereto. The term is used only for purposes of identifying the owners of the information and is not intended to, and does not, address whether any such entity is, or has requested to become, a party or intervenor in this proceeding.

parties involved in the administrative procedure in which the allegedly confidential document is submitted." *Id.* § 1054n(a).

7. The confidential information shall be provided "only to the lawyers and external consultants involved in the administrative process after the execution of a confidentiality agreement." *Id.* § 1054n(b). Finally, Act 57-2014 provides that this Energy Bureau "shall keep the documents submitted for its consideration out of public reach only in exceptional cases. In these cases, the information shall be duly safeguarded and delivered exclusively to the personnel of the [Energy Bureau] who need to know such information under nondisclosure agreements. However, the [Energy Bureau] shall direct that a nonconfidential copy be furnished for public review." *Id.* § 1054n(c).

8. Relatedly, in connection with the duties of electric power service companies, Section 1.10(i), subsection (i) of Act 17-2019, P.R. Laws Ann. tit. 22, § 1141i (i) (2025) states that electric power service companies shall provide the information requested by customers, except for confidential information under the Rules of Evidence of Puerto Rico.

9. Moreover, Section A of the Energy Bureau's Policy on Confidential Information details the procedures a party should follow to request that a document or portion thereof be afforded confidential treatment. In essence, the referenced Policy requires identifying confidential information and filing a memorandum of law explaining the legal basis and support for a request to file information confidentially. The memorandum should also include a table that identifies the confidential information, a summary of the legal basis for the confidential designation, and why each claim or designation conforms to the applicable legal basis of confidentiality. *See In Re: Policy on Management of Confidential Information in Procedures Before the Commission*, Case No. NEPR-MI-2016-0009, Resolution at 3 (P.R. Energy Bureau Aug. 31, 2016). The party that

seeks confidential treatment of information filed with the Energy Bureau must also file both a "redacted" or "public version" and an "unredacted" or "confidential" version of the document that contains confidential information. *Id.* at 6.

B. Grounds for Confidentiality

10. The Energy Bureau's Policy on Confidential Information states the following with regard to access to validated Trade Secret Information:

> 1. Trade Secret Information
>
> Any document designated by the [Energy Bureau] as Validated Confidential Information because it is a trade secret under Act 80-2011 may only be accessed by the Producing Party and the [Energy Bureau], unless otherwise set forth by the [Energy Bureau] or any competent court.
>
> 2. Critical Energy Infrastructure Information ("CEII")
>
> The information designated by the [Energy Bureau] as Validated Confidential Information on the ground of being CEII may be accessed by the parties' authorized representatives only after they have executed and delivered the Non-Disclosure Agreement.
>
> Those authorized representatives who have signed the Non-Disclosure Agreement may only review the documents validated as CEII at the [Energy Bureau] or the Producing Party's offices. During the review, the authorized representatives may not copy or disseminate the reviewed information and may bring no recording device to the viewing room.

Id. § D (on Access to Validated Confidential Information).

11. Relatedly, Energy Bureau Regulation No. 8543, *Regulation on Adjudicative, Notice of Noncompliance, Rate Review, and Investigation Proceedings*, includes a provision for filing confidential information in adjudicatory proceedings before this honorable Energy Bureau. To wit, Section 1.15 provides that "a person has the duty to disclose information to the [Energy Bureau] considered to be privileged pursuant to the Rules of Evidence, said person shall identify the

allegedly privileged information, request the [Energy Bureau] the protection of said information, and provide supportive arguments, in writing, for a claim of information of privileged nature. The [Energy Bureau] shall evaluate the petition and, if it understands [that] the material merits protection, proceed according to [. . .] Article 6.15 of Act 57-2014, as amended."

i. Applicable legal framework for confidentiality of trade secrets

12. Under the Industrial and Trade Secret Protection Act of Puerto Rico, Act 80-2011, P.R. Laws Ann. tit. 10, §§ 4131-4141 (2025), industrial or trade secrets are deemed to be any information:

> (a) That has a present or a potential independent economic value or that provides a business advantage, **insofar as such information is not common knowledge or readily accessible** through proper means by **persons who could make a monetary profit from the use or disclosure of such information**, and
> (b) for which reasonable security measures have been taken, as circumstances dictate, to maintain its confidentiality.

Id. § 4132 (emphasis added). Trade secrets include, but are not limited to, processes, methods, and mechanisms; manufacturing processes; formulas; projects or patterns for developing machinery; and lists of specialized clients that may afford a competitor an advantage. *See* Statement of Motives, Act 80-2011; *see also* Puerto Rico Open Government Data Act, Act 122-2019, P.R. Laws Ann. tit. 3, § 9894 (2025) Article 4(ix) (exempting from public disclosure trade secrets) and Article 4(x) (exempting from public disclosure commercial or financial information whose disclosure will cause competitive harm).

13. The Puerto Rico Supreme Court has explained that the trade secrets privilege protects free enterprise and extends to commercial information that is confidential in nature. *Ponce Adv. Med. v. Santiago González,* 197 DPR 891, 901-02 (2017) (citation omitted).

ii. Applicable legal framework for confidentiality of CEII

14. As for CEII, Article 4(p) of the Commonwealth of Puerto Rico Cybersecurity Act, Act 40-2024, defines "Critical Infrastructure" as those "services, systems, resources, and essential assets, whether physical or virtual, the incapacity or destruction of which would have a debilitating impact on Puerto Rico's cybersecurity, health, economy, or any combination thereof." P.R. Laws Ann. tit. 3, § 10124(p) (2025). CEII or critical infrastructure information is generally exempted from public disclosure because it involves assets and information that pose public security, economic, health, and safety risks. The federal regulations on CEII, particularly 18 C.F.R. § 388.113, provide that:

> Critical energy infrastructure information means specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that:
> (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
> (ii) Could be useful to a person in planning an attack on critical infrastructure;
> (iii) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and
> (iv) Does not simply give the general location of the critical infrastructure.

15. Additionally, "[c]ritical electric infrastructure means a system or asset of the bulk-power system, whether physical or virtual, the incapacity or destruction of which would negatively affect national security, economic security, public health or safety, or any combination of such matters." *Id.* Finally, "[c]ritical infrastructure means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters." *Id.*

16. The Critical Infrastructure Information Act of 2002, 6 U.S.C. §§ 671-674 (2020), part of the Homeland Security Act of 2002, protects critical infrastructure information ("CII"). CII

is defined as "information not customarily in the public domain and related to the security of critical infrastructure or protected systems [. . .]." 6 U.S.C. § 650(4); 6 U.S.C. § 671(3).

