

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

<b>NEPR</b>  <b>Received:</b>  <b>Nov 14, 2023</b>  <b>6:50 PM</b>
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**IN RE:**

GENERA PR LLC FUEL OPTIMIZATION  
PLAN

**CASE NO.:** NEPR-MI-2023-0004

**SUBJECT:** Motion Submitting Final Response  
to Resolution and Order Dated October 19, 2023

**MOTION SUBMITTING FINAL RESPONSE TO RESOLUTION AND ORDER DATED  
OCTOBER 19, 2023**

**TO THE HONORABLE PUERTO RICO ENERGY BUREAU:**

COMES NOW GENERA PR LLC (“Genera”), as agent of the Puerto Rico Electric Power Authority (“PREPA”),<sup>1</sup> through its counsels of record, and respectfully submits and prays as follows:

1. On October 19, 2023, the Energy Bureau of the Puerto Rico Service Regulatory Board (“Energy Bureau”) issued a Resolution and Order titled *Requirement of Information to GENERA – Evaluation of Genera Fuel Optimization Plan* (“October 19<sup>th</sup> Order”). Regarding the analysis of the Fuel Optimization Plan submitted by Genera on September 15, 2023, the Energy Bureau noted in the October 19<sup>th</sup> Order that:

“The Energy Bureau's expectation of the Fuel Optimization Plan is that it describes each and all specific initiatives that Genera, in the exercise of its expertise, created, as well as the method and expected savings for the purchase of fuel. Consistent with the [LGA OMA], any savings related to Federal programs or market conditions are not savings used to trigger or calculate the incentive payment.”

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<sup>1</sup> Pursuant to the *Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement* (“LGA OMA”), dated January 24, 2023, executed by and among PREPA, Genera, and the Puerto Rico Public-Private Partnerships Authority (“P3 Authority”), Genera is the sole operator and administrator of the Legacy Generation Assets (as defined in the LGA OMA) and the sole entity authorized to represent PREPA before PREB with respect to any matter related to the performance of any of the O&M Services provided by Genera under the LGA OMA.

2. In the October 19<sup>th</sup> Order, the Energy Bureau further discussed its analysis of Genera's Fuel Optimization Plan, stating that "[t]o ascertain the prudence of the Fuel Optimization Plan as it related to the LGA OMA, the requirements listed in the July 18<sup>th</sup> Order, and applicable laws and regulation of the Government of Puerto Rico, the Energy Bureau determines that supporting material is needed to allow the Energy Bureau to fully assess Genera's Fuel Optimization Plan". Consequently, the Energy Bureau ordered Genera to respond, on or before October 27, 2023, at 12:00 PM, to the Requirements of Information ("ROI") outlined in Attachment A to the October 19<sup>th</sup> Order.

3. On October 26, 2023, Genera filed a Motion titled *Motion Requesting Extension of Time to Comply with the October 19 Order*, through which Genera informed the Energy Bureau that due to the complexity and the amount of required information on the October 19<sup>th</sup> Order, Genera required an additional two-week extension, until November 10, 2023, to respond to the ROI. The Energy Bureau, through a Resolution and Order issued on October 31, 2023 ("October 31<sup>st</sup> Resolution"), granted Genera's request for extension and ordered Genera to respond by November 10, 2023, at 12:00 PM, to the ROI as detailed in Attachment A of the October 19<sup>th</sup> Order.

4. On November 9, 2023, Genera filed a document titled *Urgent Request for Extension of Time to Submit Partial Response in Compliance with Resolution and Order Dated October 19, 2023* ("November 9<sup>th</sup> Request for Extension"). Through this Request, Genera informed the Energy Bureau that, while it has been diligently working to produce the response for all the ROI and questions under the initiatives outlined in Attachment A of the October 19<sup>th</sup> Order, it requires, and is thus urgently requesting, an extension of time, until November 16, 2023, to provide the response pertaining to the ROI items under *Initiative 8: Fuel Efficiency Projects*.

