

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

**NEPR**

**Received:**

**Mar 24, 2023**

**10:29 PM**

**IN RE:** REVIEW OF LUMA'S INITIAL  
BUDGETS

CASE NO.: NEPR-MI-2021-0004

SUBJECT: Renewed and Reiterated Urgent  
Request to Amend FY2023 PREPA Budget for  
Implementation of FOMB Certified Fiscal Plan  
Transformation Initiatives

**RENEWED AND REITERATED URGENT REQUEST TO AMEND FY2023 PREPA  
BUDGET FOR IMPLEMENTATION OF FOMB CERTIFIED FISCAL PLAN  
TRANSFORMATION INITIATIVES**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

**COMES NOW** the Puerto Rico Electric Power Authority ("PREPA"), through its counsel of record, and respectfully submits and prays as follows:

1. On March 14, 2023, PREPA filed with the Honorable Puerto Rico Energy Bureau of the Public Service Regulatory Board ("Energy Bureau" or "PREB"), "*Request to Amend FY2023 PREPA Budget for Implementation of FOMB Certified Fiscal Plan Transformation Initiatives*" ("Request to Amend the FY2023 Budget"). Through said filing PREPA impressed upon the Energy Bureau the urgent need PREPA has to amend its fiscal year 2022-2023 ("FY2023") budget to be able to address the Genera PR LLC ("Genera PR") Mobilization Service Fee for effective transformation efforts, necessary operations, repairs and maintenance works under the PREPA fiscal plan, and the continuance of payments to its pension system. As PREPA explained in the Request to Amend the FY2023 Budget, such an amendment does not impact the energy sales rates, nor it represents a burden to the customers, as the update is based on revenues from reimbursed federal funds gathered by PREPA during the present and past fiscal years.

2. The Request to Amend the FY2023 Budget was filed in part as a response to the *Resolution and Order issued on February 27, 2023*, by the Energy Bureau which included a determination to

conditionally approve the FY2023 annual budget as well as the pre-filing requirements for the fiscal year 2023-2024 (“FY2024”) budget (“February 27 Resolution”). Notwithstanding, in the February 27 Resolution, the Energy Bureau, determined that it did not approve modifications<sup>1</sup> of the proposed generation budget including the planned Necessary Maintenance Expenditures (“NME”) of \$99,039,000 for FY2023<sup>2</sup> even though the Energy Bureau had taken the time to describe the dynamic nature of the NME including PREPA’s need of flexibility to address unforeseen issues at a power plant once units are taken off-line for maintenance.

3. Additionally, the Energy Bureau stated it believed PREPA would benefit from a more prescriptive and preemptive maintenance program to improve the overall generation reliability. PREPA strongly agrees. And as such, through this budgetary process PREPA has been consistently asking for a fair allocation of funds withing the budget for NME, which are required to comply with a more prescriptive maintenance program instead of a reactive one. At present the allocated funds do not correspond to the realities of the generation fleet’s NME.

4. The Request to Amend the FY2023 Budget is of the most pressing urgency given that the proposed budget amendment is to be used to comply with PREPA’s responsibilities under law, among which is the execution of actions related to the transition of the operation and maintenance (“O&M”) of PREPA’s thermal generation assets to Genera PR, according to the Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement (“LGA OMA”) executed between PREPA, the Puerto Rico Public Private Partnerships Authority (“P3A”), and Genera PR, on January 24, 2023.

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<sup>1</sup> The initial FY2023 Proposed Budget Filing included a Generation Budget of \$282,017,000, which included an NME budget of \$125,879,000. After the Energy Bureau directed LUMA and PREPA to submit a coordinated budget, the requested Generation Budget was modified to \$245,876,000 (not including Shared Services), with an NME budget of \$99,039,000.

<sup>2</sup> *Resolution and Order* issued on February 27, 2023, pp. 27-28.



5. In compliance with the February 27 Resolution as well as of the requirements from the Fiscal Oversight and Management Board (“Oversight Board” or “FOMB”), PREPA presented the Request to Amend the FY2023 Budget to both the Energy Bureau as well as the FOMB to expedite the amendment revision process. PREPA sent the FOMB its budget amendment request in a letter titled Fiscal Year 2022-2023 (FY2023) Budget Amendment Request and dated March 13, 2023 (“March 13 Letter”), copy of which was included in the Request to Amend the FY2023 Budget.

6. Notwithstanding, on March 17, 2023, in response to the letter sent by PREPA<sup>3</sup>, the FOMB sent a letter (“FOMB March 17 Letter”) substantially limiting the extent and scope of PREPA’s proposed revised budget and completely eliminating the “Operational Expenses, Necessary Maintenance Projects, and Capital Equipment” line item (“O&M Expenses”) which are necessary for the adequate functioning of PREPA’s generation assets.

7. Among other matters, the FOMB March 17 Letter stated that a “compliant proposed revised FY2023 budget for PREPA would exclusively include expenses for the VTP, the Mobilization Service Fee and the interim pension funding to ensure benefit payments through the end of FY2023, with their corresponding funding source.” However, PREPA has an inherent responsibility of maintaining the integrity of its generation assets, which have direct effect in the safety and reliability of the electrical service, and this is done by complying with the repair and maintenance schedule of these systems. Accordingly, PREPA requested the Oversight Board to reconsider the decision notified in the FOMB March 17 Letter and to approve all the requested amendments.

8. On March 21, 2023, PREPA responded to FOMB March 17 Letter urging the Oversight Board to reconsider PREPA’s request impressing on them the importance of including O&M Expenses in the proposed revised budget. Especially, given the necessity of continuity in the

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<sup>3</sup> March 13, 2023’s Letter from PREPA to FOMB.

maintenance and repair of PREPA's aged legacy generation and water facilities and stating that even if Genera PR were to take control of the legacy generation assets in May 2023, it is in Genera PR's best interest to have continuity and have the necessary maintenance and repair works ongoing ("March 21 Letter") See, Annex A. PREPA provided further details to the Oversight Board, through its March 22, 2023 letter titled Supplemental Information for Budget Amendment Review ("March 22 Letter"). See, Annex B.

9. The March 21 Letter also included a revised FY2023 Budget for PREPA, which encompasses (i) the Oversight Board's requested amendments to the Mobilization Service Fee pursuant to the LGA OMA in the amount of \$15 million, (ii) the estimated costs for the implementation of the Voluntary Transition Program ("VTP") of PREPA employees transitioning to Genera PR in the amount of \$29.4 million, (iii) \$200 million increase to fund PREPA's Employee Retirement System ("PREPA ERS"), \$65 million for FY2023 (May and June) and \$135 million for FY2024 (July through October), and (iv) requests for a \$46,440,594 increase to its FY2023 O&M Expenses<sup>4</sup> and \$35,439,402 for continuance of these works in FY2024.

10. The modified FY2023 O&M Expenses in the amount of \$46,440,594 is comprised of \$23,100,000 to be allocated in the operating budget and \$23,340,594 for the NME Budget. PREPA also included in the March 21 Letter, that in order to achieve completion of the works to be performed with the above-stated additional NME Funds, the O&M Expenses for FY2024 need to include \$28,581, 226 for the operating budget as well as an amount of \$6,858,176 for the NME budget.

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<sup>4</sup> Given that more than three (3) months have passed since the original request to the Oversight Board in the December 8<sup>th</sup> Letter, PREPA estimates that not all the works in the O&M Expense Budget can be executed during the remainder of FY2023, especially considering the waiting time to receive equipment and materials under the current electric industry supply chain conditions. Hence, an adjustment was made and PREPA modified its request from 40 million to \$23,340,594 in the FY2023 NME budget.

11. Included in the \$46,440,594 O&M Expenses request, there is a petition of adding approximately \$23,340,594 to the NME budget for necessary repairs and maintenance projects in the generation system for FY2023. As explained in PREPA March 13 Letter, approximately \$6 million of the NME budget are required for necessary works to comply with the U.S. Environmental Protection Agency (“EPA”) Consent Decree. Of this estimate, it is expected that PREPA will expend approximately \$4.95 million during FY2023 and the remainder \$1.05 million during FY2024.

- a. The NME projects cover necessary maintenance at baseload and peaking generation facilities critical for reliable electric service at a reasonable cost. Repairs at Palo Seco 3, San Juan 7, and Aguirre 1 & 2 aim to keep these older units in working order to avoid the unnecessary and costly dispatch of diesel peaking units during the summer months. Requested maintenance projects at Mayagüez, Cambalache, Aguirre Combined Cycle, and the various Frame-5 peaking units aim to keep these peaking units operating and available for dispatch when needed to meet peak demand and in case of forced outages or other emergencies<sup>5</sup>. The latest revision of the Exhibit E (“Exhibit E 2<sup>nd</sup> Review”) to the January 11 RFI Response, showing more information regarding the proposed NME projects, which are expected to amount about \$30,198,770 during current and next fiscal years is included as part of Annex A.
- b. Environmental compliance: Urgent environmental repairs and maintenance are needed at San Juan 7, Palo Seco 3, and Costa Sur 5 & 6 for outsourced contract work, equipment rental, and other maintenance expenses. The anticipated

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<sup>5</sup> PREPA has already provided to the Energy Bureau copy of the January 11 RFI Response to the FOMB which included a detailed breakdown of the NME projects and spending categories.

maintenance activities include performance and completion of mechanical repairs, refractory rehabilitation and boiler insulation, welding and mechanical repairs to auxiliary equipment and boilers, and boiler cleaning. Funding for this work is absolutely critical for PREPA and Genera PR to execute the planned environmental outages outlined in the latest generation maintenance schedule. The environmental compliance works are intrinsically related to other maintenance works executed on the unit, as the latter helps to comply with environmental regulations and the environmental maintenance increases the unit's dependability and availability.

12. These NME, maintenance activities are not eligible for reimbursement from FEMA and therefore must be funded by PREPA's own funds. Its noteworthy, that the lack of executing maintenance works on PREPA's generating units, like the ones requested herein, was the main reason for the huge load shedding events occurred during the summer of 2021, when more than one million of customers were affected, including hospitals and commercial and industrial customers.

13. Continuing with the O&M Expenses, PREPA FY2023 Operating Budget requires \$23,100,000. This increase in budget is needed for administrative and technical support that shall not be interrupted for PREPA to comply with its repairs schedule and regulatory and contractual obligations. Of this increase, about \$19.8 million are needed for the daily execution of corrective and environmental maintenance of the power plants and approximately \$3.3 million are necessary to continue executing tasks related to compliance with the Energy Bureau, the LGA OMA transition completion, and ongoing legal responsibilities.