C. Discussion of Confidentiality Treatment of Attachments to Exhibit 1

i. Confidentiality treatment of PREB-02

17. The Energy Bureau should protect the information in PREB-02, *infra*, because it belongs to non-party private entities that was produced to LUMA under confidentiality provisions. PREB-02 is a compilation of unit-specific, year-by-year maintenance rates, forced outage rates and combined outage rates for 2024 through 2045. It covers existing thermal and peaking generation, landfill gas generation, and utility-scale and distributed battery energy storage resources, including facilities owned and operated by independent power producers and storage developers. LUMA seeks confidential treatment only for the historical data for 2024 through 2026. That data reflects the actual operating performance of each facility, as provided by the generators under confidential designations. The information is not of common knowledge or readily accessible through proper means, and it has independent economic value to its owners because it is not generally known. It therefore falls squarely within the type of information that Act 80-2011 protects.

18. Unit-specific maintenance schedules and outage rates reveal a facility's availability, reliability, maintenance practices and expected operating performance over time. The generators consider this information commercially sensitive. If disclosed, competitors, counterparties, lenders and potential acquirers could use it to assess each facility's operational strengths and weaknesses. That would harm the generators' competitive position in future solicitations, contract negotiations, financing activities, acquisition opportunities and other commercial transactions. LUMA received the information, and uses it, on the understanding that

its confidentiality would be maintained. Public disclosure could place LUMA in breach of its confidentiality obligations and would discourage candid cooperation by third parties in future regulatory proceedings before this Energy Bureau.

19. Likewise, Article 4(x) of the Puerto Rico Open Government Data Act, Act 122-2019, exempts from public disclosure business or financial information whose disclosure would cause substantial competitive harm to the person from whom the information was obtained. P.R. Laws Ann. tit. 3, § 9894. The historical unit-level performance and outage data in PREB-02 is commercial information within the meaning of Article 4(x), because it has independent economic value and gives its owners a business advantage by not being generally known or readily accessible to competitors or the public. Because LUMA holds this information subject to confidentiality obligations, it is also exempt under Article 4(ix) as trade secret information that is confidential by contract. *Id.* To the extent the information is a trade secret of its owners, it is further protected under Act 80-2011 and Rule 513 of the Puerto Rico Rules of Evidence, P.R. Laws Ann. tit. 32, Ap. VI, R. 513 (2025).

20. Reasonable security measures have been taken to maintain the confidentiality of this information, consistent with Article 4 of Act 80-2011 and LUMA's obligations to the non-party generators, including by limiting its disclosure to authorized persons and by submitting it to the Energy Bureau under seal of confidentiality. *See* P.R. Laws Ann. tit. 10, § 4133 (recognizing as reasonable measures, among others, not disclosing the information to unauthorized persons, limiting the number of persons with access, and labeling the information as confidential). Disclosure of this information would risk substantial competitive harm to the non-party generators and undermine the public policy favoring the protection of commercially valuable confidential information. Therefore, LUMA requests that the Energy Bureau grant confidential treatment to the

2024 through 2026 data in PREB-02, *infra*, which is proprietary to non-party generators, to ensure compliance with the statutory protections afforded under Puerto Rico law.

21. The public version of PREB-02 promotes and protects the right of public access to information. LUMA's request is narrowly tailored. It redacts only the historical data for 2024 through 2026 and leaves publicly available the facility identities, resource categories, and the maintenance, forced outage and combined outage rates for 2027 through 2045 used in LUMA's resource planning. Protecting this limited historical data will therefore not materially hinder or preclude public access to relevant and necessary information. The public's interest in accessing confidential information is outweighed by the harm that the non-party owners of the information, and LUMA, would suffer if it were made public.

22. In accordance with the Energy Bureau's Policy on Confidential Information, LUMA is filing a public version of PREB-02 in which the maintenance, forced outage and combined outage rates for 2024 through 2026 have been redacted, together with a confidential, unredacted version of PREB-02.

ii. Confidentiality treatment of PREB-05

a. CEII confidential information in PREB-05

23. PREB-05 contains CEII that, under relevant federal laws and regulations, is protected from public disclosure. LUMA stresses that PREB-05 contains detailed information about Puerto Rico’s critical energy infrastructure, including facility-specific reliability functions, hour-by-hour operating capability and headroom, geographic mapping of reserve resources, and vulnerability exposure. This information reveals which assets the system relies on for frequency control and contingency response, where those assets are located, their discharge duration, and the specific hours when reserve and regulation capability are constrained. Because Puerto Rico’s grid

is an isolated island system, this information could be used to identify vulnerabilities and to plan an attack on, or disruption of, critical infrastructure, and it therefore constitutes CEII.

24. Moreover, this information warrants protection both individually and in the aggregate, and the risk of disclosure is compounded when it is considered in the aggregate. Courts and federal agencies have long recognized the "mosaic theory" of intelligence gathering, which acknowledges that individually innocuous pieces of information, when combined, can reveal critical vulnerabilities. *See, e.g.*, *CIA v. Sims*, 471 U.S. 159, 178 (1985) ("[W]hat may seem trivial to the uninformed, may appear of great moment to one who has a broad view of the scene."). The information at issue here includes the identity and location of each battery energy storage resource relied upon for spinning reserve and regulation services, including its association with a specific generating site, project, or municipality; its discharge duration (such as "4HR" or "6-hour"); the hourly quantities of spinning reserve, regulation-up, and regulation-down service it provides; and its hourly available response capability, which reveals when each resource has, or lacks, remaining capability to respond to a system disturbance. Viewed collectively, this information would provide a comprehensive roadmap of the resources on which Puerto Rico's electric system depends for frequency control and contingency response. It would reveal precisely which utility-scale, renewable-paired, standalone, and substation-sited storage facilities support system stability, where those facilities are located across the island, and the specific hours when the system's reserve and regulation capability is most constrained. Because Puerto Rico's electric system is an isolated island grid without interconnections to neighboring systems, this compiled information could enable a bad actor to identify the facilities, and the times, at which a physical or cyber attack would most effectively compromise grid stability and trigger load shedding or a system-wide outage.

