

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

NEPR

Received:

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IN RE: REVIEW OF LUMA'S
INITIAL BUDGETS

CASE NO. NEPR-MI-2021-0004

**SUBJECT: Motion Submitting Responses to
Pending ROIs issued by PREB in Compliance
with May 19 Order**

**MOTION SUBMITTING RESPONSES TO PENDING REQUESTS FOR
INFORMATION IN COMPLIANCE WITH RESOLUTION AND ORDER
DATED MAY 19, 2022**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

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

1. On May 19, 2022, this honorable Bureau entered a Resolution and Order (“May 19 Order”) as part of which it issued 116 requirements of information (“ROIs”) including subparts and established a procedural schedule in this proceeding.
2. The ROIs were detailed in Attachments A through F to the May 19 Order and seek information related to a variety of topics. *See*, Attachments A through F of the May 19 Order.
3. As per the May 19 Order, the responses to the ROIs were due on June 3, 2022.
4. On June 2, 2022, LUMA filed with this honorable Bureau a *Request for Extension of Time to Submit Responses to Specific Requests* whereby it requested until June 7, 2022 to submit the responses to the following ROIs: D1, D2, D14, E18, E19, and F10. LUMA also requested, on behalf of PREPA, that an extension of time be granted to PREPA for the following requests: F1, F2, F3(A)-(C), F4, F5(A)-(E), F6(A)-(E), F7, F8, F9(A), F10(A)-(D).

5. In compliance with the May 19 Order, on June 3rd, LUMA filed its *Motion Submitting Responses to Requests for Information in Compliance with Resolution and Order dated May 19, 2022*. As *Exhibit I* of its motion, LUMA included its responses to the ROIs directed to LUMA, with the exception of those regarding which LUMA requested an extension.

6. Additionally, LUMA included as *Exhibit II* therein, PREPA's responses to requests A7, A8 and A9.

7. LUMA hereby respectfully submits as *Exhibit I* its responses to requests D1, D2, D14, E18, E19, and F10, thus completing its submission in connection with the ROIs.

8. PREPA's responses to requests F1, F2, F3(A)-(C), F4, F5(A)-(E), F6(A)-(E), F7, F8, F9(A), F10(A)-(D) are hereby included as *Exhibit II*. Additional documents transmitted by PREPA in support of its responses will be notified to this honorable Bureau via a sharefile link due to their volume and format.¹

WHEREFORE, LUMA respectfully requests this Honorable Bureau to **take notice** of the foregoing for all relevant purposes and **deem** its May 19 Order complied with.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 7th day of June 2022.

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 attorneys for PREPA, Joannely Marrero-Cruz, jmarrero@diazvaz.law; and Katuska Bolaños-Lugo, kbolanos@diazvaz.law.

[signature block in the page that follows]

¹Due to the timing of transmittal of PREPA's responses and documents in support thereof, LUMA transmits these documents as they were received from PREPA.



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Exhibit I

LUMA's responses to PREB's ROIs D1, D2, D14, E18, E19, and F10



Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Responses to May 19, 2022 Requests

June 7, 2022

List of Responses and Attachments

Response ID	Document Type	Response Subject
ROI-LUMA-MI-2021-0004-20220519-PREB-D01	Response	Q1 Report FY2022: PREPA Impact
ROI-LUMA-MI-2021-0004-20220519-PREB-D02	Response	Q1 Report FY2022: PREPA Generation Units Impact
ROI-LUMA-MI-2021-0004-20220519-PREB-D14	Response	Q1 Report FY2022: Legal Services
ROI-LUMA-MI-2021-0004-20220519-PREB-E18	Response	Q2 Report FY2022: Legal Services
ROI-LUMA-MI-2021-0004-20220519-PREB-E19	Response	Q2 Report FY2022: Legal Services
ROI-LUMA-MI-2021-0004-20220519-PREB-F10	Response	FY2023 PREPA GenCo Proposed Budget Expenses

Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Response: ROI-LUMA-MI-2021-0004-20220519-PREB-D01

SUBJECT

Q1 Report FY2022: PREPA Impact

REQUEST

LUMA discussed at pages 4 — 6 of the LUMA Initial Budgets Quarterly Report, Exhibit 1, the scope and nature of PREPA's lack of cooperation, significant unexpected deficiencies, omissions and other problems that LUMA discovered since operations began and the consequent unexpected variances since the preparation and submittal of the budget and SRP in 2020, including:

- Non-functioning electrical assets and equipment
 - Significant Call Center and Customer Care & Billing limitations
 - Marginal operation of the Outage Management System
 - Inaccurate and partially upgraded Asset Management System
 - Lack of documentation of current processes and procedures
 - No material advancement of engineering on federally funded projects
 - Critically, insufficient technical training of field employees
 - Significant backlog of unprocessed invoices and uncompleted field, restoration & engineering work
 - Multiple security threats to employees and blocked physical access to equipment and materials needed for delivery of O&M Services, requiring judicial intervention and security escorts
 - The discovery of damaged and inoperable facilities
-
- A. For each of the T&D Activities by Portfolio beginning at page 26, explain the nature and amount of variance that resulted from PREPA's lack of cooperation, unexpected deficiencies and omissions as cited above.
 - B. Describe any expected impact on FY2022 Q2, Q3, and Q4 budget expenditures and on future FY budgets.
 - C. Why did LUMA not recognize and account for the obstacles, deficiencies, and omissions, as cited above, during development of the Initial Budgets or quarterly budget allocations, to enable LUMA to have developed more accurate budget projections?
 - D. Describe what steps LUMA took to address the security threats to its employees at page 5 of the Quarterly Report.
 - E. Explain the steps LUMA is taking to ensure that future budget projections for FY2022 Q2, Q3, Q4 and future FY year budgets will not be affected by other unexpected conditions.

RESPONSE

While difficult to quantify, LUMA continues to isolate the costs resulting from PREPA's lack of cooperation, unexpected deficiencies, and omissions. To date, these isolated costs include expenses related to the backlog of over 6,000 unprocessed invoices, backlogged field work including pending streetlight repairs and customer connections, unresolved work orders, the backlog of customer applications for net metering, missing fleet vehicles, and security threats and blockades. These examples and more are cited within the quarterly reports, demonstrating LUMA's priority to focus on activities that unwind any system constraints and develop a foundation on which to make advancements. Further, a noted lack of integration of PREPA's financial and related systems caused additional constraints on LUMA's ability to verify the overall accuracy of any financial reporting and to carry out work effectively.

LUMA continues to quantify these impacts and may continue to do so over time. While these costs are under investigation, the following reflects preliminary cost estimates associated with these deficiencies:

- At least \$8 million in fleet compliance, repairs or missing vehicles;
- At least \$6 million in facilities clean up or garbage removal; and
- At least \$330,000 thousand in security costs for employees.

It should be noted that there are some items that are difficult to quantify and primarily impeded performance. For example, call center system limitations impacted the speed of answer and other customer service functions and required the hiring of additional staff to support the volume of customer inquiries. The impact of all of these deficiencies are detailed specifically in LUMA's FY2022 Quarterly filings.

LUMA's Initial Budgets were developed in Fall 2020, four months into the Front-End Transition, and based on information known at that time. As of October 30, 2020, LUMA had issued 226 RFIs to PREPA and had received 178 responses. LUMA relied on information provided by PREPA during the first four months of the Front-End Transition and unless specifically noted, such information was assumed as correct and complete based on LUMA's reasonable diligence during such period. LUMA's transition work included the development of an 800-page gap assessment outlining LUMA's findings and forming the basis of LUMA's Improvement Programs. The gap assessment was provided to the Energy Bureau in RFI responses filed on April 5, 2021.¹ It should be noted that at that time LUMA had not been provided full access to assess:

- Employee competencies including training needs or history;
- The customizations or non-standard work flows in several key systems and controls; and
- Inoperable or unsafe facilities and equipment.

Furthermore, during Fall 2020, PREPA employees were working remotely as a result of the COVID pandemic. This had an impact as in person, on site meetings and discussions and site visits were limited.

As to the threats to LUMA employees detailed on page 5 of the Q1 report, LUMA had to contract additional private security guard escorts to follow LUMA crews throughout Puerto Rico in order for LUMA employees to safely perform their work. Requirements for these private security guard escorts continued for more than 6 weeks. Concurrently, LUMA had to procure legal representation and go to Court three times to obtain a Temporary Restraining Order to stop blockades at multiple facilities. In the case of the Utuado technical facility this was required to gain access and control for the first time since the facility had been blocked and occupied in the weeks prior to June 1, 2021.

¹ LUMA's Gap Assessment was included in RFI-LUMA-21-0004-210405-PREB-005a Attachment 1.