14. The \$19.8 million referenced above, is requested for the Materials & Supplies and Other Miscellaneous Expenses that are essential to implement a better and more effective maintenance

program, including preventive and proactive programs<sup>6</sup>. Providing enough budget in the above-mentioned categories is essential to maintain the continuity of the daily operations of the power plants and, consequently, are necessary to maintain and improve the availability and dependability of the generation system. Therefore, PREPA urges the Energy Bureau to approve the requested increase in the Operating Budget. Following, PREPA provides more details on this need:

- a. The Maintenance Program: Maintaining a very constrained budget for Materials & Supplies and Other Miscellaneous Expenses categories will result in a high probability of generation loss situations, which may produce load shedding events, brownouts, and blackouts. Also, it will most likely affect the efficient compliance with the itinerary of the scheduled maintenance and repair program of the PREPA's generation assets, which will increase the risk of having major equipment failure of the units due to exceeding its operational hours.
- b. Temporary generation: Even though PREPA has completed several repairs of this program during the past year and a half, its thermal generation fleet is still fragile and, unfortunately, was further damaged by Hurricane Fiona in September 2022. It is stressed that the works budgeted under the Materials & Supplies and Other Miscellaneous Expenses categories, are essential to conduct the repairs and maintenance program that PREPA and Genera PR will execute in compliance with the commitment with the Puerto Rico Power System Stabilization Task Force ("Federal Task Force") created on October 12, 2022. Due to the damages that

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<sup>6</sup> The procurement of materials and labor expenses budgeted within these categories include vibration analysis tests, electrical equipment thermography, and oil samples tests to prevent failure in main rotative equipment. In addition, these categories include replacement parts to reduce failure time in main equipment, purchases to improve the efficiency of the units with the condenser and boiler cleaner, replacement of insulation material and refractory, and improvements to the condition of the boiler structure and major equipment with epoxy material and painting work

Hurricane Fiona caused to PREPA's electrical system, especially its generating units, the Federal Government created the Federal Task Force to conduct assessments, develops plans, and begins executing strategies in order to stabilize the power system of Puerto Rico prior to the 2023 Hurricane Season. The Federal Task Force assessed the condition of the power system after the passage of Hurricane Fiona and found, among others, that:

- Actions are necessary to eliminate or lessen the immediate threat to lives, public health, and safety due to the instability of the power grid exacerbated by Hurricane Fiona damage to generation, transmission, and distribution systems.
- There is insufficient generation reserve capacity to complete repairs and ensure stability of the system.
- As a course of action, it is needed to execute the following:
  - Short- to mid-term: Provide temporary generation, land-, water-based or both, to increase the power system capacity to complete priority emergency repairs to stabilize the system without significant interruption in service.
  - Mid- to long-term: complete priority emergency repairs to stabilize the system without significant interruption in service.

15. Regarding the FY2023 Operating Budget, PREPA requires approximately \$3.3 million, necessary to continue executing tasks related to compliance with the Energy Bureau, the LGA OMA transition completion, and ongoing legal responsibilities. Following, PREPA presents examples of responsibilities that would be affected if it does not have access to enough funds to conduct the corresponding tasks:

- a. Renewable Generation Procurement: PREPA still has significant PREB regulatory requirements for oversight and reporting to fulfill for executed Tranche 1 renewable contracts. PREPA filed motions with PREB most recently on February 28, 2023, to inform on key proponent communications regarding delays which could jeopardize the already delayed Closing Date and on a third policy change by LUMA Energy LLC (“LUMA”) for the PREPA Interconnection Facilities. To comply with the regulatory requirements that are part of the renewables’ integration processes, PREPA mostly requires the services of law firms. For example, currently PREPA cannot assign more tasks to one of these law firms, King & Spalding LLP (“K&S”), as the expenditures has reached almost the maximum amount of PREPA’s contract with them. In light of this situation, PREPA is not able to move forward with the completion of its duties in the integration of renewable energy, which are required by the Puerto Rico public energy policy mandated by law. Without the requested FY2023 budget amendment, PREPA could incur in non-compliance with the Energy Bureau’s Orders and scheduling.
- b. LGA OMA transition completion: As part of the LGA OMA transition, PREPA is required to undertake certain actions, like conducting assessments and developing reports to be submitted to different governmental entities and regulators. One of the needed assessments for the Genera PR transition is an environmental site assessment (“ESA”) of all PREPA’s thermal generating units’ locations. PREPA executed a contract with the consultant Sargent and Lundy Puerto Rico LLC (“S&L”) for conducting the ESAs. Currently, PREPA needs to add funds to the S&L contract, so the consultant can complete the ESA of the peaking units’ sites.

Without the ESA of all PREPA's generation thermal fleet, the transition to Genera PR cannot be completed.

- c. Given that PREPA's Legal Affairs Directorate depends almost completely on private law firms to comply with its duties and responsibilities, it is necessary to add funds to execute works during the remainder of FY2023. Among the PREPA's legal duties and responsibilities, the Legal Affairs Directorate is responsible for regulatory compliance, legislation reviews and opinions, notary services, litigation, claims, legislature hearings, court hearings, reporting to governmental agencies, and contracts evaluation. These ongoing activities are required from PREPA and, if unfunded, will cease to continue exposing PREPA to fines and penalties, that will increase the cost of service to the customers.

16. PREPA reiterates that (i) the works underlying the Request to Amend the FY2023 Budget are urgently needed and critical to ongoing and environmentally compliant operations of Puerto Rico's electrical system, (ii) the ongoing procurement of equipment and repairs to the generation system must continue in sequence before and after Genera PR service commencement, (iii) the denial of activities included in this request imperils the orderly transition and early months of Genera PR's operation of the generation system, and (iv) PREPA has funds on hand available for this budget amendment request.

17. Responsibly, PREPA's generation budget shall include the funds that Genera PR will need to continue the repair and maintenance works since its commencement that should occur not later than July 1, 2023. PREPA reiterates that the current budget is not enough to maintain the continuance of operations and of repair and maintenance works without disruption of the energy supply. If PREPA must stop these works, due to the lack of access to its reimbursed funds, it



would result in a high risk of decreasing the reliability and availability of the generation system, with the consequence of putting the lives of the people of Puerto Rico at risk and destabilizing the economy.

18. PREPA cannot stress enough that the current lack of funds in the FY2023 budget will increase the risk of instability and load shedding events as a result of the continued delays to necessary repairs to the generation fleet, in addition to other adverse situations that would result from PREPA's non-compliance with environmental regulations and other regulatory obligations. Additionally, delaying the generation system repairs and failing to comply with regulatory and administrative matters, will adversely affect PREPA's transition actions for the completion of the Genera PR transaction. Once again, the urgency and imperative of the requested budgetary amendments cannot be overstated.

19. As stated before, during the FY2023 budget development process, the FOMB broadly reduced PREPA's proposed budget, including drastic cuts to PREPA's proposed generation O&M. PREPA management strongly opposed these reductions – and provided ample justification (financial and operational) in support thereof. At the time, PREPA management also advocated for additional budget for critical generation repairs arguing that the allocation of the forecasted revenues between LUMA and PREPA should considered the fragile condition of the generation fleet.

20. PREPA has thoroughly explained to both the FOMB and the Energy Bureau that the generation projects described in the Request to Amend the FY2023 Budget have long-lead times, and the procurement of parts, supplies and contractors must continue uninterrupted or otherwise begin immediately to ensure timely maintenance ahead of the 2023 hurricane and summer high load seasons. Therefore, the expedited approval for leave to increase budget expenses for NME

and Operational Expenditures is crucial to the stabilization of the power system. Failing to approve this request for an amended generation budget will inevitably cause further delays to necessary maintenance and repair projects which could result in load relays and blackouts because of insufficient generation.

21. In addition to the increased risk of instability and load shedding events as a result of continued delay in necessary repairs to the generation fleet, the lack of funds in the current FY2023 budget will cause PREPA's non-compliance with environmental regulations and other regulatory obligations, including, but not limited to, requirements from the PREB and Puerto Rico's Legislature.

22. Lastly, as the Energy Bureau is aware, PREPA's pension system is in a dire financial situation. To adequately attend to the matter, PREPA is requesting a budget amendment for the payment of PREPA's pension for the upcoming months as further detailed below.

23. Having received FEMA reimbursement funds that are not derived from the sale of energy during FY2023, PREPA requests leave from the Energy Bureau to update and modify the FY2023 Generation Budget by \$46.4 million to continue to reconstruct, repair, and harden PREPA's generation assets – as it transitions these functions to Genera PR and not only to comply with the LGA OMA, but also to maintain the safety and reliability of the power system. As stated, this is possible without affecting customers energy bills, given the fact that the monies for the amendment are from reimbursed federal funds.

24. In light of the above, PREPA hereby adopts by reference and reiterates the Request to Amend the FY2023 Budget, PREPA's December 2022 Request and the January 11 RFI Response for an amended generation budget, as updated by the March 21 Letter and the March 22 Letter, including necessary allocations for PREPA's pension system as well as PREPA's operational and

necessary maintenance expenses with the following clarifications:

- a. In regards to the Oversight Board's statement that PREPA has not spent its current O&M Expense Budget, PREPA would like to clarify that, the payment of utility works takes significant time, due mainly to delays in receiving the invoices and the subsequent validation, approval, and disbursement process. Hence, even though finance reports may show low expenditures, it does not necessarily mean that there are savings in the corresponding accounts. In addition to the invoice payment process, there are payment commitments covering current works and others that will be executed before the end of FY2023. Furthermore, in the case of the NME projects, these projects are mainly executed between the months of October through April, when the energy demand is lowest during the fiscal year, which result on processing most of the invoices' payment the last quarter of each fiscal year. Furthermore, the expenditures for operating and maintaining the generation system do not follow a linear behavior during the fiscal year and, hence, it is not correct to conclude that the utility does not require more funds because at that moment there are apparent "savings" from underspend.
- b. In regard to the pension fund, PREPA revised the PREPA ERS cash needs report dated March 10, 2023. As part of this revision, PREPA ERS representatives provided more clarification regarding these estimates to AAFAF<sup>7</sup> representatives during a recent meeting. In general, PREPA ERS informed that there is high uncertainty regarding the system liquidity, mainly based on factors like the number of retirees and mortgage payments from loans, among others. Therefore, and

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<sup>7</sup> Puerto Rico Fiscal Agency and Financial Advisory Authority ("AAFAF", for its Spanish acronym).

considering this high uncertainty, PREPA updated its pension funding estimate from \$150 million to \$200 million, \$65 million for FY2023 (May and June) and \$135 million for FY2024 (July through October). PREPA believes this is the minimal amount necessary to avoid a disruption in payments to PREPA retirees and employees.