25. Put simply, disclosure of this aggregated information would convert it into actionable intelligence. That intelligence could be exploited to identify the battery energy storage resources on which Puerto Rico's electric system depends for frequency control and contingency response, to predict the hours when the system's reserve and regulation capability is most constrained, and to target specific facilities with precision at the moments when their loss would most severely compromise grid stability. Because Puerto Rico's isolated island grid cannot draw on neighboring systems for support during a disturbance, the consequences of such targeting could include widespread load shedding or a system-wide outage. This is precisely the type of harm that CEII protections are designed to prevent.

b. Non-party confidential information in PREB-05

26. Independently of its designation as CEII, PREB-05 also warrants confidential treatment because it contains proprietary information of the non-party owners and developers of the battery energy storage resources and other facilities represented therein, which LUMA is obligated to maintain as confidential. LUMA obtained the facility-specific technical and operational information underlying PREB-05 from those non-party entities in the course of its planning and system-operation functions, subject to the confidentiality and data-management provisions that govern the exchange of information between LUMA and such entities. Under those provisions, LUMA must use such information solely for the purposes for which it was provided, must restrict its disclosure to authorized personnel and advisors, and, when its production is required by a governmental authority, must seek confidential treatment or file it under seal. LUMA also handled this information consistent with the specific requests of certain non-party owners and developers that it be treated as confidential.

27. The facility-specific information in PREB-05, including the identity of each resource, its discharge duration, and its hourly reserve provision and available response capability, reflects the technical characteristics and operating performance of assets owned by non-party entities. This information is not of common knowledge or readily accessible through proper means, and it has independent economic value to its non-party owners, who could be placed at a competitive disadvantage in future solicitations, contract negotiations, and financing activities if competitors or counterparties could assess each facility's operational capabilities and limitations. Accordingly, the information qualifies for protection as a trade secret under Act 80-2011, P.R. Laws Ann. tit. 10, §§ 4131-4141, and Rule 513 of the Puerto Rico Rules of Evidence, and as trade secret information confidential by contract and commercial information whose disclosure would cause substantial competitive harm under Article 4(ix) and (x) of Act 122-2019, P.R. Laws Ann. tit. 3, § 9894.

28. Public disclosure of PREB-05 would place LUMA at risk of breaching its obligations to the non-party owners and developers to maintain this information under seal or as confidential, and would discourage the candid exchange of technical information by owners and developers of generation and storage resources in future planning and regulatory proceedings before this Energy Bureau. LUMA has taken reasonable security measures to protect the information, including limiting access to authorized persons, labeling it as confidential, and submitting it to the Energy Bureau under seal. *See* P.R. Laws Ann. tit. 10, § 4133.

29. Based on the above, LUMA respectfully submits that PREB-05 should be designated as CEII and as proprietary information of non-party owners and developers that LUMA is obligated to maintain under seal, given the importance of ensuring the safe, reliable, and efficient operation of the battery energy storage resources. LUMA further submits that these materials

should be maintained confidentially to safeguard the integrity of those resources, protect them from external threats, and protect the commercial interests of their non-party owners.

III. Identification of Confidential Information.

30. In compliance with the Energy Bureau's Policy on Confidential Information, below is a table summarizing the hallmarks of this request for confidential treatment.

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
Exhibit 1	RFI-LUMA-AP-2023.0004-20261008-PREB-02-05 (Excel file)	Rows in column titled "Fiscal Year" that contain data from 2024, 2025, or 2026.	Proprietary information of non-party generators; trade secret confidential by contract and commercial information whose disclosure would cause substantial competitive harm (Act 122-2019, Article 4(ix)-(x), P.R. Laws Ann. tit. 3, § 9894); trade secret (Act 80-2011, P.R. Laws Ann. tit. 10, §§ 4131-4141; Rule 513 of the Rules of Evidence); Act 57-2014, Section 6.15; NEPR-MI-2016-0009.	October 26, 2026
Exhibit 1	RFI-LUMA-AP-2023.0004-20261008-PREB-05-04 (Excel file)	Entire file	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674; proprietary information of non-party owners and developers; trade secret confidential by contract and commercial information whose disclosure would cause substantial competitive harm (Act 122-2019, Article 4(ix)-(x), P.R. Laws Ann. tit. 3, § 9894); trade secret (Act 80-	October 26, 2026

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
			2011, P.R. Laws Ann. tit. 10, §§ 4131-4141; Rule 513 of the Rules of Evidence); Act 57-2014, Section 6.15; NEPR-MI-2016-0009.	

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned and **accept** the responses to the fourth set of 2025 IRP post-filing requests for information included in Attachment A of the October 8th Order, as *Exhibit 1* to this Motion; and **approve the request for confidential treatment** of PREB-02 and PREB-05 submitted with *Exhibit 1* to this Motion.

WE HEREBY CERTIFY that this Motion was filed using the electronic filing system of this Energy Bureau and that electronic copies of this Motion will be notified to the Puerto Rico Electric Power Authority: Alexis Rivera, alexis.rivera@prepa.pr.gov, and through its counsel of record, Natalia Zayas Godoy, nzayas@gmlex.net, Richard Cruz Franqui, rcruzfranqui@gmlex.net, and Mirelis Valle Cancel, mvalle@gmlex.net, and Genera PR, LLC, through its attorney of record Luis R. Román Negrón, lrn@roman-negron.com and entities that have requested to appear as intervenors: info@caribbeantransmission.com; pnieves@vnblegal.com; jemmanuelli@vnblegal.com; lgarcia@camarapr.org; mramirez@ramirezbaezlaw.com; rodzava266@gmail.com; info@icsepr.org; pedrojimenez@paulhastings.com; ericstolze@paulhastings.com; jcasillas@cstlawpr.com; jnieves@cstlawpr.com; info@sesapr.org; JavRua@sesapr.org; cfl@mcvpr.com; apc@mcvpr.com; karen.ortiz@aes.com; jesus.bolinaga@aes.com; gabriel.sanabria@aes.com; creyes@ecoelectrica.com; rodrigo.zavala@ecoelectrica.com; john.jordan@nationalpfg.com; matt.barr@weil.com; robert.berezin@weil.com; gabriel.morgan@weil.com; corey.brady@weil.com; gary.holtzer@weil.com; tlauria@whitecase.com; gkurtz@whitecase.com; ccolumbres@whitecase.com; iglassman@whitecase.com; tmacwright@whitecase.com; jcunningham@whitecase.com; mshepherd@whitecase.com; jgreen@whitecase.com; arosenberg@paulweiss.com; pbrachman@paulweiss.com; kzeituni@paulweiss.com; hburgos@cabprlaw.com; dperez@cabprlaw.com; mestrada@gibsondunn.com; lshelfer@gibsondunn.com; susheelkirpalani@quinnemanuel.com; erickay@quinnemanuel.com; dmonserrate@msglawpr.com; fgierbolini@msglawpr.com; rschell@msglawpr.com;

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RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, on this 26th day of October, 2026.