5. On November 10, 2023, Genera filed a document *titled Motion Submitting Response to Resolution and Order Dated October 19, 2023*, through which it submitted its response to the ROI detailed in Attachment A of the October 19<sup>th</sup> Order, excluding the pending ROI response for *Initiative 8: Fuel Efficiency Projects*.

6. Considering the aforementioned events, Genera, in adherence to the October 19<sup>th</sup> Order and in accordance with the November 9<sup>th</sup> Request for Extension, is now submitting the outstanding ROI response for *Initiative 8: Fuel Efficiency Projects*. This response, attached as Exhibit A to this motion, completes the response to the ROI outlined in the October 19<sup>th</sup> Order.

7. Genera respectfully informs the Energy Bureau that the response to Item No. 60 under *Initiative 8: Fuel Efficiency Projects* of the October 19<sup>th</sup> Order is submitted under seal of confidentiality, as it includes sensitive commercial information. Genera also respectfully requests the Energy Bureau to maintain the response to Item No. 60 under seal of confidentiality pursuant to the Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009, issued on August 31, 2016, and partially amended on September 16, 2016. In accordance with this policy, Genera informs that it will submit a Memorandum of Law supporting this request within the next ten (10) days.

**WHEREFORE**, Genera respectfully requests that the Energy Bureau **take notice** of the above for all purposes and **deem** Genera to be in compliance with the October 19<sup>th</sup> Order.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 14<sup>th</sup> day of November 2023.

**ECIJA SBGB**  
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**CERTIFICATE OF SERVICE**

We hereby certify that a true and accurate copy of this motion was filed with the Office of the Clerk of the Energy Bureau using its Electronic Filing System.

In San Juan, Puerto Rico, this 14<sup>th</sup> day of November 2023

/s/ Alejandro López Rodríguez  
Alejandro López Rodríguez

*Exhibit A*  
GPR – PREB ORDER– 10.19.2023

Docket Number: NEPR-MI-2021-0004

In Re: Review of LUMA's Initial Budgets

Re: Supplement – Initiative 8 – Response in Compliance with the October 19, 2023, Order regarding the Fuel Optimization Plan

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### Initiative 8: Fuel Efficiency Projects

#### GPR – PREB ORDER – 10.19.2023 #55

55. Using the example provided in Page 37 of the FOP, use FY 2023 data, and provide an example of how the Fuel Optimization calculations will look like for the basis or the Fuel Optimization Report. The example should be as close as feasibly possible to how it would look like for Contract Year 1 of the Fuel Optimization Report.

#### Response:

Below is a table presenting estimated loss calculations attributed to the high heaters being out of service in units 5 and 6 of Costa Sur.

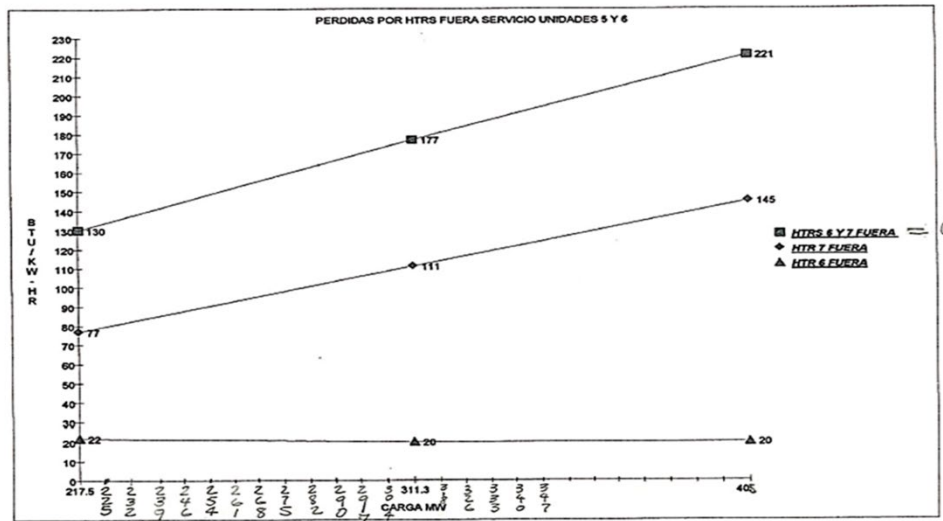
When heaters 5 and 6 are out of service, it results in approximately \$500,000 in monthly losses, based on a load of 311 MW and a fuel cost of \$11.5/MMBTU. The absence of these heaters leads to an increase in fuel flow, which subsequently raises gas volume and temperature. This can potentially exacerbate issues with the air heaters. Genera estimates that for every 10°F increase in gas outlet temperature, the heat rate is affected by 0.25%.