**WHEREFORE**, in furtherance of PREPA's goal to maintain continued and reliable generation for the People of Puerto Rico, to allow PREPA to operate for the remainder of FY2023, and in accordance with both FOMB and PREB directives, PREPA submits this request for an amendment to PREPA's budget for:

1. Genera PR Mobilization Funding - \$15 million to pay for Genera PR Mobilization costs as required under the LGA OMA.
2. VTP Funding - \$29.4 million to fund a VTP program consistent with PREPA's obligations under Act 120-2018, as amended by Act-17-2019.
3. Pension Funding - \$200 million, \$65 million for FY2023 (May and June) and \$135 million for FY2024 (July through October), while a long-term solution is implemented.
4. Generation NME and Operational expenditures -\$46.4 million for FY2023 and \$35.4 million for FY2024, to ensure the stability and continuity of the PREPA's generation assets through necessary maintenance and repair work.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 24<sup>th</sup> day of March 2023.

/s Maralíz Vázquez-Marrero

Maralíz Vázquez-Marrero

TSPR 16,187

[mvazquez@diazvaz.law](mailto:mvazquez@diazvaz.law)

/s Joannely Marrero-Cruz

Joannely Marrero Cruz

[jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law)

TSPR no. 20,014

**DÍAZ & VÁZQUEZ LAW FIRM, P.S.C.**

290 Jesús T. Piñero Ave.

Oriental Tower, Suite 803

San Juan, PR 00918

Tel.: (787) 395-7133

Fax. (787) 497-9664

**CERTIFICATE OF SERVICE**

It is hereby certified that, on this same date, I have filed the above motion with the Office of the Clerk of the Energy Bureau using its Electronic Filing System at <https://radicacion.energia.pr.gov/login>, and a courtesy copy of the filing was sent to LUMA through its legal representatives at [margarita.mercado@us.dlapiper.com](mailto:margarita.mercado@us.dlapiper.com) and [laura.rozas@us.dlapiper.com](mailto:laura.rozas@us.dlapiper.com).

In San Juan, Puerto Rico, this 24<sup>th</sup> day of March 2023.

/s Joannely Marrero-Cruz

Joannely Marrero Cruz

## Annex A



# GOVERNMENT OF PUERTO RICO

PUERTO RICO ELECTRIC POWER AUTHORITY

Executive Director | Josué A. Colón Ortiz | [director\\_ejecutivo@prepa.com](mailto:director_ejecutivo@prepa.com)

March 21, 2023

BY ELECTRONIC MAIL

[Letters@promesa.gov](mailto:Letters@promesa.gov)

Mr. Robert F. Mujica, Jr.  
Executive Director  
Financial Oversight and Management  
Board for Puerto Rico  
PO Box 192018  
San Juan, Puerto Rico 00919-2018

Dear Mr. Mujica:

## Re.: Fiscal Year 2022-2023 (FY2023) Budget Amendment Request

The Puerto Rico Electric Power Authority ("PREPA") writes in response to the Financial Oversight and Management Board for Puerto Rico ("Oversight Board" or "FOMB") letter dated March 17, 2023 (the "March 17<sup>th</sup> Letter") regarding PREPA's request for several necessary amendments to the Fiscal Year 2022-2023 ("FY2023") Budget. The March 17<sup>th</sup> Letter made reference to:

- The Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement ("LGA OMA") executed by PREPA, Genera PR LLC ("Genera PR"), and the Puerto Rico Public Private Partnerships Authority ("P3A") on January 24, 2023.
- PREPA's response to the FOMB's letter dated March 9, 2023 (the "FY2023 Budget Timeline Letter"), which required to submit a revised FY2023 Budget for PREPA that allows the payment of two type of expenses related to the transition of the operation and maintenance ("O&M") of the generation system assets to a private operator: (a) up to \$15 million for the Mobilization Service Fee pursuant to Section 4.6 of the LGA OMA and (b) up to \$29.4 million<sup>1</sup> in estimated costs for the implementation of the Voluntary Transition Program ("VTP") of PREPA employees transitioning to Genera PR.

The March 17<sup>th</sup> Letter states that PREPA did not comply with the FY2023 Budget Timeline Letter, as "[i]nstead of submitting a proposed revised budget, PREPA sent a letter dated March 13, 2023, outlining its thoughts on what should be included in the revised budget ("PREPA's Response Letter"). PREPA's Response Letter exceeded the scope of the FY2023 Budget Timeline Letter

<sup>1</sup> The Oversight Board recognized and acknowledged the new estimated amount for purposes of the budget amendment process, reflecting \$29.4 million rather than \$27.3 million, to account for 7.65% of Social Security and Medicare Taxes.




PO Box 364267 San Juan, Puerto Rico 00936-4267 | 787.521.4671

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and set forth several additional proposed amendments". In addition, the March 17<sup>th</sup> Letter states that the Government of Puerto Rico shall conduct the necessary corrective action of the notice of violation as described in the letter by the Oversight Board. According to the March 17<sup>th</sup> Letter, the FOMB's notice of violation is related to PREPA's request of a:

- \$60 million increase to its "Operational Expenses, Necessary Maintenance Projects, and Capital Equipment" line item ("O&M Expenses").
- \$150 million increase to fund a payment to PREPA's Employee Retirement System ("PREPA ERS").



In response to the FOMB's letter, PREPA is hereby clarifying that its response letter dated March 13, 2023 ("PREPA March 13<sup>th</sup> Letter") did not have the intention of violating any law, regulation, or contract disposition, including PROMESA and the LGA OMA, nor to exceed its powers as a governmental entity under the Title III process. Instead, the PREPA March 13<sup>th</sup> Letter had the main intention of informing and justifying to the Oversight Board, the need for additional funds, including reiterating its request for O&M Expenses made during the second quarter (Q2) of FY2023, in alignment with the FY2023 Budget Timeline Letter. It is particularly noted that PREPA March 13<sup>th</sup> Letter clearly explained that the requested increase to the O&M Expenses is mainly required for the continuance of repairs and maintenance works on the generation assets before and after Genera PR's commencement date, which is aligned with the FOMB's mandate of amending the budget to allow the transition in compliance with the LGA OMA. Responsibly, PREPA's generation budget shall include the funds that Genera PR will need to continue the repair and maintenance works since its commencement date<sup>2</sup>, which should not be later than the beginning of fiscal year 2023-2024 ("FY2024").

Furthermore, regarding the FOMB's expression stating that PREPA's letter just outlined "its thoughts on what should be included in the revised budget", we want to clarify that PREPA March 13<sup>th</sup> Letter presented not only the amendments request but also explanations and justification for such request. PREPA's request for O&M Expenses is not merely "thoughts", but the result of an evaluation of the current condition of the generation assets and the needed repairs to increase their availability and dependability, decreasing the risk of huge load shedding events, and to comply with environmental regulations. The proposed projects were identified by professional engineers, authorized to practice the engineering in Puerto Rico, each with more than twenty-five years of experience working with Puerto Rico's power system.

In addition, PREPA disagrees with the FOMB statement:

"Additionally, according to the latest Budget to Actuals report, PREPA has not spent its current O&M budget and it should be further noted that the successor entity, Genera PR LLC, will be taking control of the legacy generation assets in May, limiting the capacity of PREPA to spend any incremental funds given the short time frame."

In response to this statement, PREPA explains that the payment of utility works takes significant time, due mainly to delays in receiving the invoices and the subsequent validation, approval, and disbursement process. Hence, even though finance reports may show low expenditures, it does


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<sup>2</sup> Per the LGA OMA, PREPA is operating under a 100-day transition period with a Target Service Commencement Date of May 4, 2023, for Genera PR to assume the O&M services of PREPA's legacy generation assets.



not necessarily mean that there are savings in the corresponding accounts. In addition to the invoice payment process, there are payment commitments covering current works and others that will be executed before the end of FY2023. Furthermore, in the case of Necessary Maintenance Expense ("NME") projects, these projects are mainly executed between October and April, when the energy demand is lowest during the fiscal year, which result on processing most of the invoices' payment the last quarter of each fiscal year.

As explained before, the expenditures for operating and maintaining the generation system do not follow a linear behavior during the fiscal year and, hence, it is not correct to conclude that the utility does not require more funds because at that moment there are apparent "savings" from underspend. It is also noted that, even though PREPA has not overspent in the O&M Expenses as a whole, there are already overspending in certain budget items. PREPA's budget increases request is focused on these overspent budget items, in addition to those that their expenditures are close to the approved amount. Attached, we include a summary of the expenditures and payment commitments, according to PREPA's finance 725 Report.



It is further stressed that the current available budget will not allow PREPA to operate and maintain the generation system until Genera PR starts its operations, as expressed by the Oversight Board. As explained before, responsibly, PREPA's generation budget shall include the funds that Genera PR will need to continue the repair and maintenance works since its commencement that should occur not later than July 1, 2023. PREPA reiterates that the current budget is not enough to maintain the continuance of operations without disruption of the energy supply.

Regarding the Oversight Board's request of the necessary corrective action related to the FY2023 Budget amendment, PREPA responds the following:

**A. Proposed Revised FY2023 Budget for PREPA**

Attached, PREPA includes its proposed revised FY2023 budget and hereby further requests that PREPA's budget be amended to include:


1. Up to \$15 million for the Mobilization Service Fee pursuant to Section 4.6 of the LGA OMA.
2. Up to approximately \$29.4 million in estimated costs for the implementation of the VTP of PREPA employees transitioning to Genera PR.
3. \$46,440,594 increase to its FY2023 O&M Expenses:
  - Operating Budget: \$23,100,000
  - NME Budget: \$23,340,594
  - To continue and achieve completion of the works to be performed with these additional FY2023 NME funds, the O&M Expenses for FY2024 need to include:
    - Operating Budget: \$28,581,226
    - NME Budget: \$6,858,176



4. \$200 million increase to fund PREPA ERS:

- FY2023: \$65 million (May and June)
- FY2024: \$135 million (July through October)

The Oversight Board will note that PREPA is including both the FOMB's requested amendments (items 1 and 2) as well as the additional requests in PREPA March 13<sup>th</sup> Letter (items 3 and 4). PREPA agrees with the need to amend its budget to add the Genera PR Mobilization Service Fee and the VTP expenses, which are an essential part of the generation system O&M transition to the private operator that in turn is one of the phases of PREPA's transformation. However, PREPA reiterates that the additional requested budget increases are also essential to its transformation, as they will allow PREPA to continue operating during the completion of such transformation, especially providing an effective transition of the repairs and maintenance works to Genera PR. PREPA is convinced that its additional requests are aligned with the FOMB's budget amendment request.