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Exhibit 1

Responses to Fourth Set of 2025 IRP Post-Filing Requests for Information

2025 Integrated Resource Plan (2025 IRP)

Attachment A: Responses to Fourth Set of 2025 IRP Post Filing Request for Information

NEPR-AP-2023-0004

October 26, 2026

Attachment A
NEPR-AP-2023-0004

INTRODUCTION

On October 9, 2026, the Puerto Rico Energy Bureau (Energy Bureau) notified a Resolution and Order issued on October 8, 2026 (October 8 R&O)[1] modifying the October 6, 2026, Resolution and Order,[2] directing LUMA to submit responses to the Fourth Set of 2025 IRP Post Filing Requests for Information (RFIs), included in Attachment A within ten (10) business days of the notification of the October 8 R&O, by October 26, 2026.

The Fourth Set of 2025 IRP Post-Filing RFIs consists of five questions through which the Energy Bureau seeks clarification on areas such as marginal energy costs, outage representations, build cost updates, battery resource operations in PLEXOS®, and others as the Energy Bureau continues it's review of LUMA's 2025 IRP.

LUMA hereby submits its responses to the Fourth Set of 2025 IRP Post-Filing RFIs, attached as Attachment A. As requested, the responses are based on the October 2025 results.

Importantly, LUMA cautions that the recommended Preferred Resource Plan (PRP) and the other resource plans included on the October 2025 filing are outdated due to significant changes to the assumptions and inputs (generating resources, fixed decisions, load, etc.) based on events that have occurred since that filing that reveal differences on planning trends. These changes materially affect the resource plans presented on the October 2025 filing.

As directed in the October 8 R&O, LUMA will file on October 30, 2026, a recently developed modified PRP, identified as the PRP Prime (PRP'),[3] along with the solution spreadsheet and associated documentation. Once filed, LUMA respectfully requests that the PRP' results supersede those from the October 2025 filing for purposes of the ongoing review.

LUMA proactively developed the PRP' to provide directional guidance and insight into current planning trends. It should not be interpreted as LUMA's recommended PRP, as additional scenarios will be required to complete a full analysis and support a final recommendation.

Following the filing of the PRP' on October 30, 2026, and after providing the Energy Bureau, and its consultants with an opportunity to review and approve the updated assumptions and inputs, LUMA intends to develop and file the updated recommended Preferred Resource Plan (PRP), together with any additional scenarios as requested by the Energy Bureau.

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[1] P.R. Energy Bureau, Resolution and Order, No. NEPR-AP-2023-0004, (October 8, 2026) https://energia.pr.gov/wp-content/uploads/sites/7/2026/10/20261009-AP20230004-Resolution-and-Order.pdf
[2] P.R. Energy Bureau, Resolution and Order, No. NEPR-AP-2023-0004, (October 6, 2026) https://energia.pr.gov/wp-content/uploads/sites/7/2026/10/20261006-AP20230004-Resolution-and-Order.pdf
[3] The prime symbol (') distinguishes a new or transformed PRP from the original PRP. The PRP' (PRP Prime) is distinct from the PRP (filed in October 2025), as it incorporates revised assumptions and updated modeling inputs.

List of Acronyms

ACRONYM	DEFINITION
BESS	battery energy storage system
CC	combined cycle
EUE	expected unserved energy
FOR	forced outage rate
GT	gas turbine
IRP	Integrated Resource Plan
kW	kilowatt
LT	long-term
MW	megawatt
O&M	operation and maintenance
PREPA	Puerto Rico Electric Power Authority
PRP	Preferred Resource Plan
PV	solar photovoltaic
PVRR	present value revenue requirement
RFI	request for information
R&O	resolution and order
SRMC	Short run marginal cost
ST	steam turbine
TPA	transmission planning area

List of Responses and Attachments

Response ID	Document Type	Response Subject
RFI-LUMA-AP-2023.0004-20261008-PREB-001	Response in PDF	Marginal Energy Costs used on the PRP
	Excel document	
RFI-LUMA-AP-2023.0004-20261008-PREB-002	Response in PDF	Legacy and New units' outages representation in PLEXOS®
	Excel document	
RFI-LUMA-AP-2023.0004-20261008-PREB-003	Response in PDF	Legacy and New units outages representation in PLEXOS®
RFI-LUMA-AP-2023.0004-20261008-PREB-004	Response in PDF	Costs of utility scale batteries, solar PV and fossil fueled resources.
RFI-LUMA-AP-2023.0004-20261008-PREB-005	Response in PDF	Battery usage in PLEXOS®
	Excel document	

Attachment A
NEPR-AP-2023-0004
Attachment A
NEPR-AP-2023-0004

Response: RFI-LUMA-AP-2023.0004-2026.10.08-PREB-001a-001d

SUBJECT

Marginal Energy Costs, PRP scenario

REQUEST

1. Marginal Energy Costs, PRP scenario. The response provided to question 11a of the Third Set of ROIs post-filing (April 16, 2026) appears to contain hourly marginal price, as opposed to requested hourly marginal cost information.

a. Refer to attachment "CONFIDENTIAL_RFI-LUMA-AP-2023.0004-20260401-PREB-011". Explain what the values provided represent. In the explanation, describe specifically which PLEXOS output metric was used to populate the response, how that value was determined, and whether it represents a price or marginal cost.

b. Describe the difference between the hourly price and the hourly marginal energy cost as reported in the PLEXOS ST module runs. In the answer, identify any factors that cause the two values to differ in a given hour (e.g. transmission congestion).

c. Provide the hourly marginal cost data for 2025-2044 from the final iteration of the ST modeling run for the PRP scenario in Excel format. Confirm that the hourly values provided are consistent with the annual value for the SRMC property from the "Region ST" tab of the solution spreadsheet. If they are not, explain why not.

d. Refer to the SRMC values for each resource in the "Gen ST" tab of the solution spreadsheets. Confirm or explain otherwise that these SRMC values inform the ultimate SRMC for the most expensive resource dispatched in each hour. In particular, confirm or explain otherwise that the SRMC represents the dispatch cost of the marginal unit or units used to meet load in each hour.