RESPONSES TO MAY 19, 2022 REQUEST

As stated within Section 2.2 on page 23 of Exhibit 1 of the FY2023 Annual Budgets Filing, “The Annual Budgets are completed and informed based on a particular point in time. As such, they cannot reasonably contemplate information that may arise in the future or, if additional requirements are determined, are not already contemplated.” As such, LUMA cannot budget for unexpected conditions. The T&D OMA provides for unexpected events, including a provision for 2% excess expenditures included within the Annual Budgets. As an experienced Operator of utilities, LUMA may make adjustments to spending in accordance with limits within the T&D OMA and required by the Energy Bureau. If necessary, apply for Budget Amendments as described in Section 7.3(e) of the T&D OMA. The T&D OMA also contains provisions that account for costs related to unexpected events such as Section 7.4.

Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Response: ROI-LUMA-MI-2021-0004-20220519-PREB-D02

SUBJECT

Q1 Report FY2022: PREPA Generation Units Impact

REQUEST

LUMA states at page 5 of the LUMA Initial Budgets Quarterly Report, Exhibit 1, "LUMA's activities were severely impacted by the unprecedented problems with the availability of PREPA's generation units."

Explain the referenced impact on LUMA's activities and quantify the budgetary impact.

RESPONSE

At page 5 of LUMA's Q1 Report, LUMA stated: "LUMA's activities were severely impacted by the unprecedented problems with availability of PREPA's generation units, resulting in 17 days with controlled load shedding during August and September. Fuel costs also rose quickly during the quarter, due to the unavailability of PREPA's base load units and increasing fuel commodity prices. The required pass-through of higher fuel costs in the fuel portion of rates raised costs to customers at the same time as supply was constrained by PREPA's generation fleet issues beyond LUMA's control."

LUMA's activities were impacted by the issues with availability of PREPA's generation units including: 1) Customer Experience 2) LUMA planned activities 3) Revenues and budget impacts.

Customer Experience

LUMA's customers were impacted by the load shedding events and days with low reserves. During load shedding events, some customers experienced power outages, which resulted in increased inbound communication to LUMA, including our contact centers and customer service centers as well as an increase to LUMA's outbound communications. The disruption to service could have affected customer satisfaction. When there are low reserves, peaker plants are required to run. These peaker plants generally burn diesel fuel and are less efficient than alternative base load plants. This results in customers experiencing higher costs due to increases in the Fuel Clause Adjustment.

In addition, changes to LUMA's planned activities (discussed below) necessitated reprioritized T&D work that could have been scheduled or ongoing for the period. Some customers could have experienced construction work that had been underway on local streets or their properties that would have seemed to be delayed, or work begun but not completed. This would also contribute to generally lower levels of customer satisfaction as those customers navigated around construction sites or work crews in their neighborhoods.

LUMA's Planned Activities

LUMA's planned activities are impacted during load shed events and on a day-to-day basis as LUMA responds to situations such as low reserve levels below Prudent Utility Practices, generation capacity not available when previously disclosed as available, low fuel at certain plants, lack of quality data and lack of access to data. As these urgent situations create higher operating risks, LUMA must respond by contemplating alternative scenarios, re-running models, developing contingency plans (including adjustments to the planned outage schedule. This also includes investigations after the fact and preparing for and reporting to PREB and other governmental bodies explaining the nature of the urgent situations, why it was different than planned, and what LUMA did to respond. Responding to urgent situations requires significant time and attention from the System Operations team. These response efforts displace planned work that would have otherwise taken place, such as SOP procedure training, stakeholder management, reporting, longer-term analysis, improvement program advancement, among others.

Further, during low reserve or higher system risk situations, there is a higher risk to the T&D System and as such, T&D project work needs to be reprioritized in order to maintain the stability of the T&D System. This means that certain projects will be delayed/deferred, crews will be re-dispatched, and schedules redeveloped. This pre-prioritization increases costs and extends timelines.

Revenue and Budget Impacts

As stated above, the re-prioritization of planned work resulting from low reserve situations reduces efficiencies and increases costs and extends timelines as many activities undergo a start-stop-restart cycle. This could affect dozens of crews in the field at any point in time so it would impact cost and productivity just as a result of lower reserve margins affecting the potential risk exposure on individual projects.

During load shedding events, additional contact center personnel are required to address the increased volume of calls and other inbound communication from customers. The entire control room staff is focused on the manual load shed process and work on other activities must be delayed. Furthermore, additional outage crews are required as returning service to customers sometimes requires manual closing of circuits.

Lastly, when load shedding is required due to insufficient generation availability, the load is removed from the system, and customers do not receive electricity. This reduces the volume of electricity LUMA can provide and the revenue LUMA collects. As a result, LUMA does not collect its base rate contribution over the expected sales of megawatt-hours. This can at time be significant depending on the magnitude of the load shed event and duration.

Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Response: ROI-LUMA-MI-2021-0004-20220519-PREB-D14

SUBJECT

Q1 Report FY2022: Legal Service

REQUEST

Legal Services are cited as expenditures in Tables 2-2. Transmission and Distribution Operating Expenditures, 2-3. Customer Experience Operating Expenditures, 2-4. Operations Operating Expenditures and 2-6. Utility Transformation operating Expenditures of the LUMA Initial Budgets Quarterly Report.

- A. Provide a list and description of the specific legal services encompassed in each category cited above, including the projected and actual cost of each legal service.
- B. Provide the source of the funds for each legal fee expenditures, e.g., LUMA's Fixed Fee or other.

RESPONSE

Please find a summary by each category below:

\$, millions	
Legal Description	Q1-Q3 Actuals
General Corporate ¹	0.81
Government & Public Affairs	0.47
Immigration	0.02
Intellectual Property	0.00
Labor & Employment	0.24
Litigation - Class Action	0.00
Litigation - González Muñoz et al v Chubb Ins.	0.02
Litigation - José Vargas Collado v. LUMA	0.01
Litigation - Martí Rodríguez et al. v. PREPA	0.01
Litigation - Pérez Oliver v. PREPA	0.00
Litigation - Tirado Velez v. PREPA/LUMA	0.02
Litigation - Windmar v. AEE	0.13
Luma Energy SOP and Master PPOA	0.36
Miscellaneous ²	0.92
Non-PREB Regulatory Affairs	0.26
PREB Docket	1.34

¹ General Corporate includes procurement, PREB cases & complaints, PREPA restructuring, taxes, among others.

² Miscellaneous includes legal accounting accrual estimates for invoices not yet billed.

RESPONSES TO MAY 19, 2022 REQUEST

PREPA Restructuring	0.60
Procurement & Contracts	0.48
Taxes	0.08
Grand Total³	\$5.77

LUMA is unable to project legal services costs at such a granular level for the remainder of FY2022. All of the Legal Services expenditures above are T&D Pass-Through Expenditures and are funded through the Operating Account in accordance with the T&D OMA.

³ Any legal costs associated with Torres vs LUMA are not included as T&D Pass Through Expenditures.

Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Response: ROI-LUMA-MI-2021-0004-20220519-PREB-E18

SUBJECT

Q2 Report FY2022: Legal Services

REQUEST

Legal Services are cited as expenditures in Tables 2-2. Transmission and Distribution, Operating Expenditures, 2-3. Customer Experience Operating Expenditures, 2-4. Operations Operating Expenditures and 2-6. Utility Transformation operating Expenditures of Exhibit 1, LUMA Quarterly Report.

- A. Provide a list and description of the specific legal services encompassed in each category cited above, including the projected and cost of each legal service.
- B. Provide the source of the funds for each legal fee expenditures, e.g., LUMA's Fixed Fee or other.

RESPONSE

Please refer to the response provided in ROI-LUMA-MI-2021-0004-20220519-PREB-D14.

Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Response: ROI-LUMA-MI-2021-0004-20220519-PREB-E19

SUBJECT

Q2 Report FY2022: Legal Services

REQUEST

Did LUMA incur any expenditures for legal services other than those cited in Requirement of Information (ROI) No. E18 above during the reporting quarter?

- A. If yes, explain nature of each legal service, cost, and source of the funds used to cover these expenditures.

RESPONSE

Please refer to the response provided in ROI-LUMA-MI-2021-0004-20220519-PREB-D15.

Annual Budgets for Fiscal Year 2023

NEPR-MI-2021-0004

Response: RFI-LUMA-MI-2021-0004-20220519-PREB-F10

SUBJECT

FY2023 PREPA GenCo Proposed Budget Expenses

REQUEST

In the document entitled FY2023 PREPA GenCo Proposed Budget Expenses, submitted by LUMA with its April 14, 2022, Motion in Compliance with Resolution and Order dated April 11, 2022, PREPA discusses a process where LUMA proposed a percentage allocation of total revenue requirement to the Generation function, and how that allocation was discussed and negotiated between LUMA and PREPA. This discussion implies that the development of the Generation Budget utilized a top-down approach, where total budget funds were allocated to the Generation function, and then generation costs, including labor and non-labor expenditures, and generation plant maintenance and capital expenditures were planned to fit that total budget allocation.