PREPA respectfully requests the Oversight Board to carefully evaluate PREPA's additional requests, in light of its transformation path as envisioned in PREPA's Fiscal Plan, all its efforts to gather additional revenues from federal funds, which are the base to PREPA's request, and the energy supply continuity to customers. In addition, PREPA urges the FOMB to consider that, concurrently with PREPA March 13<sup>th</sup> Letter, on March 14, 2023, PREPA submitted to the Puerto Rico Energy Bureau ("Energy Bureau" or "PREB") a motion requesting their approval of the proposed FY2023 budget amendment ("March 14<sup>th</sup> Motion"), which as of the date hereof has not been answered. Hence, the Oversight Board should not consider that the PREB's denial of PREPA's O&M Expenses request in its February 27, 2023's Resolution and Order is final, as PREPA requested its reconsideration in the March 14<sup>th</sup> Motion. PREPA's and Genera PR's operations depend on the approval of the additional requests, which affect the reliability and continuity of the energy supply to Puerto Rico. These procedural issues should not be at the expense of necessary fiscal decisions for, and execution of, repairs by PREPA. PREPA management is focused on completing its mandate to maintain reliable service within the strained circumstances.

In order to address necessary works included in this request, PREPA proposed, and clarifies again, that it has and will continue to utilize readily available the Federal Emergency Management Agency ("FEMA") reimbursement funds where possible. FEMA reimbursement funds are not available for all types of generation system repair projects. PREPA has received reimbursements from FEMA, which replenish operating funds that were disbursed in prior periods by PREPA to pay for eligible projects. In accordance with PREPA Governing Board resolution relating to the treatment of federal funds, once the reimbursement of a federally funded project is received, those reimbursed amounts are deposited in accounts designated specifically as federal reimbursements ("FEMA Reimbursement Accounts"). As reimbursement funds, these funds are not restricted and may properly be used for operational expense and budgeted projects.

It is also stressed that PREPA March 13<sup>th</sup> Letter included the following clause, as required by the Oversight Board:



### **Acknowledgment Regarding Use of Unused Funds**

PREPA hereby affirms that to the extent any of the requested additional funding is not utilized, any remaining funds will be promptly transferred back to PREPA's operational account.

With this clause, PREPA committed to transfer back to its operational accounts, any unused funding requested in the March 13<sup>th</sup> Letter. Therefore, PREPA hereby reiterates its commitment to transfer back to its operational accounts, any unused funding requested in this letter.

PREPA hereby responds and seeks to further clarify the nature, basis and urgency of these budget amendment requests – as it continues transition of its generation services to Genera PR and manages its fiduciary responsibilities and obligations towards the thousands of retired and existing PREPA employees. PREPA provides more information and details regarding its additional requests below. It is imperative that the Oversight Board evaluates the importance of PREPA's request, for the wellbeing of the people of Puerto Rico. If these operational needs are not adequately address, PREPA expects an increase of the risk of massive load shedding events like those occurred during the summer of 2021, noncompliance with laws and regulations and the corresponding imposition of fines and penalties, and a disruption in the Genera PR transition process.

### **B. Operational and Maintenance Expenses**

As it relates to PREPA's request for a \$46.4 million amendment in its FY2023 budget, to fund operational and maintenance expenses to comply with its obligations and to repair legacy generation and water facilities, PREPA reiterates that (i) the works underlying this request are urgently needed and critical to ongoing and environmentally compliant operations of Puerto Rico's electrical system, (ii) the ongoing procurement of equipment and repairs to the generation system must continue in sequence before and after Genera PR service commencement, (iii) the administrative and technical support shall not be interrupted for PREPA to comply with its repairs schedule and regulatory and contractual obligations, (iv) the denial of activities included in this request imperils the orderly transition and early months of Genera PR's operation of the generation system, and (v) PREPA has funds on hand available for this budget amendment request.


PREPA further highlights that, as was approved by the FOMB, the FY2023 generation budget was segregated in PREPA's budget and, thus, the FY2023 generation budget in-effect on Genera PR's Service Commencement Date will be the applicable budget for Genera PR to operate the generation system. Hence, the FOMB's limitations on PREPA's generation budget will directly impact Genera PR.

PREPA again specifically highlights below the urgent necessity and criticality of these works, as detailed in PREPA's January 11, 2023 response to the request for information (RFI) made by FOMB on December 27, 2022 ("January 11<sup>th</sup> RFI Response"), including Exhibit C, and in PREPA March 13<sup>th</sup> Letter Updated Exhibit E of such January 11<sup>th</sup> RFI Response and various meetings and conference calls with Oversight Board representatives.



## **1. Necessary Maintenance Expense Projects (NME)**

Included in the \$46,440,594 O&M Expenses request, there is a petition of adding approximately \$23,340,594 to the NME budget for necessary repairs and maintenance projects in the generation system for FY2023. PREPA has provided the Oversight Board with a detailed breakdown of NME projects and spending categories in its January 11<sup>th</sup> RFI Response. These maintenance activities are not eligible for reimbursement from FEMA and therefore must be funded by PREPA's own funds.



The projects cover necessary maintenance at both baseload and peaking generation facilities that are critical for a safe and reliable electric service at reasonable cost. Repairs at Palo Seco 3, San Juan 7, and Aguirre 1 & 2 aim to keep these older units in working order to avoid the unnecessary and costly dispatch of diesel peaking units during summer months. Requested maintenance projects at Mayagüez, Cambalache, Aguirre Combined Cycle, and the various Frame-5 peaking units aim to keep these peaking units operating and available for dispatch when needed to meet peak demand and in case of forced outages or other emergencies. The lack of executing maintenance works on PREPA's generating units, like the ones requested herein, was the main reason for the huge load shedding events occurred during the summer of 2021, when more than one million of customers were affected, including hospitals and commercial and industrial customers. These outages events affected the safety and economy of the people of Puerto Rico.

We further revised the Updated Exhibit E, submitted with PREPA March 13<sup>th</sup> Letter, to confirm the expected expenditures of the \$40 million requested in PREPA's letter to the Oversight Board dated December 8, 2023 ("December 8<sup>th</sup> Letter"). Given that more than three (3) months have passed since the original request in the December 8<sup>th</sup> Letter, PREPA estimates that not all the works can be executed during the remainder of FY2023, especially considering the waiting time to receive equipment and materials under the current electric industry supply chain conditions. Hence, an adjustment was made and PREPA is hereby proposing an addition of \$23,340,594 in the FY2023 NME budget.

It is stressed that, to complete the works executed with the additional FY2023 funds, it is necessary to provide \$6,858,176 in the FY2024 NME budget. Attached with this letter we include the latest revision of the Exhibit E ("Exhibit E 2<sup>nd</sup> Review"), showing more information regarding the proposed NME projects, which are expected to amount about \$30,198,770 during current and next fiscal years.

## **2. Environmental Compliance**

In addition to increase the reliability of the generation system and reducing the risk of load shedding events, the additional investment of \$23,340,594 in NME budget is needed to comply with environmental regulations. As explained in PREPA March 13<sup>th</sup> Letter, approximately \$6 million is required for necessary works to comply with the U.S. Environmental Protection Agency ("EPA") Consent Decree. Of this estimate, it is expected that PREPA will expend approximately \$4.95 million during FY2023 and the remainder \$1.05 million during FY2024.



These works include urgent environmental repairs at San Juan 7, Palo Seco 3, and Costa Sur 5 & 6 for outsourced contract work, equipment rental, and other maintenance expenses. The anticipated maintenance activities include performance and completion of mechanical repairs, refractory rehabilitation and boiler insulation, welding and mechanical repairs to auxiliary equipment and boilers, and boiler cleaning. Funding for this work is absolutely critical for PREPA and Genera PR to execute the planned environmental outages outlined in the latest generation maintenance schedule, which was provided to the Oversight Board in the March 15<sup>th</sup> Fiscal Plan Reporting submittal.

It is noted that it is an industry practice to execute repairs and other maintenance works during the outage of a unit that must undergo an environmental maintenance. The environmental compliance works are intrinsically related to other maintenance works executed on the unit, as the latter helps to comply with environmental regulations and the environmental maintenance increases the unit's dependability and availability. Hence, when an environmental maintenance work is delayed, not only PREPA is subject to penalties and fines from the EPA, but also experiences an increase of the risk of units' forced outages and consequently of huge load shedding events.



### 3. Operating Budget

Included in the \$46,440,594 O&M Expenses request, there is a petition of adding approximately \$23,100,000 to the FY2023 Operating Budget (See attached Exhibit E 2<sup>nd</sup> Review). This increase in budget is needed for administrative and technical support that shall not be interrupted for PREPA to comply with its repairs schedule and regulatory and contractual obligations. Of this increase, about \$19.8 million are needed for the daily execution of corrective and environmental maintenance of the power plants and approximately \$3.3 million are necessary to continue executing tasks related to compliance with the Energy Bureau, the LGA OMA transition completion, and ongoing legal responsibilities.

The increase of \$19.8 million is requested for the Materials & Supplies and Other Miscellaneous Expenses that are essential to implement a better and more effective maintenance program, including preventive and proactive programs. The procurement of materials and labor expenses budgeted within these categories include vibration analysis tests, electrical equipment thermography, and oil samples tests to prevent failure in main rotative equipment. In addition, these categories include replacement parts to reduce failure time in main equipment, purchases to improve the efficiency of the units with the condenser and boiler cleaner, replacement of insulation material and refractory, and improvements to the condition of the boiler structure and major equipment with epoxy material and painting work.

Providing enough budget in the above-mentioned categories, as expressed by PREPA in its letter to the FOMB dated July 1, 2022 ("PREPA July 1<sup>st</sup> Letter") is essential to improve the availability and dependability of the generation system, as stated in the Fiscal Plan:


"[T]he increasing age and condition of the PREPA generating units is expected to continue to be susceptible to forced outage events that necessitate load shedding, further constraining LUMA's ability to service its customers. The challenges associated



with an unreliable generation fleet are expected to continue until an appropriate, proactive maintenance program is in place and old, inefficient units are replaced in newer resources.”

“The underlying root cause for outages in PREPA’s legacy generation plants is related to their age and the need for a well-developed and effectively executed (preventive and pro-active) maintenance program.”

Maintaining a very constrained budget for Materials & Supplies and Other Miscellaneous Expenses categories will result in a high probability of generation loss situations, which may produce load shedding events, brownouts, and blackouts. Under the current budget conditions (PREPA has already overspent in the Materials & Supplies budget and has spent more than 90% of the Other Miscellaneous Expenses budget), it will be very difficult or impossible to provide a safe and reliable electric service to our customers, especially when an electrical isolated system such as what we have in Puerto Rico decreases in its reliability as the available and dependable generation capacity decreases, with the consequence of putting the lives of the people of Puerto Rico at risk and destabilizing the economy.