RESPONSE

1a. The attachment "CONFIDENTIAL_RFI-LUMA-AP-2023.0004-20260401-PREB-011" of the responses to the Third Set of 2025 IRP Post Filing RFI,[4] shows the “Price” output property for different TPAs in the PLEXOS® model. The prices do not represent hourly marginal energy cost. Refer to the attachment titled “RFI-LUMA-AP-2023.0004-20261008-PREB-01” which

[4] LUMA’s Motion Submitting Responses to Requests for Information in Compliance with Resolution and Order of April 1, 2026 (April 16, 2026): https://energia.pr.gov/wp-content/uploads/sites/7/2026/04/20260416-AP20230004-LUMA-Responses-to-Third-Set-of-RFIs.pdf

contains the Marginal Cost, which is the hourly marginal energy cost projections within PLEXOS®.

1b. Hourly Price is defined as the price paid by load and is the load-weighted average of prices in the region. Short Run Marginal Cost of energy (SRMC) is the highest short-run marginal cost of dispatched generators in the region. Note that this is not necessarily equal to the Price in the region since it does not account for constraints such as Min Stable Level or Reserve that might prohibit a Generator from setting price or augment the price.

1c. Refer to the attachment titled “RFI-LUMA-AP-2023.0004-20261008-PREB-01". The annual value for the SRMC property from the "Region ST" tab of the solution spreadsheet is the average of the hourly values in the above-mentioned attachment.

1d. The annual values for SRMC shown on the Gen ST tab are the average hourly SRMC for the corresponding unit shown. Therefore, the hourly SRMC for each unit serves to enable the calculation of the SRMC values shown on the Gen ST tab. LUMA confirms the hourly SRMC in the attachment titled “RFI-LUMA-AP-2023.0004-20261008-PREB-01", represents the dispatch cost of the marginal unit used to meet load in the corresponding hour.

Attachment A
NEPR-AP-2023-0004

Response: RFI-LUMA-AP-2023.0004-2026.10.08-PREB-002

SUBJECT

Legacy and New Unit Outage Representation in PLEXOS®

REQUEST

2. **Legacy and New Unit Outage Representation in PLEXOS.** In response to ROI-5 of the Third Set post-IRP filing (April 16, 2026), LUMA listed the difference in expected unserved energy ("EUE") in 2024 and 2025 for the PRP model run, and the actual (or estimated) values seen in Puerto Rico. Those are shown in the table below. Notably, the actual levels provided in the ROI response are much lower than that seen in the PRP ST (final) model run.

	Modeled GWh of unserved energy (PLEXOS ST, PRP run)	Actual / Estimated GWh of unserved energy (ROI 5a 3rd set)
2024	225	17.5
2025	52	12.9

a. Explain the reasons for any material differences between the modeled and actual outage patterns and unserved energy.

b. Explain why LUMA considers its unit outage representation in PLEXOS to be reasonable for resource planning despite the difference in unserved energy amounts seen in the first two years of the model run versus the level of unserved energy that was actually seen (or estimated by LUMA) on the Puerto Rico system.

c. Explain how LUMA estimated the unserved energy provided in response to the noted ROI-5a. Elaborate on the response's statement that "LUMA did not use any per-customer assumptions to provide the estimate".

d. Does LUMA believe that the EUE inconsistency seen in the table provided in response to ROI-5a indicates that the underlying PLEXOS capacity expansion modeling overstates the levels of EUE and the extent of resource adequacy shortfall represented in the model for any given year with EUE? Explain why or why not.

e. Provide in Excel format a summary sheet listing, for each of the legacy power plant units and for each new unit (fossil, biodiesel or battery only), for each year, the combined total (forced plus planned) average annual outage rate assumed for each power plant unit. Provide these for each of the years 2025 through 2044 for the PRP scenario. Confirm or explain otherwise that these combined outage rate values incorporate the forced outage rate information

contained in Table 45 "Technical Data of PREPA-owned Resources" of the IRP. As necessary, discuss how the nameplate capacity vs. the actual available maximum capacity for any given unit affects these values.

RESPONSE

2a. The LUMA PLEXOS® modeling for the 2025 IRP was never configured as a backcast for historical years (e.g., 2024 and 2025). A backcast would use data such as historical forced and planned outage events, historical load, historical generator characteristics, historical transmission characteristics, etc. as data to input to the PLEXOS® model. Variances between actual and simulated EUE results are to be expected since the PLEXOS® inputs are not the historical conditions experienced in 2024 and 2025.

In the PLEXOS® modeling, LUMA uses an estimated future forced outage rate (FOR) that is based on each unit's historical forced outage performance. The methodology for estimating future FOR is based on analyzing the unit's actual forced outage information in prior years with the most recent years' data given more weight in the forecasted value.

As can be seen in Table 1 below, four of the system's seven largest base load units (Aguirre ST 1&2, AES 1&2) had forecast forced outage estimates in the October 2025 IRP that were substantially greater than the actual forced outage performance. The collective impact of the differences shown in Table 1 below equates to an 11.1% higher FOR of the combined output of these units in the model as compared to FOR experienced in the actual historical operation. The assumption that both Aguirre ST units would be out of service accounts for the largest differences for the units shown.