- A. Given generation forced outages that Puerto Rico has endured over the last 12 months, please explain why a budget allocation approach was taken, rather than developing the Generation Budget based on needed projects and expenditures necessary to maintain reliable generation plant operations?
- B. Please explain how the approach taken to develop the Generation Budget ensures reliable operation of the generation assets and ensures reliable electric service on the island.
- C. Please explain whether generation NME projects or other activities have been identified that would improve availability and reliability of any of PREPA's legacy generation, but that such projects were excluded from the Generation Budget.
- D. If any projects identified above in (c) were excluded, please provide a list of such projects, and for each project, provide the rationale for such exclusion, the estimated cost of the project, and the expected impact on plant availability and reliability.

RESPONSE

Annual Budgets must be compliant with the current 2017 Rate Order which sets a fixed base rate per kWh to be charged to customers. The 2017 Rate Order states: "...PREPA shall treat the revenue requirement established in this Order as a cap on annual spending until the Commission changes such revenue requirement and shall prepare departmental budgets that conform to that cap."¹ Because PREPA is currently in Title III, there are fiscal constraints, specifically, all non-federally funded capital

¹ Page 2 of the Final Resolution and Order, dated January 10, 2017, within docket CEPR-AP-2015-0001.

RESPONSES TO MAY 19, 2022 REQUEST

costs are expensed in the year that they are incurred. This means that budgeted operating costs and non-federally funded capital costs must stay within rates set by the Energy Bureau. The alternative would be a rate modification request or a rate case. PREPA has not requested that LUMA request a rate modification or initiate rate case in front of the Energy Bureau. As such budgets must conform to the 2017 Rate Order.

Planning annual budgets within the applicable Rate Order is an activity that PREPA has performed since it has entered Title III as demonstrated within the past 5 years of balanced Certified Fiscal Budgets. Previous years' budgets can be found on the FOMB website: <https://oversightboard.pr.gov/budgets-2/>. As there are two entities now creating budgets, an allocation of the base rate between LUMA's T&D activities and PREPA's Generation and HoldCo activities is required. The allocation presented by LUMA for FY2023 was based on the 2017 Rate Case and historical spending.

For the FY2023 Annual Budgets filing, LUMA compiled its estimates based on a bottom-up exercise, using an activity-based budgeting approach to support the next three years of the Puerto Rico electric Recovery and Transformation. Informed from LUMA's review of the 2017 Rate Order, this budgeting approach is limited to the approved Base Rate from the 2017 Rate Order. LUMA informed its estimates based on its first nine months of operations, including the multiple and varied challenges as discussed, previous experience and reasonable estimates based on market estimates and existing contracts. Improvement programs, including Capital Budgets, are updated based on information known at the time of the Annual Budgets filing and based on the schedule of programs and projects that may be federally funded. Furthermore, spending is viewed based on the scheduling of work, both in terms of sequencing and in terms of capacity.

When developing a budget the feasibility to complete projects in the upcoming year should be taken into account. For generation projects certain threshold criteria should be met including

- Approved required permits or high likelihood of receiving approved required permits. For example obtaining EPA permits for the air emissions that will result following the project. This will help avoid situations like that with the MegaGens (relatively new turbines that are installed but cannot be run due to lack of compliance with EPA air emissions limits.
- Time within a planned outage to perform the projects and a scheduled planned outage within the next fiscal year. Scheduled outages need to be coordinated with the System Operator to support the stability of the system.
- Procurement of long-lead items to support the schedule confirmation that delivery of the materials will occur to meet project timeline.
- Personnel identified on island (internal or third party) to complete the work and scope defined and engineering completed to perform tasks.
- Non long lead items' procurement schedules developed and confirmed to support schedule

During the Front-End Transition LUMA and PREPA discussed projects within a bottom-up list provided by PREPA for projects planned for FY2022, FY2023 and FY2024, all proposed Capital – Non-Federally Funded and project expenses and categorized them into reliability, capacity, environmental compliance and other categories. LUMA supported execution of all of the projects within the first three categories and most of the last category as contributing to resource adequacy. Within PREPA's FY2023 Generation Budget, there are projects that were not on the bottom-up list from the Front-End Transition, and some projects that have been declined by PREB.

Exhibit II

PREPA's Responses to PREB's ROIs F1, F2, F3(A)-(C), F4, F5(A)-(E), F6(A)-(E), F7, F8,
F9(A), F10(A)-(D)



GOVERNMENT OF PUERTO RICO
PUERTO RICO ELECTRIC POWER AUTHORITY

RESPONSES TO ATTACHMENT F OF THE MAY 19 ORDER

F1. As directed in previous Energy Bureau Resolution and Order, please provide all supporting workpapers and materials used in derivation of the Generation Budget.

Please refer to the workbook titled “DRAFT Generation Allocation + Budget Expenses_VF” that was submitted with PREPA’s proposed Generation budget for FY2023, which contains supporting workpapers and budget detail underlying the proposed budget. Additional information and workpapers are also included with this response, as referenced below.



F2. Provide documentation to demonstrate that the generation maintenance work approved by the PREB for FY2022 - see Attachment G¹ - was completed. [F2]

During FY2022 PREPA executed contracts in all the generation assets to improve the availability reliability of the generating units to our customers. PREPA performed the following equipment procurement, maintenance and repair works regarding the Necessary Maintenance Expense Program for FY2022. Note that the expenditures informed herein are those registered as part of the contract management system, known as PREPA's Asset Suite Platform, and include actual disbursements and committed amounts through the approval of Contract Payment Authorizations in the Asset Suite Platform.

Aguirre Power Plant & Combined Cycle – Contracts (\$25,582,260)/Expenditures in FY2022 (\$19,424,353)

- Unit 1, L-0 Blading Supply for LP1 & LP2 Turbine- the procurement of this equipment is necessary for the rehabilitation work of the low-pressure turbine of Unit 1. This purchase will ensure the completion of Low-Pressure Rotors of the power turbine of Unit 1 and will.
 - **Project Cost - \$1,751,200**
 - **Expenditures FY2022 - \$1,751,200**
- Unit 1 Power Turbine Inspection and Major Overhaul – this project is currently executed during the schedule outage of the unit from March to July 2022. The project includes the replacement, tests and commissioning of the High Pressure, Intermediate Pressure and Low-Pressure turbines, the inspection of the main stop and control valves and the inspection of the generator. This is a project that will ensure the availability and reliability of a 450 MW generating unit.
 - **Project Cost - \$8,643,668**
 - **Expenditures FY2022 - \$8,643,668**
- Unit 1 Superheater 8 Header Replacement – this project is currently executed during the schedule outage of the unit from March to July 2022. The project includes the replacement of superheater 8 header high pressure component. This is a project that will ensure the availability and reliability of a 450 MW generating unit.
 - **Project Cost - \$1,991,325**
 - **Expenditures FY2022 - \$1,921,325**
- Unit 1 Boiler Rehabilitation - this project is currently executed during the schedule outage of the unit from March to July 2022. The project includes the replacement of water wall tube segments, the repair of the Gas Recirculation Fan Duct and the repair of the Air Heater 1-1 and 1-2. This is a project that will ensure the availability and reliability of a 450 MW generating unit.
 - **Project Cost - \$2,395,450**
 - **Expenditures FY2022 - \$2,000,000**

¹ April 22 Motion, Exhibit 1, pp. 4 — 7.