Also, it will most likely affect the efficient compliance with the itinerary of the scheduled maintenance and repair program of the PREPA’s generation assets, which will increase the risk of having major equipment failure of the units due to exceeding its operational hours. Even though PREPA has completed several repairs of this program during the past year and a half, its thermal generation fleet is still fragile and, unfortunately, was further damaged by Hurricane Fiona in September 2022.


To address the generation fleet condition after Hurricane Fiona, PREPA requested FEMA to provide temporary baseload generation, by means of portable land or water based generating units, that could supply energy to the customers while PREPA, and later the private operator, expeditiously execute its generating fleet repairs and maintenance program. In response, on October 12, 2022, the Federal Government created the Puerto Rico Power System Stabilization Task Force (“Federal Task Force”) to conduct assessments, develops plans, and begins executing strategies in order to stabilize the power system of Puerto Rico prior to the 2023 Hurricane Season. As a result of the efforts of the Federal Task Force, PREPA and other stakeholders, the first three (3) portable generators arrived in Puerto Rico last week.

It is stressed that the works budgeted under the Materials & Supplies and Other Miscellaneous Expenses categories, are essential to conduct the repairs and maintenance program that PREPA and Genera PR will execute in compliance with the commitment with the Federal Task Force. Therefore, PREPA urges the Oversight Board to approve the requested increase in the Operating Budget. It is also noted that the works under these categories shall continue the next fiscal year and, therefore, the necessary contracts should be approved before the end of FY2023, so Genera PR is able to continue operating the thermal generation system without disruption. Hence, PREPA estimates that the FY2024 budget shall include approximately \$28,581,226 for these maintenance works. Currently, PREPA representatives have discussions with Genera PR regarding the contracts for performing these works.



Regarding the renewable generation procurement process mandated by the Energy Bureau, PREPA still has significant PREB regulatory requirements for oversight and reporting to fulfill for executed Tranche 1 renewable contracts. PREPA filed motions with PREB most recently on February 28, 2023, to inform on key proponent communications regarding delays which could jeopardize the already delayed Closing Date and on a third LUMA policy change for the PREPA Interconnection Facilities. In addition, PREPA continues dealing with the "Shovel Ready" renewable projects accepted by the Oversight Board, which require performing continuous communications and evaluations with their proponents.

To comply with the regulatory requirements that are part of the renewables' integration processes, PREPA mostly requires the services of the law firms Díaz & Vázquez Law Firm PSC ("D&V") and King & Spalding LLP ("K&S"), especially the latter. The Oversight Board recently approved an increase to the contract with D&V, as its original amount was not enough to continue working the remainder of FY2023. In the case of K&S, currently, PREPA cannot assign more tasks to this law firm as the expenditures has reached almost the maximum amount of PREPA's contract with them. In light of this situation, PREPA is not able to move forward with the completion of its duties in the integration of renewable energy, which are required by the Puerto Rico public energy policy mandated by law.



For the LGA OMA transition completion, PREPA is required to undertake certain actions, like conducting assessments and developing reports to be submitted to different governmental entities and regulators. One of the needed assessments for the Genera PR transition is an environmental site assessment ("ESA") of all PREPA's thermal generating units' locations. PREPA executed a contract with the consultant Sargent and Lundy Puerto Rico LLC ("S&L") for conducting the ESAs. Currently, PREPA needs to add funds to the S&L contract, so the consultant can complete the ESA of the peaking units' sites. Without the ESA of all PREPA's generation thermal fleet, the transition to Genera PR cannot be completed.

Lastly, given that PREPA's Legal Affairs Directorate depends almost completely on private law firms to comply with its duties and responsibilities, it is necessary to add funds to execute works during the remainder of FY2023. Among the PREPA's legal duties and responsibilities, the Legal Affairs Directorate is responsible for regulatory compliance, legislation reviews and opinions, notary services, litigation, claims, legislature hearings, court hearings, reporting to governmental agencies, and contracts evaluation. These ongoing activities are required from PREPA and, if unfunded, will cease to continue exposing PREPA to fines and penalties, that will increase the cost of service to the customers.

#### **4. Support for the Genera PR Transition**

Lastly, PREPA requests this FY2023 budget amendment from the Oversight Board in accordance PREPA's transformation obligations and, specifically, its obligations under the LGA OMA. PREPA cannot stress enough the importance of maintaining the continuity and reliability of PREPA's generation fleet in the wake of a transition to a private operator. Failing to approve this request for an amended generation budget will inevitably cause further delays to contracting timelines and limit access to necessary materials and labor,



which could result in load shedding events and blackouts because of insufficient generation. PREPA's request extends beyond the scope of traditional, twelve-month thinking, in a business and utility setting that requires multi-year funding streams and budgets to ensure that there is no interruption in the supply chain. PREPA cautions that any short-term solution by the Oversight Board as it relates to the FY2023 budget will only impair the long-term wellbeing of the Puerto Rico electrical system.

As explained before, the Genera PR transition requires all the budget amendments requested by PREPA herein. Among others, the mobilization fee and the VTP are needed to conduct Genera PR's actions to recruit the specialized employees that the operator will need to comply with its duties according to the LGA OMA. It is noted that the condition of the PREPA ERS is an important factor that many current generation employees will consider when deciding on accepting a job offer from Genera PR. This, considering that many of these employees will need to receive back their contributions to PREPA ERS when resigning to PREPA and start working with Genera PR. Hence, to the extent that the PREPA ERS is stable, it is more probable that PREPA's employees will accept a job offer from Genera PR.

In addition, to start operations of the generation system, Genera PR needs to receive an operational and in service generation fleet, which greatly depends upon the execution of projects under the NME budget and works under the Operating Budget.

### C. Pension Funding


In its March 17<sup>th</sup> Letter, the Oversight Board modifies PREPA's proposed amendment for pension funding in the amount of \$150 million to only include "interim pension funding needed to ensure pension payments for the remainder of FY2023." PREPA would like to highlight that its original pension funding request in the amount of \$150 million is intended to address projected funding for approximately 6 months, after years' long underfunding directed by the Oversight Board who never incorporated the full need of projected employer contributions, to benefit other priorities put ahead of PREPA's retired and active members.

Additionally, the request for pension funding is projected to last only through October, and is urgently needed to: (i) reserve such funding in the face of the many funding priorities that continue to accrue to PREPA (including those related to T&D service accounts, outage reserve accounts, Genera PR Mobilization fees, Voluntary Transition Program, etc.) and (ii) take advantage of the readily available funds to address this high priority for PREPA, the Puerto Rico Fiscal Agency and Financial Advisory Authority ("AAFAF", for its Spanish acronym), and the Government of Puerto Rico, understanding PREPA's variable and often volatile cash flow and liquidity. Retirees and current employees are increasingly concerned and distressed knowing that the PREPA ERS is dramatically underfunded. In a memorandum dated February 14, 2023, the President of the ERS Board of Trustees stated that the pension system, "will not be able to pay retirement benefits from April 2023 and thereafter". PREPA's objective is to secure those funds while the Oversight Board continues its mediation efforts, and a final and long-term solution is completed. It is the strong and unequivocal position of PREPA management, AAFAF and the Governor that pensioners' rights and funding needs are the single highest priority - spare nothing else.



In response to the March 17<sup>th</sup> Letter, PREPA revised the PREPA ERS cash needs report dated March 10, 2023. As part of this revision, PREPA came to know that PREPA ERS representatives provided more clarification regarding these estimates to AAFAF representatives during a recent meeting. In general, PREPA ERS informed that there is high uncertainty regarding the system liquidity, mainly based on factors like the number of retirees and mortgage payments from loans, among others. Therefore, and considering this high uncertainty, PREPA updated its pension funding estimate from \$150 million to \$200 million, \$65 million for FY2023 (May and June) and \$135 million for FY2024 (July through October). PREPA believes this is the minimal amount necessary to avoid a disruption in payments to PREPA retirees and employees.

PREPA appeals to the Oversight Board to act on PREPA ERS current situation, approving the requested funding for the remainder of the current fiscal year, FY2023. PREPA further urges the Oversight Board to commit to further addressing this issue in connection with the FY2024 budget approving the requested funding until October 2023, which will help all stakeholders to negotiate and implement a long-term solution. Our highest priority must be ensuring continued commitment to fund such benefits.



Lastly, PREPA appeals to the Oversight Board to assign the same importance to PREPA's additional requests that it assigns to transactions impacting the private operators, like Genera PR at the moment and previously with LUMA Energy LLC ("LUMA"). PREPA believes that addressing current repairs and maintenance works, regulatory and technical support, and pension funding needs is as important as providing funds to the private operators.

For example, on December 15, 2022, PREPA was required to transfer \$87,974,000 from the FEMA Reimbursement Accounts to the operating accounts to replenish LUMA's service accounts to cover some LUMA's deficit. According to our knowledge of this situation, LUMA was not required to provide any explanation or justification for the deficit, nor from P3A or FOMB. PREPA has come to know that most of LUMA's reports show overspending in several budget items and underspending in others, but no explanations or justifications have been required from the private operator.

Given that the private operators budget is determined with the same revenues on which are based for PREPA's budget, one can expect that the budget amendment procedures to be equal for all the parties. However, it has been our experience that PREPA is required to provide explanations and justifications that are not required from LUMA. Therefore, PREPA respectfully requests the Oversight Board to explain the differences in the budget approval processes that apply to PREPA and LUMA and why such differences exist. It is PREPA's opinion that these procedures should be clarified before the commencement of Genera PR as the private operator of the thermal generation system.

Regarding budget amendment procedures, yesterday, the Energy Bureau issued a Resolution and Order related to Case No. NEPR-MI-2021-0004, Review of LUMA's Initial Budgets, which imposed a fine of \$25,000 because, among others, LUMA did not seek the PREB's review of a budget amendment before the expense is incurred. Attached we include copy of the Order. The Energy Bureau stated in this Order that LUMA and PREPA are under the PREB's regulatory powers that include budget monitoring and management.



These statements clearly show that both LUMA and PREPA shall request the approval of budget amendments from the Energy Bureau, before modifying the budget. Therefore, PREPA submitted its March 14<sup>th</sup> Motion requesting PREB's approval of its proposed FY2023 budget amendment and will promptly submit a clarification to that motion informing the changes in the budget amendment requested herein.