Table 1: Historical and 2025 IRP Estimates for Unit Forced Outage Rates (FOR)

Unit	2024 Average FOR	2025 Average FOR	2-year Average FOR (2024-2025)	Oct 2025 IRP Estimated FOR (2025-2044)	Difference Oct 2025 IRP Less 2yr Average FOR	Unit Rating (MW)
EcoEléctrica Total	6.3%	1.6%	4.0%	3.0%	-1.0%	545
Costa Sur 5	26.9%	20.5%	23.7%	20.0%	-3.7%	380
Costa Sur 6	37.7%	4.6%	21.2%	20.0%	-1.2%	380
Aguirre ST 1	47.2%	91.9%	69.5%	100.0%	30.5%	350
Aguirre ST 2	50.0%	55.2%	52.6%	100.0%	47.4%	350
AES 1	9.0%	6.0%	7.5%	10.0%	2.5%	227
AES 2	14.1%	5.9%	10.0%	15.0%	5.0%	227
Average Rating-Weighted FOR	27.4%	26.3%	26.8%	37.6%	10.8%	

Both Aguirre ST 1 and 2 were assumed to be out of service for the entirety of the 2025 IRP planning period, 2025 to 2044 (i.e., a 100% FOR). On February 14, 2025, Aguirre Unit 1 suffered a major forced outage from which it has still not returned to service. In addition, Aguirre Unit 2 was experiencing frequent forced outages. Due to the two units' historic poor reliability, use of heavy fuel oil contributing to environmental issues, and the lack of clarity —at the time— as to when or if Aguirre Unit 1 would be returned to service, LUMA decided to exclude the two Aguirre ST units as firm resources in the 2025 IRP

planning. After consultation with the Energy Bureau's consultant, LUMA assumed that both Aguirre ST 1 and 2 would be unavailable for the full duration of the 2025 IRP planning period, including two years showcased above in Table 1.

2b. LUMA considers its unit outage representation in PLEXOS® to be reasonable for long term resource planning despite the differences in the modeled and actual unserved energy seen in 2024 and 2025. As explained above, a backcast was not performed, which is why it is not appropriate to compare the results to 2024 or 2025 historicals. Instead, the PLEXOS® IRP modeling represents a long-term forecast of customer load and unit performance and should be expected to differ in the actual year-to-year performance of the system. There were significant differences in the actual unit specific forced outages which LUMA believes is responsible for most of the difference. Differences in the actual versus modeled hourly forecasted load, as well as the other items listed in 2a, would have also contributed to the difference in the EUE results.

In the revised modeling runs that LUMA plans to file with the Energy Bureau on October 30, 2026, LUMA has incorporated revised FORs that include the lower rates informed by the improved forced outage performance in the most recent years. In addition, LUMA has assumed that Aguirre ST 2 is in service from the start of the modeling and that Aguirre ST 1 will return to service by 2027.

2c. LUMA estimated the unserved energy by gathering the amount of MW interrupted on each load shed event individually, viewed at electric system-level. Regarding the statement "LUMA did not use any per-customer assumptions to provide the estimate", means that the estimation of unserved energy is based and analyzed at electric system level instead of viewing it at customer level.

2d. Differences in actual EUE as compared to forecasted EUE can be expected when the input assumptions differ from actual historical conditions. The model's results are based on algorithms and input data. The model uses the FOR and then, per the convergent Monte Carlo (forced outage modeling algorithm), schedules outages to be consistent with the user input FORs. When the forced outage occurs and its duration can greatly influence its impact on the system reliability and the potential that it results in EUE both on the actual system and for modeled results of the system. Due to the system's high FORs, combined with the timing and duration of modeled forced outages, LUMA expects modeled performance to vary from actual performance. However, LUMA does not believe the capacity expansion modeling overstates, in general, the levels of EUE nor the forecasted resource adequacy. LUMA believes differences seen in the actual versus the modeled EUE are due to the large differences in forecast vs. actual data. The refined forecasts incorporated in LUMA's ongoing modeling should improve the results of the model but should never be expected to exactly match the historical performance unless actual historical outages, their exact timing and actual historical loads are inputted into the model in a backcast exercise.

2e. Refer to the attachment titled "CONFIDENTIAL_RFI-LUMA-AP-2023.0004-20261008-PREB-02-5" for the forced outage and maintenance rates for different units. LUMA confirms that outage rate values incorporate the FOR information contained in Table 45 "Technical Data of

PREPA-owned Resources" of the 2025 IRP Report.[5] For the units that have a different rated capacity (defined as the maximum electrical output of the unit) than their max capacity (nameplate capacity), the outage MW is at the unit's max capacity. Existing/legacy units noted in Table 45 "Technical Data of PREPA-owned Resources" of the 2025 IRP Report show only maintenance rate and no FOR in the PLEXOS® output because of the foundational run done prior to the PRP, as described in pages 163-165 of the 2025 IRP Report.

[5] LUMA's 2025 IRP Revised Report (October 29, 2025) https://setpr.com/wp-content/uploads/2025/10/0.00_IRP-Report_Main-Report_Revised_Redacted.pdf

Attachment A
NEPR-AP-2023-0004

Response: RFI- LUMA-AP-2023.0004-2026.10.08-PREB-003

SUBJECT

Legacy and New Unit Outage Representation in PLEXOS®

NOTE

LUMA notes that Questions 2 and 3 of Attachment A appear to address the same subject matter regarding legacy and new unit outage representation in PLEXOS®. Based on the wording and structure of the Requests for Information, it appears that the numbering of Question 3 was inadvertently retained during the preparation of the revised Attachment A. LUMA has interpreted Questions 2 and 3 as a single request and has provided a consolidated response above in Question 2.

Attachment A
NEPR-AP-2023-0004

Response: RFI- LUMA-AP-2023.0004-2026.10.08-PREB-004a-004e

SUBJECT

Costs - Utility-scale battery, solar PV, and fossil-fueled resources

REQUEST

4. Costs - Utility-scale battery, solar PV, and fossil-fueled resources

   a. Confirm or explain otherwise that the capital costs for resources listed in Tables 66 through 71 of the IRP, for the "with PR Scaling Factor" are all real dollar costs, and state which real dollar year forms the basis for the value.

   b. Confirm or explain otherwise that the capital costs for new resources contained in the PLEXOS solution set "Gen ST" tab or "Battery LT" tab are in nominal dollars and are based on the inflation rate of 2.5%/year listed on the "PVRR tbl" tab as applied to the real dollar costs presented in Tables 66 through 71 of the IRP.

   c. Provide a comparison between the equivalent monthly capacity payment (or cost), inclusive of capital and O&M costs, of a 4-hour battery energy storage system considered for installation in the PLEXOS model in year 2028, at a Table 69 cost of $3,593/kW (capex), $40.60/kW-year (O&M); and the costs of either Tranche 1, Tranche 2, or Tranche 4 battery energy storage projects as reported in Tables 54-56 of the IRP, concerning fixed decision projects. State any assumptions used.

   d. Concerning the cost comparison in the response to c) above, discuss the range of cost difference (positive or negative) between these fixed decision battery projects and the PLEXOS model-offered battery project option, including LUMA's assessment of whether or not the projected battery costs included as PLEXOS resource options is higher or lower than the set of projects underway or under consideration as fixed decision projects in Puerto Rico.

   e. Given ongoing market pressure on the costs of new CT or CC resources on the mainland US, what is LUMA's current best recent estimate of the costs of new CT or CC resources for installation on Puerto Rico, during the period 2031- 2035, in comparison to the costs contained in Tables 70 and 71 of the IRP and reflected in the PLEXOS model assumptions setup?