- Procurement and Delivery of Two Discharge Water Pump Motors – the purchase of these two motors is essential to replace two existing motors that are actually out of service and are necessary to return to return to service the pumps that are used to discharge the cooling sea water from the condensers of both units 1 and 2 of the Aguirre Steam Plant.
 - **Project Cost - \$667,000**
 - **Expenditures FY2022 - \$667,000**
- Unit 2 Stator Generator Rewind – the full stator rewind was performed because of generator stator's core damage resulting from the actual hot spots occurring on this equipment. The generator stator is an essential part of the turbogenerator and the power generating unit.
 - **Project Cost - \$5,322,946**
 - **Expenditures FY2022 - \$2,322,946 (First part of the budget was expended in FY2021)**
- Manufacture and Delivery of a New Travelling Screen – the sea water intake structure includes five travelling screens which serves as a filter of any debris that may try to enter to the condensers of the two 450 MW units. One of the screens has surpassed its useful life and is not working. PREPA to avoid any forced outages or limitations to any of the units has procured a new travelling screen which should be delivered in November 2022.
 - **Project Cost - \$670,000**
 - **Expenditures FY2022 - \$201,000**
- Replacement of the Excitation System Unit 2 – the excitation system of the generator of unit 2 is obsolete and need a replacement to ensure the availability and reliability of this unit. PREPA has contracted the manufacture, delivery and installation of a new excitation system to be installed on Unit 2 during a schedule outage on the second quarter of FY2022.
 - **Project Cost - \$1,516,675**
 - **Expenditures FY2022 - \$450,000**
- Procurement of Intercept Stop Valve Inserts A-B-C-D – PREPA procured, for the purpose of spare parts for the steam turbines of units 1 and 2, an intercept stops valves magnetite upgrade. The spare parts shall be use during repairs or maintenance work of the generating units.
 - **Project Cost - \$442,800**
 - **Expenditures FY2022 - \$309,960 (First part of budget expended in FY2021)**
- Combustion & Steam Turbine Inspection and Repairs on Units of the Aguirre Combined Cycle – PREPA carried out various inspections and repairs of the Units 1-3, 1-4, 2-1, 2-2, 2-3, 2-4 which included procurement of parts, crane rental services and hot gas path inspection works, repairs to the steam extraction of the steam stage of the Stag #1 and the replacement of the ring collectors of the generator of the Unit 1-4.
 - **Project Cost - \$2,181,196**
 - **Expenditures FY2022 - \$1,157,254 (Part of budget expended in FY2021)**



San Juan Power Plant – Contracts (\$38,215,375)/Expenditures in FY2022 (\$35,148,613)

- Unit 5 Major Inspection and Overhaul – PREPA carried out a major inspection and overhaul of Unit 5 of the San Juan Power Plant. This is one of the two units that comprise the combined cycle system of this power plant. The work included inspection and repairs to the combustion and steam turbine, replacement of high-pressure components of the Heat Recovery Steam Generator (Modules D&E), replacement of the cooling towers of both units 5 and 6, repairs to the interior and exterior of the condenser of Unit 5, inspection of the high energy pipe support systems, upgrade to the DCS Ovation control systems, among other miscellaneous works.
 - **Project Cost - \$35,982,529**
 - **Expenditures FY2022 - \$34,925,329**
- Supply of Two L-0 and L-1 Buckets for SJ 5 & 6 Steam Turbine – PREPA is procuring, as spare parts, the buckets that will be used as replacement for the future maintenance and repair works of the low-pressure rotors stage of the steam turbines of both units 5 and 6.
 - **Project Cost - \$2,232,846**
 - **Expenditures FY2022 - \$223,284**

Costa Sur Power Plant – Contracts (\$18,285,316)/Expenditures in FY2022 (\$6,244,858)

- Demolition of Units 1 & 2 – PREPA is carrying out a demolition of both Units 1 and 2, as part of the retirement, removal and disposal of obsolete generating units of this power plant.
 - **Project Cost - \$988,000**
 - **Expenditures FY2022 - \$153,270**
- Unit 5 Steam Turbine Major Inspection and Overhaul – PREPA is carrying out a major overhaul of the high pressure, intermediate pressure and low-pressure rotors and will be installing them in a schedule outage of the unit starting on the last quarter of year 2022.
 - **Project Cost - \$9,388,488**
 - **Expenditures FY2022 - \$870,333**
- Procurement of a Boiler Feed Water Pump Inner Barrel Assembly – PREPA is procuring, as a spare part, an inner barrel assembly (bundle) of the boiler feed water pump that is part of unit's boiler system. This equipment will be installed during the schedule outage of the unit starting on the last quarter of year 2022.
 - **Project Cost - \$1,625,954**
 - **Expenditures FY2022 - \$650,381**
- Procurement and Delivery of the Air-Preheaters Baskets – PREPA is procuring, as a spare part, the baskets and seals of the air pre-heaters system of the unit's boiler system. This equipment will be installed during the schedule outage of the unit starting on the last quarter of year 2022.
 - **Project Cost - \$1,121,459**
 - **Expenditures FY2022 - \$1,121,459**



- Replacement of Igniters for Boilers Units 5 & 6 – PREPA is carrying the procurement and installation of the new igniters to be used for boilers of both units 5 and 6. This equipment will be installed during the fiscal year 2023 and will ensure the reliability of the of both generating units.
 - **Project Cost - \$2,140,000**
 - **Expenditures FY2022 - \$428,000**
- Unit 6 - HP/IP/LP Inspection (Failure)– PREPA performed the inspection and non-destructive testing on the Lower Pressure Turbine Rotor Segment B (LP-B) due to an event that caused a major failure on this component.
 - **Project Cost - \$945,000**
 - **Expenditures FY2022 - \$945,000**
- Unit 6 - HP/IP/LP Inspection (Failure)– PREPA performed repairs of the L-2 covers and buckets and replace covers and buckets fractured during the event. Also, repair or replaced diaphragm's partitions, the spill strips and appendage.
 - **Project Cost - \$2,076,415**
 - **Expenditures FY2022 - \$2,076,415**

Cambalache Power Plant – Contracts (\$4,401,781)/Expenditures in FY2022 (\$3,410,063)

- Long Term Service Agreement Units 2 & 3 – PREPA carry out every fiscal year a Long-Term Service Agreement with the unit's Original Equipment Manufacturer to ensure the inspection, maintenance and repair works on both generating units.
 - **Project Cost - \$3,000,0000**
 - **Expenditures FY2022 - \$2,780,382**
- Replacement of Automatic Voltage Regulator – PREPA is carrying out Design, fabrication and replacement of the automatic voltage regulator and static frequency converter for both units 2 and 3.
 - **Project Cost - \$1,103,000**
 - **Expenditures FY2022 - \$330,900**
- Unit 2 Exhaust Duct Repair – PREPA carried out the structural repairs to the hot gases exhaust duct.
 - **Project Cost - \$298,781**
 - **Expenditures FY2022 - \$298,781**

Mayaguez Power Plant – Contracts (\$19,333,060) / Expenditures in FY2022 (\$17,784,329)

- Unit 4A Repair Works – PREPA carried out the diffuser case in-field welding and hot gas section upgrade.
 - **Project Cost - \$584,073**
 - **Expenditures FY2022 - \$584,073**
- Unit 1A and 1B Repair Works – PREPA is carrying out Design, fabrication and replacement of the automatic voltage regulator and static frequency converter for both units 2 and 3.
 - **Project Cost - \$1,103,000**
 - **Expenditures FY2022 - \$330,900**



- Unit 2 Exhaust Duct Repair – PREPA carried out the repair of the gas generator and power turbine Units 1A and 1B.
 - **Project Cost - \$17,645,987**
 - **Expenditures FY2022 - \$16,869,356**

Palo Seco Steam Plant – Contracts (\$2,094,150)/Expenditures in FY2022 (\$1,286,630)

- New Demi Water Tank 4 – PREPA carried out all services for the design and building of a new 173,000 gallons steel demineralized water tank.
 - **Project Cost - \$836,800**
 - **Expenditures FY2022 - \$411,604 (First part of budget expended in FY2021)**
- Supply and Installation of New Demi Water SS Piping and Fitting – PREPA carried out all services for the installation of new demineralized water stainless steel piping and fitting to be used for demi water transfer from the Demi Tank 4 to the Mega Gens and other operational water tanks.
 - **Project Cost - \$285,700**
 - **Expenditures FY2022 - \$103,624 (First part of budget expended in FY2021)**
- Refractory and Insulation Work Unit 3 – PREPA carried out all services for the removal and replacement of refractory and insulation of various areas of the boiler of unit 3 during an environmental maintenance performed.
 - **Project Cost - \$730,000**
 - **Expenditures FY2022 - \$554,783 (First part of budget expended in FY2021)**
- Inspection and Repairs of Cranes – PREPA carried out all services for inspection and repairs of 16 cranes in work facilities as mandatory requirements by OSHA.
 - **Project Cost - \$175,000**
 - **Expenditures FY2022 - \$149,969**
- Fabrication Pre-Cast Slabs, Travelling Screens – PREPA carried out the fabrication and installation of the pre-cast concrete slabs for travelling screens section of the power plant.
 - **Project Cost - \$66,650**
 - **Expenditures FY2022 - \$66,650**

Hidrogas Gas Turbine – Contracts (\$1,006,750)/Expenditures in FY2022 (\$96,680)

- Commissioning Mega-Gens Units 1, 2, 3 – PREPA is carrying out all services for the Environmental commissioning for Mega Gen 1, 2, 3 to comply with the Environmental Protection Agency Administrative Order.
 - **Project Cost - \$1,006,750**
 - **Expenditures FY2022 - \$96,680**



F3. In the FY2023 Initial Budgets request, Genco Labor Operating Expenses are from 30 to 40 percent higher than the previous Initial Budgets. These include comparable increases to Genco Salaries and Wages, Pension and Benefits, Overtime Pay, and Overtime Benefits. [F3]

a. Please provide a detailed explanation and rationale for increases in costs in these budget categories. [F3.A]

Please see the following information from PREPA's Budget Filing, Section IV-a Labor Expense.