The curves provided are the outcomes of tests conducted in the units. This estimation of losses pertains to heaters 6 and 7 being out of service in units 5 and 6 of Costa Sur, based on test results from 2010.

CARGA PROMEDIO	311
HORAS	720
MW-HR	223920
\$/Millon de BTU	\$11.50

**Calentadores 6 y 7 fuera de servicio.**

HTR FUERA	Perdidas		
	*BTU/KW-HR	BTU	\$
<b>6 y 7</b>	175.254	39,242,875,680	\$451,293.07
<b>7</b>	110.81895	24,814,579,284	\$285,367.66
<b>6</b>	20	4,478,400,000	\$51,501.60



**Air heater gas outlet temperature**

The change in heat rate due to changes in gas outlet temperature is estimated to be 0.25% for every ten °F. The increase in fuel consumption caused by having the heaters out of service increases gas volume and temperature.



GPR – PREB ORDER – 10.19.2023 #56

56. What are the differences and interdependencies of this incentive payments due to this initiative compared to the incentive payment for the Equivalent Availability Factor (EAF)?

**Response:** The incentives that will be sought as Fuel Optimization Payment target the efficiencies in fuel consumption, not heat rate improvement or capacity. This incentive is not capped. Meanwhile, the Equivalent Availability Factor O&M Incentive Payment is limited to the factors evaluated as part of the Equivalent Availability Factor, which does not consider reduction or efficiencies in fuel consumption. This factor and the relevant calculations are subject to the Annual Performance Test Procedures approved by PREB. This incentive is capped per the Measure Parameters established (for baseload and peaking units) in Annex II of the LGA OMA. The approved procedures can be found in <https://energia.pr.gov/expedientes/?docket=nepr-mi-2023-0003>.

GPR – PREB ORDER – 10.19.2023 #57

57. On what time frame and due to what actions will Genera's administration, heat rate, availability, frequency regulation, and daily generation reserve be improved?

**Response:**

Approximately two years from now, the heat rate, frequency regulation, and availability will be improved once the critical components of each of the units have been replaced. To demonstrate these changes, performance tests will be conducted this year to assess the current state of the units. After the units have been repaired, new tests will be conducted to verify the performance improvements.

**GPR – PREB ORDER – 10.19.2023 #58**

58. How can power generation units like Costa Sur 5 and 6 achieve substantial fuel savings and efficiency improvements through the variable frequency drivers (VFDs) and what are the estimated annual cost savings associated with these measures? What criteria has Genera used to calculate VFD savings? Did Genera consult with the manufacturers about the use of frequency drive in boiler circulating water pumps, given the minimum angular speeds (RPM) of the rotor of the pumps?