Finally, PREPA reiterates that it is working for the benefit of the people of Puerto Rico, the thousands of retired and current employees, committed to move forward in its path through the energy sector transformation, and trusts that the Oversight Board does so collaboratively and with the support requested. Hereby, PREPA presents ample explanations and justification for its requests, much of which have been extensively discussed with FOMB's representatives, in addition to provide the solution to provide the needed funds covering the expenses of such requests.

PREPA's current management has proven being effective using its approved budget, completing operational and permanent works, and gathering federal funds reimbursements from those works. Furthermore, PREPA is committed to spend only what is needed to comply with its obligations, including the transition to Genera PR, and transferring back any unused fund.

PREPA's budget amendment request is based on (i) urgently needed operational necessities, (ii) transition of O&M services to Genera PR, (iii) the obligations with our pensioners, and (iv) the knowledge about our generation and related power systems, that only PREPA management can ascertain and discern with the required knowledge and operational experience that serves the general public. Any other budgeting approach is fragmented, based on incomplete knowledge and information and seemingly convenient to drive objectives that are not aligned with the operational, transitional, and pension objectives itemized above.

PREPA reiterates its availability to meet with the representatives of the Oversight Board and provide any clarification to this request that helps the FOMB to understand its importance.

Cordially,



Josué A. Colón-Ortiz  
Executive Director

Annexes

c Omar J. Marrero Díaz, Esq., Executive Director, AAFAF; [Omar.Marrero@aafaf.pr.gov](mailto:Omar.Marrero@aafaf.pr.gov)  
Fernando Gil Enseñat, Esq., President, PREPA Governing Board; [fernando.gilensenat@gmail.com](mailto:fernando.gilensenat@gmail.com)  
Nelson Morales, Chief Financial Officer, PREPA; [Nelson.Morales@prepa.com](mailto:Nelson.Morales@prepa.com)  
Edison Avilés Vélez, Esq., President, PREB; [eavilesdeliz@jrsp.pr.gov](mailto:eavilesdeliz@jrsp.pr.gov)  
Fermín Fontanés Gómez, Executive Director, P3A; [Fermin.Fontanes@p3.pr.gov](mailto:Fermin.Fontanes@p3.pr.gov)  
Wayne Stensby, CEO LUMA, LLC; [wayne.stensby@lumapr.com](mailto:wayne.stensby@lumapr.com)  
Brannen McElmurray, CEO Genera PR; [brannen@genera-services.com](mailto:brannen@genera-services.com)  
Mary C. Zapata Acosta; Deputy Executive Director, PREPA; [Mary.Zapata@prepa.com](mailto:Mary.Zapata@prepa.com)

FY2023 Certified Budget and PREPA Proposed Amendment

\$ in thousand

	June 29, 2022 FOMB Certified FY2023 Budget	March 21, 2023 PREPA Revised FY2023 Budget	Budget Variance (\$)
<b>Revenues</b>			
Basic Revenues	\$ 1,169,899	\$ 1,169,899	\$ -
Fuel & Purchase Power	3,441,415	3,441,415	-
CILT	112,950	112,950	-
Subsidies	240,132	240,132	-
<b>Total Gross Revenues</b>	<b>\$ 4,964,396</b>	<b>\$ 4,964,396</b>	<b>\$ -</b>
Other Income	37,358	37,358	-
<b>Total Consolidated Revenue</b>	<b>\$ 5,001,754</b>	<b>\$ 5,001,754</b>	<b>\$ -</b>
Bad Debt Expense	(74,466)	(74,466)	-
CILT & Subsidies	(353,082)	(353,082)	-
<b>Total Consolidated Revenue</b>	<b>\$ 4,574,206</b>	<b>\$ 4,574,206</b>	<b>\$ -</b>
<b>Expenses</b>			
<b>A. Fuel &amp; Purchased Power</b>			
Fuel	\$ 2,889,990	\$ 2,889,990	\$ -
Purchased Power - Conventional	472,207	472,207	-
Purchased Power - Renewable	79,217	79,217	-
<b>Total Fuel &amp; Purchased Power</b>	<b>\$ 3,441,414</b>	<b>\$ 3,441,414</b>	<b>\$ -</b>
<b>B. GenCo - Operations &amp; Maintenance Expenses</b>			
<b>Labor</b>			
Salaries & Wages	\$ 45,511	\$ 45,511	\$ -
Pension & Benefits	28,904	28,904	-
Overtime Pay	11,733	11,733	-
Overtime Benefits	1,395	1,395	-
<b>Total GenCo Labor Operating Expenses</b>	<b>\$ 87,543</b>	<b>\$ 87,543</b>	<b>\$ -</b>
<b>Non-Labor / Other Operating</b>			
Materials & Supplies	\$ 19,795	\$ 29,795	\$ 10,000
Transportation, Per Diem, and Mileage	1,527	1,527	-
Security	9,043	9,043	-
Utilities & Rents	3,623	3,623	-
Legal Services	7,405	7,405	-
Professional & Technical Outsourced Services	2,392	2,392	-
Regulation & Environmental Inspection	7,945	7,945	-
Other Miscellaneous Expenses	7,565	17,365	9,800
<b>Total GenCo Non-Labor / Other Operating Expenses</b>	<b>\$ 59,295</b>	<b>\$ 79,095</b>	<b>\$ 19,800</b>
Shared Services Agreement Impact	59,748	59,748	-
<b>Total GenCo Operating Expenses</b>	<b>\$ 206,586</b>	<b>\$ 226,386</b>	<b>\$ 19,800</b>
<b>Maintenance</b>			
Generation	\$ 99,039	\$ 122,380	\$ 23,341
<b>Total GenCo Maintenance Projects Expense</b>	<b>\$ 99,039</b>	<b>\$ 122,380</b>	<b>\$ 23,341</b>
Federal Funding Cost Share	-	-	-
<b>Total GenCo Operating &amp; Maintenance Expenses</b>	<b>\$ 305,625</b>	<b>\$ 348,766</b>	<b>\$ 43,141</b>
<b>C. HoldCo - Operations Expenses</b>			
<b>Labor</b>			
Salaries & Wages	\$ 7,513	\$ 7,513	\$ -
Pension & Benefits	4,508	4,508	-
Overtime Pay	439	439	-
Overtime Benefits	53	53	-
<b>Total HoldCo Labor Operating Expenses</b>	<b>\$ 12,513</b>	<b>\$ 12,513</b>	<b>\$ -</b>
<b>Non-Labor / Other Operating Expenses</b>			
Materials & Supplies	\$ 288	\$ 288	\$ -
Transportation, Per Diem, and Mileage	242	242	-
Retiree Medical Benefits	9,000	9,000	-
IT Service Agreements	850	850	-
Utilities & Rents	36	36	-
Communications Expenses	81	81	-
Professional & Technical Outsourced Services	4,144	4,144	-
Other Miscellaneous Expenses	1,825	1,825	-
PREPA Restructuring & Title III	25,100	28,400	3,300
FOMB Advisor Costs allocated to PREPA	24,400	24,400	-
<b>Total HoldCo Non-Labor / Other Operating Expenses</b>	<b>\$ 65,966</b>	<b>\$ 69,266</b>	<b>\$ 3,300</b>
<b>Total HoldCo Operating Expenses</b>	<b>\$ 78,479</b>	<b>\$ 81,779</b>	<b>\$ 3,300</b>
<b>D. GridCo - Operating and Maintenance Expenses</b>			
GridCo Labor Operating Expenses	\$ 246,471	\$ 246,471	\$ -
GridCo Non-Labor / Other Operating Expenses	289,926	289,926	-
Operator Service Fees	121,785	121,785	-
2% Reserve	10,728	10,728	-
Maintenance Projects Expenses	79,778	79,778	-
<b>Total GridCo Operating &amp; Maintenance Expenses</b>	<b>\$ 748,688</b>	<b>\$ 748,688</b>	<b>\$ -</b>
<b>Total Operating &amp; Maintenance Expenses</b>	<b>\$ 4,574,206</b>	<b>\$ 4,620,647</b>	<b>\$ 46,441</b>
<b>E. Other</b>			
Capital Expenditures	\$ -	\$ -	\$ -
O&M Agreement Mobilization Fee	-	15,000	15,000
Voluntary Transition Program	-	29,400	29,400
Emergency Employer Pension Contribution	-	65,000	65,000
Commonwealth Equity Contribution	-	-	-
<b>Total Other</b>	<b>\$ -</b>	<b>\$ 109,400</b>	<b>\$ 109,400</b>
<i>Balance: Surplus / (Deficit)</i>	<i>\$ -</i>	<i>\$ (155,841)</i>	<i>\$ (155,841)</i>

Notes:

- Pursuant to the O&M Agreement between PREPA and Genera PR LLC (the "OMA"), PREPA deposited \$15 million of PREPA cash on hand into a Mobilization Account in order to draw funds from time to time to pay the Operator the Mobilization Service Fee.
- PREPA is required by the FOMB to fund a Voluntary Transition Program that is estimated at \$29.4 million, which is to be funded with PREPA operating cash on hand.
- PREPA requests a \$46.4 million budget amendment for critical operational and maintenance expenses to repair legacy generation and water facilities, and to fulfill regulatory and environmental compliance requirements, that can be funded by readily available cash on hand from FEMA reimbursement funds.
- Lastly, PREPA requests a \$65 million amendment for emergency employer pension contributions to address urgent liquidity needs for ongoing benefit payments to retirees during FY2023, to be funded with PREPA operating cash on hand.

## FY2024 PREPA Proposed Budget for Emergency Employer Pension Contribution

*\$ in thousand*

March 21, 2023 PREPA Proposed FY2024 Budget	
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Emergency Employer Pension Contribution	\$	135,000
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### Notes:

PREPA requests advance approval for \$135 million of ongoing emergency employer pension contributions to address urgent liquidity needs anticipated for FY2024 through October, to be funded by anticipated operating cash replenishment from FEMA reimbursements.