Background: From 2012 to 2021, PREPA's generation workforce fell by over 50% due to the loss of 871 employees, as shown on the table below. The reduction was caused by several factors including austerity measures related to Act 66-2014 and Act 26-2017, among others. These austerity measures have crippled PREPA's ability to retain key talent and hire new employees to allow for orderly succession planning, leading to an overall loss of skilled personnel within the generation directorate.

Exhibit 1: Generation Directorate Annual Headcount Loss²

Division	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Servicios de Regadío	3	6	11	6	4	9	11	3	6	7	4	70
Generación	1	6	1	0	2	3	1	1	0	0	0	15
Ingeniería y Servicios Técnicos	5	2	14	3	1	11	2	5	2	20	2	67
Hidrogas y Cambalache	6	8	18	10	12	14	5	4	1	11	3	92
Central Aguirre	13	20	30	23	16	11	15	14	10	23	5	180
Central San Juan	10	14	36	15	10	21	9	6	6	28	7	162
Central Costa Sur	9	16	37	13	9	14	14	8	10	17	7	154
Central Palo Seco	10	7	38	8	6	12	19	5	5	19	2	131
Total	57	79	185	78	60	95	76	46	40	125	30	871

PREPA's leadership is acutely focused on ensuring that PREPA can retain and hire the necessary employees to responsibly operate the legacy generation units. Unpredictable retirement patterns without available substitutes to assume the roles of skilled personnel eligible for retirement are driving a critical situation that could potentially cause major operational disruptions. PREPA needs to ensure, therefore, the availability of sufficient personnel to cover shifts at the legacy generation plants, as well as the necessary support staff to ensure that PREPA complies with its various obligations and mandates. To that point, PREPA's Generation Directorate currently faces a (i) shortage of key operational

² Headcount loss for all reasons – all resignations have increased considerably, with 2021 registering the second highest count of resignations in 10 years.



personnel and (ii) a high proportion of key personnel eligible for retirement, which is demonstrated in the following table (Exhibit 2).

Exhibit 2: Years of Service Schedule

Years of Service	30+	29-30	25-38	20-24	15-19	10-14	0 - 9
<i>Number of Employees</i>	53	138	48	146	284	119	245
<i>% of Total Generation Workforce (1,033)</i>	5%	13%	5%	14%	27%	12%	24%

- b. Please discuss how these increased expenditures will be used, and the expected impact upon availability and reliability of the PREPA generation resources. [F3.B]**

Please see the following information from PREPA's Budget Filing, Section IV-a Labor Expense.

PREPA's proposed spending on labor expenses is consistent with facilitating the transition to private operation via the P3 process currently underway, as it is designed to retain and hire/train the necessary employees to allow for the continuous and safe operation and maintenance of the legacy generation assets. This is also relevant and necessary to enable PREPA's implementation and orderly transition to renewable energy, as mandated by Act 17-2019 and the approved Integrated Resource Plan.



Exhibit 3: Headcount Comparison: Certified FY2022 vs. Proposed FY 2023

Plant or Area	FY 2022 Certified Budget	FY 2023 Proposed Budget	Change
Proyectos Especiales	10	11	1
Inspección Represas y Embalses	5	6	1
Centro Adiestramiento Sistema Eléctrico (CASE)	11	10	(1)
Director Generación	4	6	2
Oficina de Presupuesto y Mejoras Capitales	6	6	-
Conservación y Servicios Técnicos	14	13	(1)
Taller Mecánica Generar Norte	13	17	4
Taller Mecánica Generar Sur	9	10	1
Conservación Eléctrica Centrales Generatrices	21	27	6
Jefe División Hidro y Ciclo Combinado	2	3	1
Jefe Central Ciclo Combinado	83	79	(4)
Jefe Central - Cambalache	39	38	(1)
Hidroeléctrica Dos Bocas y Caonilla	22	18	(4)
Sub-Área Palo Seco, vega Baja, Covadonga	11	10	(1)
Hidroeléctrica Río Blanco	6	5	(1)
Sub-Área Yabucoa - Dagua, Vieques y Culebra	11	11	-
Hidro Carite y Toro Negro	20	19	(1)
Sub-Área Jobos - Aguirre Gas	12	13	1
Sub-Área Sur Hidro - Gas	16	16	-
Central de Gas - Mayagüez	17	16	(1)
jefe de Centr Hidro Gas	28	27	(1)
Jefe División Central Generatriz Aguirre	142	152	10
Jefe División Central Generatriz San Juan	158	152	(6)
Jefe División Central Generatriz Costa Sur	196	194	(2)
Jefe División Central Generatriz Palo Seco	160	160	-
Administración de Contratos y Servicios Técnicos	19	16	(3)
TOTAL	1,035	1,035	-

- c. In Exhibit 16 of the document entitled FY2023 PREPA GenCo Proposed Budget Expenses, submitted by LUMA with its April 14, 2022, Motion in Compliance with Resolution and Order dated April 11, 2022, the employee head count for the Generation Budget is unchanged between the FY2022 and FY2023 budget, with 1,035 employees. With the same headcount, budgeted labor expenditures are \$6.8 million higher in the FY2023 proposed budget (9 percent increase). Please explain factors driving the increased budget for labor expenditures, with no change in total employee head count. [F3.C]

Although the overall headcount stayed the same, there have been adjustments to the budget amount to reflect (1) actual YTD spend, (2) need for targeted and minimal salary adjustments to retain and/or hire critical employees given competing offers from others, (3) emergency / temporary employees becoming regular employees.



F4. Are any expenditures proposed in the FY2023 Generation Budget directed to pay for legacy under-funded pension liabilities?

Amounts included in PREPA's proposed FY2023 budget do not seek to address the under-funded pension liability. PREPA has included proposed Employer Pension contribution amounts based on percentage of salary, 35%, consistent with recent historical budgets. Restructuring and reform of PREPA's legacy debt and pension obligations are matters that lie statutorily with FOMB. PREPA believes that a holistic solution for the PREPA ERS is needed and it is Puerto Rico Government policy that no reduction in pension benefits should occur.



F5.In the FY2023 Initial Budgets request, Genco Non-Labor/Other Operating Expenses are 88 percent higher than the previous Initial Budgets. [F5]

a. Please provide a detailed explanation and rationale for increases in costs in these budget categories. [F5.A]

Please see the following information from PREPA's Budget Filing, Section IV-b Non-Labor Expense.

The Non-Labor Expense category includes the purchase of non-capitalizable services, equipment and tools and materials that are essential and critical to carry out technical activities. This is essential to ensure a safe and reliable operation and maintenance of the generating units that make up the legacy generation fleet, and to meet the energy dispatch and load reserve requirements required during hours of regular and peak demand, as well as the hurricane season.

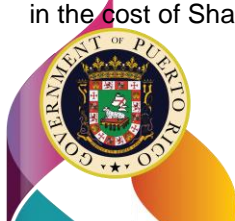
Exhibit 4: Non-Labor Budget Comparison: Certified FY2022 vs. Proposed FY 2023

(\$'s in thousands)					
GenCo					
KOE/Description	FY 2022 Certified Budget	FY 2023 Proposed Budget	Certified Budget vs Proposed Budget Var	Certified Budget vs Proposed Budget Var %	
200 y 210: Materials and Supplies Gen Blankets	\$ 18,000	\$ 23,123	\$ 5,123	28.5%	
260 y 300: Land Transportation & Per Diem and Traveling Expense	1,500	1,527	27	1.8%	
510: Rent	5,568	5,573	5	0.1%	
550: Technical and Professional Services	5,000	6,333	1,333	26.7%	
555 & 557: Miscellaneous Div. Expenses & Services Blankets	12,000	24,542	12,542	104.5%	
600: Security Services	10,444	11,527	1,083	10.4%	
Total	\$ 52,513	\$ 72,626	\$ 20,114	38.3%	

The budget for Non-Labor Expense was developed by the PREPA Generation Directorate and Executive management to ensure that generating units are available, reliable and in compliance with the requirements of the EPA Consent Decrees, as well as any operational and power plant's condition requirements under PREPA's Property and Casualty, Business Interruption, and other insurance policies³. The FY2023 Generation Budget includes amounts sufficient to ensure that PREPA can undertake the necessary non-capitalizable maintenance and repair activities to comply with operational, environmental and insurance related requirements, which includes but is not limited to the following activities:

- removal and replacement of refractory material
- installation and certification of scaffolding
- pressure washing of boilers and condensers
- interior dry cleaning of boilers
- execution of non-destructive tests on components of boilers

³ Note that the cost of insurance premiums for the various insurance policies mentioned here is included in the cost of Shared Services with LUMA, not in Generation Non-Labor Expenses.