**Response:** The reasons for installing VFD include:

- Energy Savings – Allowing a VFD to lower motor speed can save up to 90% on the motor energy usage.
- Reducing Wear – Instead of smashing motors with a full line voltage to start, VFD starts them gently by ramping up the voltage. This cuts down on wear and the risk of overheating.
- Offset Oversizing – Many HVAC applications have enlarged Centrifugal fans and pumps to allow for different uncertainties. VFD speed control saves energy by reducing the amount of energy lost by large motors that may never reach full speed.
- Reduce Demand Charges – Utility Demand Charges are applied to most commercial and industrial establishments depending on the highest current demand during the year. By controlling motor inrush currents, which can be 5 to 11 times greater than full-load current, variable frequency drives (VFD) can assist in minimizing Demand Charges.
- Financial Incentives – Genera can obtain FEMA funding to encourage energy-saving VFD installation.

The primary energy consumption in pumps is amperage, which can undergo sudden changes when flow control valves are operated. During startup, amperage can sometimes spike to nearly eleven times its level during full-load

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operation. To address this, devices are used to control current and voltage in a gradual manner, preventing abrupt starts and load fluctuations.

Moreover, these controllers offer the advantage of eliminating the need for additional valves and control systems for pumps and fans. Instead, they regulate the motor, effectively managing water or air flow without incurring extra expenses on auxiliary equipment.

Payment is made over a 15-month period at a rate of \$20.50 per million BTUs, based on the 2022 heat rate of 10,696 BTUs per kWh.

Nominal Cost (Unit 5 and 6) - 2022 SOUCO Fuel Expense 5/6 10,696 BTU/kWh Net, \$20.50/mmBTU		
Kw-Pump		24,000 kW
kw-ST gross		844000
kW-ST net		820000
kWh Yearly Production		3,120,018,000 kWh/year
Fuel Purchase		\$ 684,120,107
difference in Kw ST(Gross-Net)		-3%
Fuel Cost Take-off for pumps (\$)		\$ -19,453,652
Fuel Cost Take-off for pump sets (\$)		\$ -9,726,826
Recirculation Cost (Base Load, at lower loads cost is higher per kWh)		
Pump Power for Recirculation	24%	5,867 kW
Base Load Cost of Recirculation (Entire Plant)		\$ -4,755,337
Base Load Cost of Recirculation (Per Pump Set)		\$ -2,377,669
Optimized Recirculation Cost		
Optimized Pump Power for Recirculation	17%	4,107 kW
Opt. Base Load Cost of Recirculation (Entire Plant)		\$ -3,328,736
Opt. Base Load Cost of Recirculation (Per Pump Set)		\$ -1,664,368
Plant Savings due to reduced recirculation (at base load)		\$ 1,426,601
Project Justification (Pay back at base load)		
Project Cost (Unit 5 & 6) using existing pumps (Engineering, New Trafo, Drive & Motors, Installation using Existing Pumps)		\$ 20,000,000
Yearly Fuel Savings (Reduced Pump Recirc)		\$ 1,426,601
Yearly Fuel Savings (Reduced Boiler Recirc)		\$ 15,050,642.35
Total Fuel Savings (Reduced Boiler Recirc & Pumps)		\$ 16,477,244
Payback		14.57 Months

Nominal Cost (Unit 5 and 6)		
Kw-Pump		24,000 kW
kw-ST gross		844000
kW-ST net		820000
kWh Yearly Production		3,120,018,000 kWh/year
Fuel Purchase		\$ 521,197,048
difference in Kw ST(Gross-Net)		-3%
Fuel Cost Take-off for pumps (\$)		\$ -14,820,769
Fuel Cost Take-off for pump sets (\$)		\$ -7,410,385
Recirculation Cost (Base Load, at lower loads cost is higher per kWh)		
Pump Power for Recirculation	24%	5,867 kW
Base Load Cost of Recirculation (Entire Plant)		\$ -3,622,855
Base Load Cost of Recirculation (Per Pump Set)		\$ -1,811,427
Optimized Recirculation Cost		
Optimized Pump Power for Recirculation	17%	4,107 kW
Opt. Base Load Cost of Recirculation (Entire Plant)		\$ -2,535,998
Opt. Base Load Cost of Recirculation (Per Pump Set)		\$ -1,267,999
Plant Savings due to reduced recirculation (at base load)		\$ 1,086,856
Project Justification (Pay back at base load)		
Project Cost (Unit 5 & 6) using existing pumps (Engineering, New Trafo, Drive & Motors, Installation using Existing Pumps)		\$ 20,000,000
Yearly Fuel Savings (Reduced Pump Recirc)		\$ 1,086,856
Yearly Fuel Savings (Reduced Boiler Recirc)		\$ 11,466,335.06
Total Fuel Savings (Reduced Boiler Recirc & Pumps)		\$ 12,553,191
<b>Payback</b>		<b>19.12 Months</b>