Data Analysis According with the Report Summary of Operating Expenses by Responsibility and Kind of Expense - 725 Report - Period February 2023 - Date of Report March 14, 2023

PREPA	BUDGET	YTD-FEBRUARY	UNDER/OVER BUDGET	Need for Closing the FY
SALARIES PAYROLL	98,286,391.80	60,345,805.36	37,940,586.44	The forestast are over budget about 7.6 Millions dollars for wages
WAGES	1,503,923.04	1,030,866.99	473,056.05	
MATERIALS AND SUPPLIES	20,083,892.04	19,908,745.79	175,146.25	PREPA are under budget to have a new obligations
SECURITY SERVICES	9,043,008.00	3,979,481.34	5,063,526.66	
TRANSPORTATION - AUTHORITY	1,373,910.60	(300,697.97)	1,674,608.57	
PERDIEM, TRAVELING EXPENSES	250,022.88	1,806,255.22	(1,556,232.34)	PREPA are under budget to have a new obligations
MILLEAGE AND STANBY ALLOWANCE	145,122.24	479,310.93	(334,188.69)	PREPA are under budget to have a new obligations
GENERAL MISCELLANEOUS EXPENSES	136,956,984.00	101,683,663.74	35,273,320.26	PREPA are under budget to have a new obligations
MISCELLANEOUS EXPENSES	19,668,154.44	15,249,411.25	4,418,743.19	PREPA are under budget to have a new obligations
TOTAL	287,311,409.04	204,182,842.65	83,128,566.39	
Budget By Month/Average By Month/Under Budget by Month	23,942,617.42	25,522,855.33	(1,580,237.91)	
Foreastat at June 2023			102,091,421.33	
Diference Between Forescast and Over Budget			(18,962,854.94)	

GENERATION	BUDGET	YTD-FEBRUARY	UNDER/OVER BUDGET	Need for Closing the FY
SALARIES PAYROLL	79,241,782.92	50,640,195.15	28,601,587.77	The forestast are over budget about 3 Millions dollars for Salary.
WAGES	1,441,689.00	998,475.84	443,213.16	The forestast are under budget about \$499 thousand of dollars for wages.
MATERIALS AND SUPPLIES	19,795,472.16	19,738,797.28	56,674.88	Generation are under budget to have a new obligations
TRANSPORTATION - AUTHORITY	1,226,661.72	(300,823.47)	1,527,485.19	
PERDIEM, TRAVELING EXPENSES	190,764.60	1,778,813.73	(1,588,049.13)	Generation are under budget to have a new obligations
MILLEAGE AND STANBY ALLOWANCE	109,590.12	450,116.63	(340,526.51)	Generation are under budget to have a new obligations
MISCELLANEOUS EXPENSES	13,581,226.32	12,848,671.73	732,554.59	Generation are under budget to have a new obligations
TOTAL	115,587,186.84	86,154,246.89	29,432,939.95	

HOLCO	BUDGET	YTD-FEBRUARY	UNDER/OVER BUDGET	Need for Closing the FY
SALARIES PAYROLL	19,044,608.88	9,705,004.32	9,339,604.56	The forestast are over budget about 4.6 Millions dollars for wages
WAGES	62,234.04	32,997.04	29,237.00	
MATERIALS AND SUPPLIES	288,419.88	169,948.51	118,471.37	
TRANSPORTATION - AUTHORITY	147,248.88	125.50	147,123.38	
PERDIEM, TRAVELING EXPENSES	59,258.28	27,441.49	31,816.79	
MILLEAGE AND STANBY ALLOWANCE	35,532.12	29,194.30	6,337.82	
GENERAL MISCELLANEOUS EXPENSES	0.00	223,568.26	(223,568.26)	
MISCELLANEOUS EXPENSES	6,086,928.12	2,400,739.52	3,686,188.60	PREPA are under budget to have a new obligations
TOTAL	25,724,230.20	12,589,018.94	13,135,211.26	

CORPORATE	BUDGET	YTD-FEBRUARY	UNDER/OVER BUDGET	Need for Closing the FY
SECURITY SERVICES	9,043,008.00	3,979,481.34	5,063,526.66	Corporate Account are under budget to have a new obligations
GENERAL MISCELLANEOUS EXPENSES	136,956,984.00	101,460,095.48	35,496,888.52	Corporate Account are under budget to have a new obligations
TOTAL	145,999,992.00	105,439,576.82	40,560,415.18	

Incremental Operation and Maintenance Budget

Exhibit E - Second Review

Description	Justification -	Additional Need	FY 22-23	FY 23-24	Budget
Legal & Professional Advisors	King and Spalding (\$2.5 million for completed the Tranches 1), Sargent & Lundy (\$300 thousand for update of the ESAs of the Authority's plants include the peak units in Vega Baja, Jobos, Daguaao, Yabucoa, Vieques and Culebra) Other Legar Advisor (\$500 thousand)	\$ 3,300,000	\$ 3,300,000		HoldCo
Additional Materials and Supplies Gen	Materials, equipment not capitalized and supply chain used for operations and maintenance that included the day-to-day prevent preventative corrective maintenance and environmental maintenance. The budget for this line was \$19,795,472, at February the expenses are of \$19,908,745.79.	\$ 10,000,000	\$ 10,000,000		GenCo
Additional Third Party Service for Division Expenses	Costs of labor used for operations and maintenance, that include day-to-day preventative, corrective maintenance and environmental maintenance. For example Non-stamping mechanical work R, Boiler cleaning, refractory rehabilitation and boiler insulation, scaffolding rental, welding and mechanical work of auxiliary equipment and boilers. In addition the service of the technical Advisor, that was the experts in a specific field of knowledge, offering information and advice to those in the field. And for complete the ongoing project we need the service of Design and Engineering and Project management. The budget for this line was \$13,581,226, at February the expenses are of \$12,848,671.	\$ 38,381,226	\$ 9,800,000	\$ 28,581,226	GenCo
Total		\$ 51,681,226	\$ 23,100,000	\$ 28,581,226	

Incremental NME

Exhibit E - Second Review

Unit	Description	Justification	Project Cost	Additional Need	FY 22-23	FY 23-24
All Units	Forced Outage - Blanket	Due to the lack of maintenance and delayed maintenance (bankruptcy, hurricanes and remote events) of most of the generation fleet the percentage of forced departures has increased in the last 8 years from 8 percent to 20 percent. The costs of these departures have also been increased by the worldwide situation of availability of spare parts.		8,000,000	8,000,000	
All Units	cost of living increase - Blanket	Incremental costs of inflation and others. accidental damage to transportation and delivery infrastructure		2,000,000	2,000,000	
Palo Seco 3	Auxiliary Equipment	These funds are needed to meet the need for replacement of engines, pumps, induced fans, forced fans, bearings, seals and valves among others.		2,210,000	1,500,000	710,000
San Juan 7	Boiler Pressure Parts - Environmental	It is necessary to replace the frontal water wall of the boiler since it is damaged due to overheating. The unit is actually under and environmental outage and it cant return to service without these replacements. Thus, 100mw will be lost in the load peak season. In the other hand it is necessary to replace several other pressure parts in the boiler and the procurement process should start in this fiscal year to avoid delay in the materials since, as it is happening in the whole industry, the material acquisition lead time is extensive (6 to 12 months).		2,600,000	450,000	2,150,000
Costa Sur 6	Environmental	The unit shall be retired from service on April 7, 2023 (after the return of Ecoelectrica) to perform an environmental outage . Actually the unit experience combustion problems and opacity issues since the a high fouling condition of the furnace. The environmental outage can not be delayed and the unit shall be retired from service anyway. This unit represent 410 MW of a base load unit that wont be available for the pak load season if the environmental task are not performed.		1,500,000	1,500,000	
Costa Sur 5	Environmental and programed outage	The unit shall be retired from service on May 1, 2023 (after the return of Costa Sur 6) to perform both an environmental and prrammed outage. As it happened in Costa Sur 6,, the furnace is highly fouled and the Air preheater baskets shall be replaced since they are highly corroded. in the other hand, the turbine shall be replaced since the actual one is running with high vibrations since a turbine water induction event. There repairs wall finish by August 2023 just in the beginning of the peak load and hurricane season. This unit represent a load of 410 MW and actually is limited to only 210 MW.		1,500,000	1,500,000	
Costa Sur 1-1	Bearing 2 Improvement	This unit is the Blackstart of Costa Sur Power Plant		1,500,000	450,000	1,050,000
Aguirre	Boiler Improvement U-2 - Aguirre Steam Plant	The unit, which is actually limited to 350 MW (from 450 MW) require the replacement of the boiler burners air and combustion assemblies since high deterioration was found in the last outage and the replacement parts were not available. Thus, to avoid a force outage of this unit, the procurement process should start in this fiscal year to avoid delay in the materials since, as it is happening in the whole industry, the material acquisition lead time is extensive (6 to 12 months).		743,176		743,176
Aguirre	Boiler Improvement U-1 - Aguirre Steam Plant	Unit is scheduled to return by April 30 2023. There are several pending repairs in the air and gases ducts along with air preheaters repairs. If the repairs are not done the unit will remain out of service in the high load and hurricane season. That means the loss of 450 MW for the peak load and hurricane season.		795,594	795,594	
Aguirre	Turbo Generator Improvement Unit 1	Aguirre unit 1 suffered a catastrophic damage in the turbogenerator on August 2022. after a huge effort to identify the spare parts and to refurbish the generator, the unit is scheduled to return by April 30 2023. this unit represents 450 MW loss for the high load and hurricane season.		3,000,000	3,000,000	



Unit	Description	Justification	Project Cost	Additional Need	FY 22-23	FY 23-24
Aguirre Cycle Combined	Unit 1 - 2 - Generator Rotor Rewind	Force outage; During the month of December this unit had a Force outage by field ground. After testing, it was determined that the generator rotor is grounded. The cost of rewinding this rotor is approximately \$1,600,000. This includes removal work with a crane of 240 tons capacity, transportation to the United States and return to Puerto Rico of the equipment, ring inspection, rotor rewinding, high speed balancing and electrical tests as main works. When these work is carried out, 50 MW are returned to service to the country's electrical system. This represents a capacity for over 10,000 residential customers and gives us the opportunity to continue with the maintenance program of other units.		1,600,000	1,600,000	
Aguirre Cycle Combined	Unit 1 - 4 - Generator Rotor Rewind	During the month of December this unit as well as unit 1-2 had a forced outage by field ground. After testing, it was determined that the generator rotor is grounded. The cost of rewinding this rotor is approximately \$1,600,000. This includes removal work with a crane of 240 tons capacity, transportation to the United States and return to Puerto Rico of the equipment, ring inspection, rotor rewinding, high speed balancing and electrical tests as main works. When these work is carried out, 50 MW are returned to service to the country's electrical system. This represents a capacity for over 10,000 residential customers and gives us the opportunity to continue with the maintenance program of other units.		1,600,000	1,600,000	
Hydrogas	Spare Generator Breakers for Frame 5000 Hitachi Gas Turbines	Generator breaker replacement for some of the 15 Hitachi Frame 5000 drives		750,000	225,000	525,000
Hydrogas	Procurement of Turbo-Compressor for Frame 5000 Gas Turbines	To reduce the repair time of the Gas units it is recommended to have a backup turbocharger that works on the 15 Frame 5000 units. This turbocharger will give reliability and reduces the time of outage forced of the units.		1,550,000	465,000	1,085,000
Hydrogas	Procurement of Speed Reduction Gear for Frame 5000 Gas Turbines	Necessary supply chain to reduce the time of outforce of the units		330,000	99,000	231,000
Hydrogas	Exhaust Plenums for Frame 5000 Gas Turbines	Necessary supply chain to reduce the time of outforce of the units		130,000	39,000	91,000
Hydrogas	Inlet Duct & Silencer Frame 5000 Gas Turbines	Necessary supply chain to reduce the time of outforce of the units		280,000	84,000	196,000
Hydrogas	Exhaust Gas Diffusion (Deflector) for Frame 5000 Gas Turbines	Necessary supply chain to reduce the time of outforce of the units		110,000	33,000	77,000
	Total			30,198,770	23,340,594	6,858,176

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

**IN RE:** REVIEW OF LUMA'S INITIAL BUDGETS

**CASE NO.:** NEPR-MI-2021-0004

**SUBJECT:** Resolution and Order regarding *Motion in Compliance with Order to Show Cause and Request for Reconsideration*, filed by LUMA Energy, LLC and LUMA Energy ServCo, LLC.