- maintenance and repair of control systems DCS Foxboro for boiler and Mark Vie for turbines, including simulation systems
- repair work of components of the units with stamp R certification
- maintenance and repair of electrical and mechanical equipment such as breaker panels and boiler's safety and line valves
- boilers and turbines conditions assessments
- preventive maintenance program for units
- collection and disposal of non-hazardous material and the receipt of this material in industrial landfills approved for this use
- routine environmental maintenance and repair work on circulation and feed pumps for boilers, fuel pumps, burners, high-pressure components for boilers, condensers, air compressors, power turbines, generators, fire systems, transformers, and electrical switches
- installation and maintenance of control equipment to address any spill of oil or chemical products during the operation of the units and to monitor emissions into the air resulting from fuel combustion and the quality of water for processes, in compliance with the Clean Air Act, Clean Water Act and Oil Pollution Act Laws, as applicable
- treatment of boiler water for the creation of superheated steam with acid and caustic soda for the operation of the power turbines of the units and the treatment of the process water that it discharged from the power plant to the sea, in compliance with state and federal environmental laws such as the NPDES (National Pollutant Discharge Elimination System) Permit Program
- purchase of hydrogen gases to maintain an adequate level of cooling in the generator of the unit and avoid overheating that causes tripping of the same and load relief
- purchase of other gases such as propane, used for the initial ignition of the boiler's burners, oxygen, carbon dioxide and acetylene used for operational, maintenance and repair projects
- water chemical treatment of the sea water intake travelling screens, against the growth of organism that affects essential equipment such as condensers and water pumps
- water chemical treatment of the auxiliary equipment's cooling towers to avoid and control the cause of corrosion, in all its manifestations, of the components of the cooling system such as: hydrogen coolers, oil coolers, vacuum pump coolers, stator coolers
- maintenance and repairs of vehicles such as vacuum trucks, emergency response vehicles, jeeps and dump trucks used during the environmental maintenance and compliance on the power plant, but as part of schedule and emergency repair projects



b. Please explain the \$11,527 million budget expenditure for Security Costs, and an explanation of how that budget item affects PREPA Legacy and LUMA Shared Services budgeted expenditures. [F5.B]

In the final FY2022 FOMB Certified Budget, PREPA Security Costs were reclassified from LUMA shared services to a direct cost for GenCo.

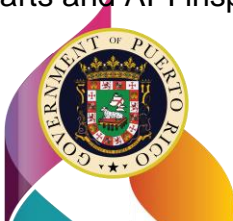
c. Please explain the \$5,573 million budget expenditure for Utilities and Rents, and an explanation of how that budget item affects PREPA Legacy and LUMA Shared Services budgeted expenditures. [F5.C]

In the final FY2022 FOMB Certified Budget for PREPA Utilities and Rents were reclassified from LUMA shared services into a direct cost for GenCo.

d. Please provide a breakdown of major expenditures in the budget estimate for Other Miscellaneous expenditures, and an explanation of why costs for this budget category have doubled relative to the FY2022 Initial Budgets. [F5.D]

The following is an explanation as to why costs for this FY23 budget category has increased relative to the FY2022 Initial Budgets.

Materials, Equipment and Services costs and delivery lead times have increased in an exponential manner during the past eight (8) months.. Costs and delivery of materials and equipment such as steel for boiler parts, valves, pumps and motors have increased more than 50% from 2021 to 2022, and this will continue during the FY 2023. In current times PREPA cannot afford, during a unit forced outage, to wait one week or month to begin procurement for these goods and benefits, specially during high energy peak demand and hurricane season. Also, our power plants must be prepared with parts, materials and the access to equipment rental and engineering and repair services from the private sectors. An example of the services needed to ensure the continue of operations and environmental compliance are the contracts to dispose of non-hazardous waste (industrial waste), the contract with the landfill to receive these wastes and the contract to dispose of wastewater with presence of oil and the contracts to perform water chemical analysis to comply with National Pollutant Discharge Elimination System Permit (NPDES). Failing to have such important contracts will affect the operation of a power plant and may exposed PREPA to penalties by local and federal agencies. On the other hand services contracts such as the installation and inspection of scaffolding equipment, the removal and installation of refractory and insulation material in boilers, the repairs of electrical and instrumentation equipment, the high pressure wash of boilers and condensers, the interior dry-cleaning of boilers, the non-destructive tests of high pressure parts and API inspection for tanks and fuel piping serves a critical and essential purpose



to maintain an operational and in compliance with federal regulations the PREPA's generation fleet. These types of contracts that are included within the budget request made by PREPA for FY 2023, including the NME's budget and are critical to reduce any risks of losing units to mechanical or electrical failures, like Puerto Rico had during the months of July and August of 2021, or at least reducing the time to repair and return the units back to service in case such event may happen.

Also, PREPA, under the FY 2023 has included specialized professional and technical services contracts for the maintenance and repair of the control systems of important power plants, such as Aguirre and the Cambalache power plants, and equipment vibration monitoring and data collection professional services contract for all the main power plants. The last one is used, among other things, to obtain the necessary data to forecast future maintenance works on rotating equipment, based on the past and current operational behavior.

e. Please discuss how these increased expenditures will be used, and the expected impact upon availability and reliability of the PREPA generation resources. [F5.E]

Please see the following information from PREPA's Budget Filing, Section IV-b Non-Labor Expense.

The proposed FY2023 Generation Budget is necessary to ensure the execution of scheduled outages for environmental maintenance and major repairs of boilers, turbogenerators, combustion turbines and the respective auxiliary equipment, as well as to improve the availability of the generating units to meet the energy demand of customers. Similarly, the activities and materials included in the FY2023 Generation Budget are necessary to comply with state and federal environmental regulations and operational requirements to avoid catastrophic failure or unit shutdowns due to non-compliance with environmental requirements.



F6.In the FY2023 Initial Budgets request, GenCo Maintenance Projects Expenses (NME) are 18 percent higher than the previous Initial Budgets. [F6]

a. Please provide a detailed explanation and rationale for increases in costs in these budget categories. [F6.A]

The proposed FY2023 Generation NME Budget is composed primarily of repair related costs for critical generation plant infrastructure. The maintenance and repair plan was developed against the backdrop of the forced outages and ensuing blackouts during 2021 that impacted nearly all of Puerto Rico, along with recent ongoing outages, including the most recent island-wide blackout in early April 2022. The plan was developed with the objective of ensuring that the legacy generation system can achieve a minimum level of reliability, stability, compliance, and ability to maintain sufficient reserves to avoid severe outage incidents.

The proposed FY2023 Generation NME Budget is composed primarily of repair related costs for critical generation plant infrastructure. The projects that were included in PREPA's final proposal were prioritized and selected with the strategic objective of preventing further performance degradation and improving reliability and available capacity – while a private operator is onboarded, and new generation capacity is built and/or contracted and integrated into the electric grid. The proposed FY2023 Generation NME Budget was prepared by way of a needs-based approach that fell within the revenue allocation proposed by PREPA in its generation budget letter to LUMA on April 1, 2022, without the need of increasing rates.⁴ Plant managers and technical teams were involved throughout the budget proposal development to ensure a robust screening process for deciding which NME projects to pursue. Those activities included in the FY2023 Generation NME Budget are designed to achieve the following goals, which will pave the way towards transitioning the generation legacy assets to private operation:

- Comply with mandated programmed environmental outages & avoid fines from the U.S. Environmental Protection Agency (EPA)
- Improve reliability and performance (including hurricane season preparedness)
- Meet summer peak demand levels by maintaining an adequate reserve capacity of 700MW on average with an assumed 60% outage rate
- Funding for Long-Term Service Agreements and critical maintenance activities for San Juan, Cambalache, Palo Seco, & Mayagüez power plants

PREPA has prepared a maintenance and repair plan to attend the following infrastructure needs:

⁴ PREPA's generation budget letter to LUMA on April 1, 2022 states that "the Generation Budget amount submitted by PREPA today is not sufficient to address all needs and priorities that are deemed necessary. PREPA, however, has made its best efforts through a needs-based approach to come within the allocation explained above. PREPA will be looking for other ways to fund important and strategic maintenance and reconstruction works germane to the legacy plants".



- Schedule Maintenance and Repair of Units such as Costa Sur Unit 5, Palo Seco Unit 3, Aguirre Unit 2 and San Juan 8.
- Replacement and Upgrade of obsolete electrical and control equipment necessary for a reliable operation of the generating units, such as the Replacement of the Excitation Control System of Unit 2, Aguirre and the Replacement and Upgrade of the Automatic Voltage Regulation and Static Frequency Converter for Cambalache's Units 2 and 3.
- Procurement of essential equipment such as inner barrel assembly bundles for boiler feed water pumps, the repair of HP/IP/LP Turbine Rotors, Induced and Forced Draft Fans Motors.
- Inspection, Repairs and Construction of Fuel and Water tanks in various power plants.

b. Please explain budgeted capital expenditure/maintenance costs at each of the PREPA generation sites, including description of the maintenance projects planned at each site. [F6.B]

Please see the exhibit below from Section III Necessary Maintenance Expenses (NME) of the FY2023 PREPA GenCo Proposed Budget Expenses. Also, please refer to the 'NME 22-23 Detail' tab in the Budget Support Workbook (DRAFT Generation Allocation + Budget Expenses_VF).