This estimate is based on a proposal received in the past from pump manufacturers.

GPR – PREB ORDER – 10.19.2023 #59

59. Given the current generation units are not performing best. How did Genera estimate or calculate the \$8.2million cost savings for FY2024 fuel efficiency?

**Response:** This estimate is half of the annual savings expected from the estimated fuel efficiencies. (This figure should be ~\$15M and will be updated in a subsequent submission). Further details on the annual savings is provided in GPR – PREB ORDER – 10.19.2023 #60.

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GPR – PREB ORDER – 10.19.2023 #60

60. The Genera estimated savings calculated for fuel efficiency initiatives will be \$16.4 million annually (according to Page 9 Table) from FY2025 until FY2028. Why was this savings estimated amount the same and not adjusted over the fiscal years? What criteria were utilized to determine this?

**Response:** The annual fuel efficiency initiatives are expected to be \$30M<sup>1</sup> per year, given that, at this current time, it is the best estimate available. Many variables go into this estimate, including but not limited to the LGA's heat rate, dispatch, and status (online or offline). The IRP process will naturally affect the LGA, subsequently affecting these estimates. This estimate also assumes all efficiency projects are completed in parallel; the timing of each project is still uncertain, given Genera just received approval on November 8th, 2023, and is now beginning to discuss the prioritization of these projects. Detail on the estimate's calculation can be found in the attached document titled "GPR – PREB ORDER – 10.19.2023 #60".

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<sup>1</sup> Will be updated in the plan on a subsequent submission.

GPR – PREB ORDER – 10.19.2023 #61

61. Is Genera planning to claim any fuel savings resulting from the ability to dispatch lower cost plants (as opposed to savings from reducing the cost to operate any given plant?)

**Response:** The savings will be calculated with the reduction of power plant operations dispatch, which is contingent on the T&D System Operator decisions, while operation costs provide more certainties for calculations.



GPR – PREB ORDER – 10.19.2023 #62

62. Why are Costa Sur 5 & 6 the only units utilized in the estimated cost-saving calculation of \$8.2 million for FY2024 and \$16.4 million for FY2025 through FY2028, and not the other units?

**Response:** Costa Sur 5 & 6 were used explicitly in the estimated cost-saving calculation for FY2024 and FY2025 through FY2028. While Costa Sur serves as an example, it's important to note that similar cost-saving calculations can be applied to other units in the system, such as Aguirre and Palo Seco, when heat exchangers are replaced. The choice to focus on Costa Sur 5 & 6 in this calculation does not preclude the possibility of similar savings being achieved with other units in the future.

GPR – PREB ORDER – 10.19.2023 #63

63. The power plant's unit's best efficiency is not achieved when operating at 100% load capacity. However, the necessary repairs and maintenance must be done to determine the optimal operating point at the maximum load.

- a. Has any cost estimate been considered to determine the amount required to achieve this objective in each unit?
- b. Are the savings estimated for the previous fiscal years, considering the cost of repairs and maintenance?

**Response:** The repair of the units with the replacement of all their critical components and the necessary instrumentation to monitor the equipment in real-time is needed to obtain an air-fuel curve at different loads and determine the optimal load for our units and the frequency regulation range.