RESPONSE

4a. LUMA confirms that the capital costs and fixed O&M costs for resources listed in Tables 66 through 71 of the 2025 IRP, with the "with PR Scaling Factor" are real dollar costs with a 2023$ basis for all units except the capital costs of the Gas Turbine (GT) (F-Frame 1x0), Combined Cycle (CC) 1x1 (F-Frame) and CC 1x1 (H-Frame), which are shown in nominal

dollars. The assumed escalation was 2.5% per year for real dollar values. The data loaded in PLEXOS® combined both real values, which were escalated, and nominal values, which were not escalated.

4b. LUMA confirms that the capital costs for new resources contained in the PLEXOS® solution set "Gen ST" tab and "Battery LT" tab are in nominal dollars and are based on the inflation rate of 2.5% per year listed on the "PVRR tbl" tab as applied to the real dollar costs presented in Tables 66 through 71 of the 2025 IRP.

4c. Table 2 below presents the equivalent monthly capacity payment (or cost), inclusive of capital and operation and maintenance (O&M) costs, of a 4-hour battery energy storage system considered for installation in the PLEXOS® model in 2028, at a Table 69 cost of $3,593/kW (capex), $40.60/kW-year (O&M).

Table 2: Generic 4-Hour Battery Costs used in PLEXOS modeling

Year	CapEx ($/kW) 2023$	Fixed O&M ($/kw-yr) 2023$	CapEx ($/kW) Nominal$	CapEx ($/MW-month) Nominal$	Fixed O&M ($/MW-month) Nominal$	Total CapEx & Fixed O&M ($/MW-month) Nominal$
2028	$3,593	$40.60	$4,065	$36,341	$3,828	$40,169

Table 3 below provides a comparison of the highest and lowest cost of battery energy storage system (BESS) projects from Tranche 1 and the single 4-hour BESS project from Tranche 2, as reported in Tables 54-56 of the 2025 IRP. Table 3 below also includes the Generic 4-hour BESS costs, including the Capex and Fixed O&M elements from Table 2 above. Assumptions are included for each 4-hour BESS project in Table 3 below. There was only a single BESS project in the assumptions for Tranche 4, which was a 6-hour BESS project and was not included due to its higher energy storage capacity.

Table 3: 4-Hr BESS Annual Costs (Nominal $)

	Lowest Cost Tranche 1 BESS - CFE Salinas (BESS) Capacity Payment ($/MW-month)	Highest Cost Tranche 1 BESS - Peñuelas Energy Storage- BESS Capacity Payment ($/MW-month)	Tranche 2 BESS - Vega Baja BESS - Capacity Payment ($/MW-month)	Generic BESS CapEx & Fixed O&M ($/MW-month)
Escalation	2.00%	2.00%	0.00%	2.50%
Capital Recovery Factor	-	-	-	10.73%
Original Contract Execution Date	Aug-2022	Jan-2024	Sep-2025	-
2028 Nominal$	$26,632	$30,425	$26,900	$40,169

4d. The 4-hour BESS costs comparison included in the response above to RFI 4c indicates that the Generic battery costs included in PLEXOS for 2028 are higher than the costs for the Tranche 1 and 2 projects with escalation. Typically, a project will have firm pricing for major equipment elements for a proposed project before executing a contract to deliver the output. The original contracts for the Tranche 1 and 2 BESS projects listed in the response above to RFI 4c response were executed between 2022 and 2025.

When the 2025 IRP estimates were developed in 2024, BESS project costs were expected to decline. In fact, Puerto Rico Electric Power Authority (PREPA) was able to negotiate a 3% cost reduction in the Salinas BESS project and the Peñuelas BESS project in contract amendments signed in December 2024 and February 2025, respectively.[6] In contrast, the Vega Baja BESS project contract, signed in September 2025, did not have a price change amendment. However, since these BESS project contracts were signed and subsequently amended, costs of 4-hour BESS projects have increased. Between 2025 and 2026, Lazard[7] estimated a 31% nominal increase and a 26% real increase (all reflecting mainland prices), as shown in **Error! Reference source not found.** below.

Table 4: 4-Hr BESS Prices change between 2025 and 2026

Resource	Method	2025 ($/kW) -Nominal$	2026 ($/kW) -Nominal$	Nominal change	Real change (Sep-2026$)	Source and Page
Battery, 4-hour	Lazard midpoint, DC plus EPC for a 100 MW	966	1,270	+31%	+26%	2025: Lazard v18 p. 43 ($135–348/kWh times 4 h). 2026: Lazard v19p. 38 ($270–365/kWh times 4 h). Real: BLS CPI-U

The recent increase in BESS project costs is attributed to rising electricity demand from data centers and uncertainty regarding USA trade regulation and tariffs.

The costs considered in the 2025 IRP are higher than the Tranche BESS project costs but closer aligned to the cost of a new BESS proposal targeting a 2028 delivery date. Current Tranche BESS project proposals are anticipated to be approximately 31% higher than the prices observed in December 2024 and February 2025.

4e. LUMA's current estimates of the costs of new GT or CC resources have not been updated since October 2025 IRP filing and are therefore the same as the costs contained in Tables 70 and 71 of the 2025 IRP Report and contained in the PLEXOS model assumptions setup. As noted in Table 5 below, as with BESS projects, mainland pricing for GT and CC projects have experienced an increase in capital costs since 2025.