(\$ in thousands)

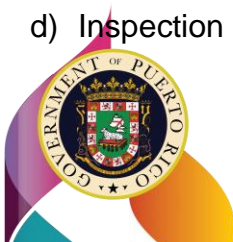
Division	FY2023 Budget	Project Count	Power Plant	FY2023 Budget	Project Count
San Juan Complex	\$44,625	17	San Juan Combined Cycle Power Plant	\$30,450	10
			San Juan Complex	\$12,375	5
			San Juan Steam Plant	\$1,800	2
Hydrogas and Cambalache Power Plants	\$26,715	26	Aguirre Frame 5000	\$1,800	2
			Cambalache	\$4,040	4
			Culebra Power Station	\$20	1
			Frame 5000 Gas Turbine Units	\$400	1
			General	\$50	1
			Hydroelectric Units	\$3,500	3
			Hydrogas Gas Turbine Peakers	\$8,900	5
			Jobos Power Station	\$300	1
			Mayaguez	\$7,050	3
			Palo Seco Power Station	\$575	3
			Vieques Power Station	\$80	2
Generation	\$22,540	13	All Power Plants	\$22,540	13
Aguirre Complex	\$12,800	9	Aguirre Combined Cycle	\$1,000	1
			Aguirre Power Plant	\$11,800	8
Costa Sur	\$8,790	12	Costa Sur Steam Plant	\$8,790	12
IT	\$6,000	3	IT	\$6,000	3
Facilities	\$2,609	3	Facilities	\$2,609	3
Palo Seco	\$1,800	3	Palo Seco	\$1,800	3
Total	\$125,879	86	Total	\$125,879	86

c. Please explain engineering and/or consulting studies and analyses completed for each of PREPA's generation assets, to determine what capital expenditures/maintenance activities are needed to maintain availability and reliable plant operations during the budget period. [F6.C]

PREPA has included with its submittal the Independent Engineer reports prepared by Sargent & Lundy for each of the major power plants and/or power plant complexes.

PREPA's decision on scheduling maintenance and repair works are based on the following:

- Number of hours of operation of the steam turbine of each unit.
- Experience of PREPA's operational and maintenance personnel on identifying what types of conditions on equipment are limiting the capacity of the generation assets or causing forced outages.
- Boiler condition assessment studies performed on steam generating assets.
- Inspection works performed on combustion turbines.



e) Inspection works performed on fuel and water tanks.

The power plant economic performance is not only driven by its thermal efficiency, but also by its asset's availability and reliability. Major programmed outages are scheduled following the guidelines provided by the original equipment manufacturer in order to fully evaluate such assets. The main objective is to perform a detailed inspection, repairs, blades and rotor replacement in order to identify expected wear effects on turbine elements and any possible major deficiency in order to prevent a catastrophic failure and service interruptions, as it happened to Aguirre Unit 2 on November 2015. When we have events such as the catastrophic failure of the Aguirre Unit 1 Main Power Transformer on April 2019, which left the unit out of service for one year until a new transformer was procured and installed and the unforeseen forced outage of units 5 and 6 of the Costa Sur Power Plant due to the damages caused by the earthquake of January 7, 2020 that left both units out service, one for seven months and the other for 13 months, the effect is that PREPA has to reschedule inspection, maintenance and repair works on other major power plants to attend the demand of energy for that period of time. This situation creates a burden on condition of these units being used surpassed their time to be repaired. For example the following units had to be reschedule for maintenance and major overhaul works: (a) Aguirre Unit 1 for the steam turbine repairs and replacement and boiler rehabilitation, (b) the Palo Seco Unit 3 and 4 Environmental Maintenance, (c) and the San Juan Unit 5 Major Overhaul. Situations like the previously mentioned have impact PREPA's generation fleet in the following forced outages during the FY2022:

Unit – Power Plant	Number of Forced Outages	Number of Days Out of Service	Capacity (MW)
U. 1 – Aguirre SP	9	31	450
U.2 – Aguirre SP	16	44	450
U.5 – Costa Sur SP	7	42	410
U. 6 – Costa Sur SP	2	130	410
U. 3 – Palo Seco SP	25	76	216
U.4 – Palo Seco SP	14	32	216
U.7 – San Juan SP	6	68	100
U.9 – San Juan SP	8	68	100
U.5 CT – San Juan CC	4	4	160
U.5 ST – San Juan CC	6	6	60
U.6 CT – San Juan CC	9	10	160
U.6 – ST San Juan CC	12	16	60
U.2-1 – Aguirre CC	1	270	50
U.2-2 – Aguirre CC	1	270	50



Among the reasons for the above-mentioned forced outages, we can mention the following: (a) boiler failure breaks in high pressure components like water wall tubes, economizer and superheater, (b) high vibration levels in turbine bearing, (c) repair works on IDF and FDF, (d) repair works on motor driven and turbine drive boiler feed water pumps, (f) loss of vacuum in condensers, (g) malfunction in instrumentation equipment and relay systems...

d. Please provide copies of any engineering and/or consulting studies identified above in (c). [F6.D]

Addressed above.

e. Please reconcile proposed Generation NME expenditures with specific projects and legacy generation assets in Exhibit II of the document entitled FY2023 PREPA GenCo Proposed Budget Expenses, submitted by LUMA with its April 14, 2022 Motion in Compliance with Resolution and Order dated April 11, 2022. [F6.E]

Please refer to the 'NME 22-23 Detail' tab (Column B, "Power Plant") in the Budget Support Workbook (DRAFT Generation Allocation + Budget Expenses_VF).



**F7.Considering generation plant outages that negatively affected customer service and generation reliability on the island over the last year, please explain how the budgeted NME expenditures will ensure plant availability and generation resource adequacy and reliability during the budget period.
[F7]**

PREPA has generally selected projects that will improve overall system reliability and plan availability with a goal of achieving 60% and 65% availability during calendar years 2022 and 2023, respectively. The maintenance schedule is designed to ensure that a majority of PREPA's critical and largest units are available during the peak demand period during summer months and hurricane season to obtain 4,000MW of available generation. The major inspection and overhaul projects summarized below and included in the NME budget are scheduled for off-peak or lower demand periods.

- a) Costa Sur Unit 5 Major Inspection and Overhaul – October 2022-February 2023
- b) Palo Seco Unit 3 Major Inspection and Overhaul – January 2023 – April 2023
- c) Aguirre Unit 2 Environmental Maintenance and Repairs – March 2023 – May 2023
- d) San Juan 8 – Major Inspection and Overhaul – February 2023-June 2023

Furthermore, please see the following excerpt from PREPA's Budget Filing, Section III, which discusses the need for certain NME expenditures to improve resource adequacy and reliability.

The majority of FY2023 Generation NME Budget is for projects at the San Juan Combined Cycle Power Plant, units 5 and 6, which are PREPA's most modern base load units with the capability to burn diesel or natural gas. Both units supply roughly 35% of load for the north region and 15% for the rest of the island with efficient, environmentally compliant, and reliable energy. These units are fueled with natural gas, which offers a reduction of 90% in SO₂ emissions rates compared with diesel fuel oil within an area classified by the U.S. Environmental Protection Agency (EPA) as a non-attainment area. Potential emissions from other pollutants such as PM, PM₁₀, PM_{2.5}, H₂SO₄, NO_x, and CO were also reduced due to the implementation of the San Juan 5 and 6 natural gas conversion, and the emission limits accompanied by these efforts.

The reliability and availability of San Juan Units 5 and 6 is critical to maintain a stable and efficient electrical system. By running San Juan Units 5 and 6 at higher capacity factors with natural gas, PREPA has been able to reduce its reliance on other generating units that consume heavy fuel oil, yielding additional emissions reductions. With these units, PREPA can achieve significant reductions in air emissions, at lower generation costs.

The largest project in the FY2023 Generation NME Budget is the \$10 million annual expenditure for the Natural Gas Manufacturing Surcharge paid to New Fortress Energy in equal amounts on a monthly basis. The surcharge is a contractually required amount



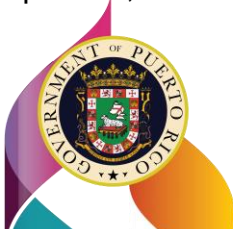
and is stated as being for the “reasonable and necessary current expense of making Natural Gas available” to PREPA.