The total cost of all the critical components that need to be replaced is approximately \$138 million, and this includes the associated installation services. Once these critical components are replaced and with the effective implementation of the preventive maintenance program, fuel cost savings should become evident.

**GPR – PREB ORDER – 10.19.2023 #64**

64. The Palo Seco Units 1 & 2, Costa Sur Units 1, 2, 3 & 4, and San Juan Units 8 & 10 (totalizing 640 MW) are in a decommissioning process. The other units will be repaired and optimized to continue operation until the other renewable utility-scale projects become operational to determine the eventual decommissioning process.

- a. Has the cost-effectiveness investment per unit been determined for the remaining operating fleet to get the maximum optimal conditions, considering that these units will be decommissioned in the future?

**Response:** For the reasons provided in response GPR – PREB ORDER – 10.19.2023 #70(a), Genera does not have certain estimates to retire units, and thus, such factors have not been analyzed in detail. Genera does take the most conservative approach in investments to the LGA because they will be decommissioned as ordered by PREB.

GPR – PREB ORDER – 10.19.2023 #65

65. With heaters 6 and 7 out of service in Units Costa Sur 5 and 6, which can be harsh on the boilers' components, what steps are Genera taking to prevent additional boiler damage as they work on repairing the heaters and the units?

**Response:** In the current scheduled repair of Costa Sur 5, heaters 6 and 7 are being repaired. However, their replacement is necessary due to the number of blocked tubes in these heaters. Nevertheless, their repair will contribute to the increase in boiler efficiency only to a limited extent until they are completely replaced.

GPR – PREB ORDER – 10.19.2023 #66

66. Did Genera seek advice from the boiler manufacturer regarding this operational situation?

**Response:** Currently, Genera relies on the recommendations of General Electric which has provided services to the LGA for over 30 years.

GPR – PREB ORDER – 10.19.2023 #67

67. How can power generation units like Costa Sur 5 and 6 achieve substantial fuel savings and efficiency improvements through variable frequency drivers (VFDs)?

**Response:** Please refer to answer GPR – PREB ORDER – 10.19.2023 #58.

GPR – PREB ORDER – 10.19.2023 #68

68. What criteria did Genera use to estimate the annual cost savings associated with implementing VFDs?

**Response:** Please refer to answer GPR – PREB ORDER – 10.19.2023 #58.

GPR – PREB ORDER – 10.19.2023 #69(a)

69. Requests of information:

- a. Genera's FOP states: "Genera will implement a plan for aggressive repair and replacement of components of generating units plan and for an increase in preventive maintenance." Please provide a detailed written plan about this.

**Response:** Genera has proposed to use the temporary generation of 350 MW by FEMA to implement programs for the replacement of critical components and parts that will improve fuel efficiency in their power plants. The temporary power will allow Genera to take units offline for repairs that are outside of ordinary maintenance and repairs, such as the replacement of critical components like valves. Genera submitted the components to PREB for approval, and PREB has approved most of them. Additionally, PREB has granted Genera permission to initiate all processes to have the parts' costs reimbursed through already-obligated federal grants.<sup>2</sup>

Genera is evaluating all the areas and considering the resources needed to fill each of the facilities' necessities and preparing our personnel with training, creating contracts where they are needed and organizing to fulfill our duties. Regarding reliability, Genera will:

1. Genera is actively working to enhance the repair and maintenance rates of its assets across all facilities. Genera is prioritizing asset repairs to improve the reliability of equipment in the power plants. Weekly meetings and discussions are being held with each reliability group to identify opportunities for improvement.