Table 5: Recent Industry Costs- Gas Turbine and Combined Cycle

Resource	Method	2025 Nominal$	2026 Nominal$	Nominal change	Real change (Sep-2026$)	Source and Page
Combined cycle	Lazard midpoint of range	1,400	1,775	+27%	+21%	2025: Lazard v18 p. 37 (1,200–1,600). 2026: Lazard v19 p. 28 (1,450–2,100). Real: BLS CPI-U
Gas peaking	Lazard midpoint of range	1,300	1,375	+6%	+1%	2025: Lazard v18 p. 37 (1,150–1,450). 2026: Lazard v19 p. 28 (1,100–1,650). Real: BLS CPI-U

[6] The 3% decrease for the Salinas BESS project is based on the reduction price between the $/MW-Month prices in the July 10, 2023 contract amendment and those in the December 18, 2024 amendment. The 3% decrease for the Peñuelas BESS project is based on the reduction price between the not to exceed cost in the February 13, 2024 contract amendment and the February 10, 2025 amendment.

[7] Lazard is a global financial advisory and asset management firm (https://www.lazard.com/about-lazard/)

Table 6 below provides a comparison of the Industry Costs shown in Table 5 above versus the LUMA estimates, with both assuming an annual escalation of 2.5%/year after 2026. The columns 6 and 7 in Table 6 below show the ratio of the LUMA estimates to the Industry Cost projections resulting in a Puerto Rico Premium (PR Premium) estimated for the higher costs constructed in Puerto Rico as compared to the mainland. The PR100[8] Scaling Factor used in developing the 2025 IRP costs estimates is shown in the far-right column. As shown in Table 6, the LUMA estimates maintain a substantial premium (PR Premium) over the Lazard estimate through 2031 and are also reasonable comparable to the annual PR100 Cost Scaling factors embedded in the LUMA estimates. In conclusion, while LUMA agrees that the Recent Industry Costs reflect a substantial increase, it appears the most recent increase are still in line with LUMA's 2025 IRP estimates which incorporate the PR100 Cost Escalation Factor.

Table 6: Industry costs vs. LUMA estimates

Year	GT	CC Lazard	GT (F-Frame 1x0) LUMA	CC 1x1 Combined Cycle (F-Frame) - LUMA	GT PR Cost Premium (LUMA/IEEFR)	GT PR Cost Premium (LUMA/Lazard)	PR100 Cost Scaling Factor
2026	$1,375	$1,775	$3,301	$3,432	2.40	1.93	2.16
2027	$1,409	$1,819	$3,225	$3,343	2.29	1.84	2.08
2028	$1,445	$1,865	$3,145	$3,251	2.18	1.74	1.99
2029	$1,481	$1,911	$3,061	$3,155	2.07	1.65	1.91
2030	$1,518	$1,959	$2,973	$3,055	1.96	1.56	1.82
2031	$1,556	$2,008	$2,881	$2,951	1.85	1.47	1.73

[8] The Puerto Rico Grid Resilience and Transition to 100% Renewable Energy (PR100) Study of March 2024, developed by the US Department of Energy: https://docs.nlr.gov/docs/fy24osti/88384.pdf

Attachment A
NEPR-AP-2023-0004

Response: RFI-LUMA-AP-2023.0004-2026.10.08-PREB-005a-005d

SUBJECT

Battery Usage In PLEXOS IRP Section 8.2.4

REQUEST

5. **BATTERY USAGE IN PLEXOS**

a. Spinning and Control Reserve Requirements. Are battery resources providing regulation up (i.e., control reserves) nested within the spinning reserves requirement, or does the model require both of these requirements separately?

b. EUE and Operational Reserves. The confidential Excel file referenced in the April 16, 2026 response to ROI 4c of the third set of ROIs post-filing indicates that battery resources provide ancillary service spinning and control reserves. In each iteration of the ST module run, does the model maintain the spinning and control reserve requirement (generally provided by battery resources) in all hours even if EUE is occurring in any given hour, or does the model allow the reserve requirement to be depleted to meet energy needs?

c. EUE and Operational Reserves. Confirm or explain otherwise that the referenced Excel file in LUMA's April 16, 2026 response to the Energy Bureau's ROI 4c contains battery data for the final iteration (4b) of the ST module run. [The Excel file in question pertains to a file providing data on battery provision of spinning or control capacity from a response to the Second Set of 2025 IRP Post Filing RFI responses, stating that the file contained the requested detail: CONFIDENTIAL-2026.02.26_Attachment PRP_Reserve data for batteries-RFI 2-11-2.xls.]

d. EUE and Operational Reserves. If the above response confirms that the reserve data for batteries provided was for the final 4b iteration run, provide the equivalent data to"CONFIDENTIAL-2026.02.26_Attachment PRP_Reserve data for batteries-RFI 2-11-2.xls" for the 1b iteration (first ST module run after Run 1a LT) for the PRP scenario.

RESPONSE

5a. The planning model treats regulation up (i.e., control reserves) and spinning reserves separately and each must be met independently of the other, with no overlap (which is synonymous with LUMA's interpretation of the "nesting" term used in the question) of the capacity allocation used from any unit to meet the requirements. Battery resources are treated in the same fashion as thermal resources and can be used for control reserves or spinning reserves with no overlap of the capacity allocation used to meet the requirements.

5b. Both EUE and Control Reserves are categorized as soft constraints in the model. The model uses soft constraint penalties to incent the model to meet each soft constraint, as discussed in Section 8.2.4 of the 2025 IRP Report. The penalty for EUE is much higher than Control

Reserves (i.e., $100,000/kWh for EUE, versus $500/MW for Control Reserves), which results in the model prioritizing serving energy needs (i.e., avoiding incurring EUE) even if it means not meeting the Control Reserve requirement.

5c. LUMA confirms that the referenced Excel file in LUMA's April 16, 2026, response to RFI 4c of the Energy Bureau's Third Set of 2025 IRP Post-Filing RFI[9] contains battery data for the final iteration (4b) of the Short-Term module run.

5d. Refer to the attachment titled "CONFIDENTIAL_RFI-LUMA-AP-2023.0004-20261008-PREB-05-4". Note that for hourly reserve provision and available response values, each tab shows the properties for each of the reserve products.

[9] LUMA's Motion Submitting Responses to Requests for Information in Compliance with Resolution and Order of April 1, 2026 (April 16, 2026): https://energia.pr.gov/wp-content/uploads/sites/7/2026/04/20260416-AP20230004-LUMA-Responses-to-Third-Set-of-RFIs.pdf