The Original Equipment Manufacturer (“OEM”) of San Juan combined cycle recommends the Major Inspection and Maintenance of the combustion turbines under the Long-Term Service Agreement at 12,000 hours. Major Inspection of the steam turbine is recommended at 50,000 hours. At that same interval, other major components associated to the thermal energy of a combined cycle and controls should be inspected, repaired and upgraded to extend useful life and to maximize plant efficiency, heat rate and reliability. Both San Juan units 5 and 6 have exceeded their recommended hours of service for major inspection and maintenance.

The San Juan unit 5 combustion turbine reached 12,000 hours on June 28, 2021. Mitsubishi Power System, the OEM, performed a borescope inspection that extended the operating hours until October 2021. The outage for the Major Inspections and Maintenance was scheduled to begin during the third week of October 2021, but due to other forced and planned outages, it was delayed until January 2022. San Juan Unit 5 was taken out of service for major maintenance and repairs on January 15, 2022, and is expected to return to service on June 16, 2022. The Generation Directorate is planning to perform the same major maintenance and repairs on San Juan unit 6 during Fiscal Year 2023, after the peak summer months have passed.

Furthermore, the Generation Directorate has proposed completing the necessary Installation of Modules D & E, Heat Recovery Steam Generator and the Supply and the Installation (Replacement) of the Online Condenser Cleaning System of Unit 5, which should be procured through a competitive request for proposals (RFP) process. A competitive procurement process will provide PREPA with the opportunity to obtain greater alternatives and competition, reduce the risk of collusion, and promote the best possible terms and conditions that will result in the public’s best interest in terms of savings, costs, and expenses. Carrying out an RFP process for this specialized equipment offers PREPA the flexibility to negotiate adequate pricing structures, while ensuring the quality of the services provided and complying with the completion times of the projects, among other technical and commercial elements.

The next largest divisional spending category of the FY2023 Generation NME Budget is for Hydrogas and Cambalache Division power plants, which includes the 220MW of capacity at Mayagüez, 248MW of capacity at Cambalache (165MW excluding Unit1), and 378MW of capacity from the 18 Frame 5 peaking and emergency backup units distributed across the island at various power plant complexes and distributed peaking facilities. PREPA routinely faces capacity limitations and total lack of availability at these power plants, and units, which are responsible for immediate emergency response and electrical grid restoration during load sheds and after blackouts. Greater availability of these units could have mitigated or avoided altogether the most recent blackout event that occurred starting on April 6, 2022. The proposed FY2023 Generation NME Budget includes major inspection, maintenance, and repairs at most of the Division’s facilities, including annual



costs of the LTSA for Cambalache and specific projects for maintenance of Mayagüez and the 18 Frame 5 peaking units. Maintenance and repairs costs at Mayagüez also include expansion of water demineralization capacity to ensure adequate production availability for the full plant operation.



F8.Considering generation plant outages that negatively affected customer service and generation reliability on the island over the last year, please explain why Labor and Non- Labor generation expenditures are increasing at a percentage much larger than generation NME costs, and how the budgeted NME expenditures will ensure plant availability and generation resource adequacy and reliability during the budget period. [F8]

Labor and non-labor generation expenses, when taken in aggregate, increase as a percentage in line with generation NME, ~20%. Additionally, non-labor expenses include costs associated with maintenance and other miscellaneous and professional outside resources for services geared towards repairing units.



F9. In the FY2021/2022 Initial Budgets, the Generation Budget included \$106.4 million of NME expenditures. [F9]

- a. Please provide a detailed explanation and cost breakdown of actual NME capital expenditures and maintenance activities at each of PREPA's generation sites over the last 12 months and reconcile those expenditures with the NME generation budget proposed for FY2023. [F9.A]**

Please see response to F2 and RFI Support Workbook, tab 'F2' for the detailed project-by-project comparison of PREPA's current NME budget and actual expenditures.

PREPA's operations are very dynamic and planned purchases of equipment materials and services tend to change due to the behavior of the electrical system and the situations that may arise on the generating units during the period for which the budget was designed. Sometimes priorities must be changed to address repair, maintenance and upgrade works on the main and secondary components of a specific power plant, due to delays on scheduled maintenance of other units or when unforeseen damages are found during rehabilitation and repair works of those units. Also, in recent years, global supply chain constraints for equipment and materials have put a burden on the time of execution of repair and maintenance projects on the power plants. This, gets more difficult when those delays have the result of having a base load unit out service during the peak demand of energy and hurricane season. PREPA has to make the decision to extent the schedule outage of a major power plan to ensure the availability of generation to our customers.

It is important to point out that PREPA expenditures for NME for the FY2022 were used to improved the reliability on important units such as Aguirre 1 & 2, Aguirre Combined Cycle Units 1-1, San Juan Unit 5, Costa Sur Unit 6, Mayaguez Units 1A, 1B and 4A and Palo Seco Unit 3, which have had the effect of mitigating any loadshedding events due to generation reasons for the past 6 months.



F10. In the document entitled FY2023 PREPA Genco Proposed Budget Expenses, submitted by LUMA with its April 14, 2022, Motion in Compliance with Resolution and Order dated April 11, 2022, PREPA discusses a process where LUMA proposed a percentage allocation of total revenue requirement to the Generation function, and how that allocation was discussed and negotiated between LUMA and PREPA. This discussion implies that development of the Generation Budget utilized a top-down approach, where total budget funds were allocated to the Generation function, and then generation costs, including labor and non-labor expenditures, and generation plant maintenance and capital expenditures were planned to fit that total budget allocation.

- a. Given generation forced outages that Puerto Rico has endured over the last 12 months, please explain why a budget allocation approach was taken, rather than developing the Generation Budget based on needed projects and expenditures necessary to maintain reliable generation plant operations? [F10.A]**

PREPA developed the GenCo budget on a bottom-up basis. When provided with the initial proposed revenue allocation, PREPA immediately recognized that the LUMA proposed allocation was woefully insufficient and unfair, and not truly representative of historical spending and PREB rate orders. PREPA performed its own analysis and developed a counterproposal based on facts from the 2017 rate order and historical O&M expenses. PREPA found that its proposed revenue allocation would provide for sufficient budget expenditures on operating and maintenance activities to allow for GenCo to perform most of the needed repairs and improve plant reliability without the need to increase rates.

- b. Please explain how the approach taken to develop the Generation Budget ensures reliable operation of the generation assets and ensures reliable electric service on the island. [F10.B]**

Even though PREPA is hitting its revenue allocation, there was a bottom-up process. This budget is geared towards more reliable generation, however, it does not extend past the T&D demarcation point. PREPA's Generation Budget includes needed projects and maintenance expenses for continuous operation of the generating units, environmental regulations compliance, and increasing the generation system reliability. The works were identified and prioritized mainly considering these objectives, in light of the operation of the electrical power system. During the identification of the repairs works, it was considered the operational reserve margins that are expected during the programmed outage of a baseload unit, among others. This consideration helped PREPA to determine how many units can be repaired simultaneously, when and for how long, in addition to consider the electrical system load profiles, energy demand forecasts, and meteorological conditions, among others. It is noted that maintaining the operational reserve margins is



essential for reducing the risks of instability events in the electrical system, especially an isolated system like Puerto Rico's electrical grid. Due to the current limited availability of PREPA's generating units, PREPA is not complying with the operational reserve margins in the T&D Operator (LUMA)'s standard operating principles approved by the Energy Bureau. Therefore, it is of paramount importance to repair PREPA's generating units to increase its availability and reliability and, consequently, reducing the risk of instability events in the electrical power system due to lack of generation capacity, increasing its reliability and safety.

c. Please explain whether generation NME projects or other activities have been identified that would improve availability and reliability of any of PREPA's legacy generation, but that such projects were excluded from the Generation Budget. [F10.C]

On April 1, 2022, PREPA sent its generation budget letter to LUMA stating that "the Generation Budget amount submitted by PREPA today is not sufficient to address all needs and priorities that are deemed necessary. PREPA, however, has made its best efforts through a needs-based approach to come within the allocation explained above. PREPA will be looking for other ways to fund important and strategic maintenance and reconstruction works germane to the legacy plants". Hence, the FY2023 proposed generation budget does not include several generation NME projects totaling nearly \$60 million. As part of the efforts PREPA will seek for funding these projects, after obtaining the approval of the Energy Bureau, it will submit them to be funded with federal funds from FEMA. It is possible to use already reimbursed funds from other generation NME projects for starting the development of the excluded projects in a revolving manner.

d. If any projects identified above in (c) were excluded, please provide a list of such projects, and for each project, provide the rationale for such exclusion, the estimated cost of the project, and the expected impact on plant availability and reliability. [F10.D]

PREPA has included the list of projects that were excluded from the Generation Budget, for which it will be seeking to fund from FEMA or other federal funds.