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<sup>2</sup> <https://energia.pr.gov/wp-content/uploads/sites/7/2023/11/20231108-MI20210002-Resolution-and-Order-GENERAs-Request-for-Approval-of-Projects.pdf>

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2. Rotation of equipment in all the facilities: Implementing an equipment rotation program across all facilities will ensure the availability and reliability of rotational equipment when needed..
3. Extend the life of the rotational equipment: Proper maintenance extends the lifespan of electrical equipment and assets, resulting in cost savings that will eventually prevent premature failures and replacements.
4. Resource Allocation Optimization: A well-structured Preventive Maintenance Program will allow us to allocate resources more efficiently. This will help reduce emergency repairs before they become critical and avoid unnecessary costs.

The objectives of Genera’s reliability program are:

1. Establish a Preventive Maintenance Priority Schedule: Listing priorities with the maintenance personnel is crucial as it can impact electrical generation in our facilities. This requires collaboration with the Plant and Maintenance Managers at each Genera-PR facility.
2. Establishing the Preventive Maintenance Order Inspections: Operations personnel play a crucial role in preventive maintenance inspections by serving as the first line of defense in identifying equipment issues. Their vigilance enhances personnel safety, prevents catastrophic damage, reduces downtime, and lowers repair costs.
3. Employee Training and Development: Invest in ongoing training and development programs for our maintenance and operations teams to ensure they have the knowledge and skills required to conduct preventive maintenance effectively.
4. Establish Key Performance Indicators (KPIs): The establishment of KPIs will measure the effectiveness of the Preventive Maintenance Program.
5. Up to Date Contracts and Annual Budget Allocation: The need of up-to-date contracts and an annual budget allocation is imperative to the success of the program. Genera is in the process of renewing the

contracts for oil analysis and reliability with the Vibra and Spectron Company which ends on December 31, 2023.

GPR – PREB ORDER – 10.19.2023 #69(a)(i)

- i. Please provide Genera's projected improvements in plant availability and plant heat rate, by plant. Please indicate whether the project is designed to improve plant availability, plant efficiency, or both.

**Response:** This will be determined after conducting the performance tests.

GPR – PREB ORDER – 10.19.2023 #69(a)(ii)

- ii. Also please indicate whether the projects identified will be funded by the FY23/24 base rate budget or by the federal funding budget, or from some other source.

**Response:** On June 8<sup>th</sup>, 2023, PREB partially approved Genera's request for federal funding of the critical components required for their project. Most of the components were approved and will be funded by the federal government, amounting to around \$74 million. However, for the components that were not approved, Genera will submit additional information to PREB and request their reconsideration. If PREB denies Genera's request to proceed with the project, it will result in a denial of replacement for the component in general, not just the source of funding. Therefore, if the remaining projects are denied, they cannot be completed, irrespective of the availability of funds.

GPR – PREB ORDER – 10.19.2023 #69(a)(iii)

- iii. For the projects listed, please describe whether the project was initially identified and had planning activities begin subsequent to the Mobilization Period on June 30, 2023, or whether such activities were begun prior to Genera taking over NEM and federal funded capital projects?

**Response:** These projects were identified by Genera before and after Service Commencement Date. Neither of these activities began before June 30, 2024. Further, Genera had not initiated the activities because it was waiting for PREB's approval of the replacement of fuel efficiency components.

GPR – PREB ORDER – 10.19.2023 #69(b)

- b. For units identified for decommissioning, what will be the estimated dates for repair and optimization? Please provide a detailed plan for this purpose, if available.

**Response:** Units that have been decommissioned (not included as available resource in the 2020 IRP, will not be repaired and optimized (i.e. San Juan 8).

GPR – PREB ORDER – 10.19.2023 #69(c)

- c. Given that projected savings lead up to the year 2025, please provide a detailed written plan about projected cost savings for long-range/upcoming years based on the mentioned strategies or specific additional methodologies for implementation.

**Response:** Genera is working on future year's business plans under each of the initiatives and will have updates for PREB in subsequent revisions of the FOP, assuming those plans are complete at the time of a subsequent revision

GPR – PREB ORDER – 10.19.2023 #69(d)

- d. Please describe Genera's proposed approach for establishing generation plant availability baseline targets for use in determining incentive payments under the Generation OMA?

**Response:** As explained in page 36 of the proposed Fuel Optimization Plan, the availability baseline will be the average per unit for the year prior to the one in which the initiative is presented for savings calculation purposes.



GPR – PREB ORDER – 10.19.2023 #69(e)

- e. Please describe whether it is Genera's intent to use Heat Rate tests to establish heat rate baseline data for the legacy fossil generation units? If Genera is proposing a different approach, please describe that approach and Genera's rationale for proposing its use?

**Response:** Yes. Genera will use heat rate tests to establish heat rate baseline data for the legacy generation units.

**GPR – PREB ORDER – 10.19.2023 #70**

70. How will Genera prioritize the potential/identified fuel efficiency projects?  
Please provide the methodology or the analytical process.

**Response:** Genera is developing the execution plan based on the approval received recently from the PREB. Initiating the projects is contingent on the availability of parts (mainly due to lead times) and whether the T&D System Operator grants leave to perform an outage, replace the component, or do the repairs.

GPR – PREB ORDER – 10.19.2023 #70(a)

a. Does the planned retirement date factor into this analysis?

**Response:** The implementation of the retirement plan set in the IRP has experienced delays due to several factors that challenge setting specific dates for retirements. One of these factors is the delayed integration of the first tranche for the procurement of 1,000 MW of renewable generation and 500 MW of storage. Although Tranche 1 awarded contracts for approximately 850 MW (not the 1,000MW that PREB sought through Tranche 1) of generation were recently executed, the commercial operation deadline for these is still 24 months away, and the remaining five tranches (2,750 MW in generation and 1,000 MW in storage) have been substantially delayed. Given that the retirement of units must be done in a very cautious way since the Legacy Generation Assets provide almost all the generation that is supplied to Puerto Rico and thus, stability of the system, retirements have become a pressing topic that needs to be thoroughly discussed and revisited in the upcoming IRP. It is important to note that the T&D System Operator is tasked with evaluating retirements, and Genera has not been made privy to any studies or preliminary results of such analysis. Genera is taking a cautious and conservative approach to investments in the Legacy Generation Assets, as these assets must be retired according to the O&M Agreement. Retirement plans will be dependent on PREB's orders and will be executed accordingly. All investments that Genera plans for Legacy Generation Assets aim to improve the reliability and stability of the generation system and are not intended to extend the life of the assets. Once Genera has a revised plan for the retirement of Legacy Generation Assets, it will run financial models to plan all investments, accordingly, using retirement dates established by PREB as input.

GPR – PREB ORDER – 10.19.2023 #71

71. Please provide the evaluation metrics and approval process required before each fuel efficiency project is initiated.

**Response:** The first step for approvals is PREB. This approval was received on November 8, 2023. After this step, initiating the projects is contingent on the availability of parts (mainly due to lead times) and whether the T&D System Operator grants leave to perform an outage and replace the component or do the repairs.

GPR – PREB ORDER – 10.19.2023 #72

72. How is the remaining life of legacy facilities determined? How often is assumption revisited?

**Response:** Please see response GPR – PREB ORDER – 10.19.2023 #70(a).

GPR – PREB ORDER – 10.19.2023 #72(a)

- a. How will changes in retirement dates of legacy plants be integrated into the analysis?

**Response:** Please see response GPR – PREB ORDER – 10.19.2023 #70(a).

GPR – PREB ORDER – 10.19.2023 #72(b)

- b. How will changes in available capacity from new generation facilities, due to delays in construction or contracting, be included in the analysis?

**Response:** The interconnection of new capacity (like PPOAs and new CCGT) is currently set to be in commercial operation date in the next two years (PPOAs) or after (CCGT). Therefore, these new additions are not considered in near term plans. Further, the capacity that is the closest to being added, which is the PPOAs, is not as substantial to create a significant deviation from the current replacement plans.