**RESOLUTION AND ORDER**

On November 2, 2022, LUMA<sup>1</sup> filed before the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") a document titled *Motion Submitting Fiscal Year 2022 Budget Amendment* ("Third Amendment Request"). Through the Third Amendment Request, LUMA requested that the Fiscal Year 2022 ("FY22") Budget be amended to reallocate a \$21 million surplus in LUMA's Operating Budget to its Non-Federally Funded Capital Budget line items. LUMA stated that said modification was a result of LUMA's cost saving measures and year-end closing adjustments and financial reviews. LUMA asserted that as a result of these cost savings in operational expenditures, it was able to increase overall spending on non-federally funded capital and advance work on several Improvement Programs. LUMA further indicated that the activities in its Second Amendment Request remain unchanged. Finally, LUMA stressed that the proposed modification did not result in increased customer base rates or in an increase to LUMA's aggregate expenditures.

On November 11, 2022, the Energy Bureau issued a Resolution and Order whereby it denied LUMA's Third Amendment Request ("November 11 Resolution").

On November 23, 2022, LUMA filed before the Energy Bureau a document titled *Motion for Reconsideration of Resolution and Order of November 11, 2022 on LUMA's Fiscal Year 2022 Budget Amendment* ("Reconsideration Request"), through which it requested reconsideration of the November 11 Resolution and approval of the Third Amendment Request, seeking to reallocate \$21 million from the approved Operating Budget for FY22 to the Non-Federally Funded Capital Budget.

Upon review of LUMA's Reconsideration Request, on December 14, 2022 ("December 14 Resolution"), the Energy Bureau highlighted that the OMA<sup>2</sup> clearly sets forth the requirement that the need for a budget amendment be recognized during the Contract Year and that LUMA promptly notify and submit the proposed amendment to the Energy Bureau for review and approval. Accordingly, the Energy Bureau referenced that in a Resolution and Order issued on August 3, 2022 ("August 3 Resolution") pertaining LUMA's Second Amendment Request, the Energy Bureau stated that the expectation under the OMA is that LUMA shall notify the Energy Bureau, promptly, upon becoming aware that the T&D Pass Through expenditures are expected to exceed the budget for that Contract Year.

As such, the Energy Bureau determined that LUMA's Third Amendment Request simply misconstrues Section 7.3(e) of the OMA. The Energy Bureau clarified that the budget amendment procedure established therein does not provide for modifications of the approved budgets after expenses have been incurred. Rather, it provides a mechanism for the Energy Bureau (and P3A,<sup>3</sup> as the case may be) to review and approve **necessary** budget modifications **in advance**. The Energy Bureau emphasized that LUMA cannot spend money contrary to the approved budget, and then obtain a retroactive modification, which would

<sup>1</sup> LUMA Energy LLC ("Management") and LUMA Energy ServCo, LLC ("ServCo"), jointly referred to as "LUMA".

<sup>2</sup> Puerto Rico Transmission and Distribution System Operations and Maintenance Agreement ("OMA").

<sup>3</sup> Puerto Rico Public-Private Partnerships Authority ("P3 Authority").





otherwise seem to suggest that LUMA fully complied with the applicable budget limitations. The Energy Bureau also highlighted that budget amendment requests must be received in a timely manner, when expenditures are expected to exceed the approved budget and, in all cases, **before the expense is incurred**.

In its December 14 Resolution, the Energy Bureau concluded that LUMA's allegation that it could only identify the need to request a budget amendment upon conclusion of year-end spending activities had no merit. The Energy Bureau further clarified that LUMA must not view the end of the year financials as enabling funds to be allocated without adequate forethought after being expended and that amendment requests can be reasonably based on projections and/or estimates.

Consequently, the Energy Bureau denied LUMA's Reconsideration Request and ordered LUMA to show cause within ten (10) business days as to why LUMA should not be fined the maximum allowed fine of twenty-five thousand dollars (\$25,000.00) per day for: (i) exceeding the expenses of the Non-Federally Funded Capital Budget for approved FY22 Budget in an amount of \$21 million, without first obtaining the Energy Bureau's approval, and (ii) failing to comply with a Resolution and Order issued by the Energy Bureau on August 3 Resolution pertaining LUMA's Second Amendment Request, which establishes that: (a) the window for justifications of budget modifications based on lack of actual information was closed and that unexpected, delayed, or complex work cannot be a generic excuse for delayed work, and (b) any future reallocation or redistribution of funds amongst budget programs or line items shall be timely anticipated and the corresponding budget amendment timely requested before the Energy Bureau.

On January 3, 2023, LUMA filed before the Energy Bureau a document titled *Motion in Compliance with Order to Show Cause and Request for Reconsideration* ("January 3 Motion"). Through the January 3 Motion, LUMA argued that the imposition of a fine and the denial of the Third Amendment Request based on regulatory rules and limitations adopted in the August 3 and December 14 Resolutions would be an arbitrary and capricious determination that penalizes LUMA for actions undertaken at a time when the Energy Bureau had not adopted rules or limitations on the timing, circumstances, and justifications for LUMA to move for an amendment of an approved budget.<sup>4</sup> LUMA further asserted that a sanction would be an undue retroactive punishment to LUMA that infringes LUMA's due process right to prior notice of applicable regulatory requirements and rules.<sup>5</sup>

LUMA maintained that in a Resolution and Order issued on May 31, 2021, through which LUMA's Initial Budgets for FY22 were approved, the Energy Bureau did not include the requirements for filing requests to amend the FY22 Budgets, nor the directives that LUMA shall anticipate the need to amend the FY22 Budgets or to reallocate funds.<sup>6</sup>

LUMA argued that the August 3 Resolution cannot apply retroactively to spending and budgetary actions by LUMA during FY22 which ended on July 31, 2022.<sup>7</sup> According to LUMA, the August 3 Resolution announced and established new interpretative rules regarding the timing and circumstances in which LUMA should request, and may obtain, and amendment to an approved annual budget.<sup>8</sup> LUMA further stated it did not have timely, fair, or reasonable notice of the rules and requirements that the Energy Bureau announced in the August 3 Order; thus, there was no basis that could warrant the imposition of a fine.<sup>9</sup>

<sup>4</sup> January 3 Motion, pp. 2 – 4.

<sup>5</sup> *Id.*, pp. 3 – 4.

<sup>6</sup> *Id.*, p. 6.

<sup>7</sup> *Id.*, p. 13.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*





In its January 3 Motion, LUMA relied on numerous cases which, as correctly summarized by LUMA, hold that, generally, the law disfavors retroactivity, and courts should not give administrative rules retroactive effect in the absence of an express statutory grant of retroactive rulemaking power by Congress.<sup>10</sup> Said general ban on retroactive rulemaking applies with the same force whether the agency issues a legislative rule pursuant to a specific statutory directive or an interpretative rule construing the meaning of authorizing legislation.<sup>11</sup>

The Energy Bureau is well aware that the law disfavors retroactive rulemaking and that said ban applies with the same force whether an agency issues a legislative rule or an interpretative rule. Nevertheless, such principle is not applicable under the factual situation in the instant case.

In its August 3 and December 14 Resolutions the Energy Bureau did not interpret its regulations or otherwise engage in rulemaking actions but rather it reinforced a requirement established in Section 7.3(e) of the OMA pertaining budget amendment. Specifically, Section 7.3(e) clearly sets forth the requirement that the need for a budget amendment be recognized during the Contract Year and that LUMA promptly notify and submit the proposed amendment to the Energy Bureau for review and approval.

Therefore, the Energy Bureau finds no merit to LUMA's argument that due process bars application of the requirements set by the Energy Bureau in the August 3 and December 14 Resolutions. Simply put, the Energy Bureau has not exercised its rulemaking or interpretative rulemaking authority. Thus, the imposition of a fine in connection with the November Budget Amendment cannot be construed as an undue retroactive punishment.

Moreover, the Energy Bureau **CLARIFIES** that it can rely upon the OMA's terms and conditions for, amongst other things, the process LUMA is required to follow with regard to budget amendments, without having to specifically restate them in its orders.

Reliance by the Energy Bureau upon the provisions of the OMA, is further supported by the Energy Bureau's issuance of a Certificate of Energy Compliance in accordance with Act 120-2018<sup>12</sup> and Act 29-2009<sup>13</sup> in determining that the OMA, pursuant to which the private operator would provide services, complies with the Puerto Rico Energy Public Policy and regulatory framework.<sup>14</sup> In addition, the Energy Bureau recognized in its Resolution Regarding Request for Certification as an Energy Provider,<sup>15</sup> "LUMA was contracted to provide Operations and Maintenance services for Puerto Rico Electric Power Authority's ("PREPA") Transmission and Distribution ("T&D") system pursuant to the Puerto Rico Transmission and Distribution System Operations and Maintenance Agreement ("OMA")." As such, in certifying LUMA as an Electric Service Company, the Energy Bureau expressly recognized that LUMA's Transmission and Distribution services were to be provided in accordance with the OMA and it is entitled to rely on the provisions set forth in that agreement. LUMA's contention that the Energy Bureau's requirements and expectations with regard to budget amendments were not expressed to LUMA, is therefore unavailing, as relevant requirements were set forth in the OMA, upon which the Energy Bureau relied.

Finally, it is important to note that the referenced budget monitoring and management mechanism, even in the absence of a contract such as the OMA, are applicable to both LUMA

<sup>10</sup> *Id.*, pp. 12 – 19.

<sup>11</sup> *Id.*

<sup>12</sup> *Puerto Rico Electric Power System Transformation*, as amended ("Act 120-2018").

<sup>13</sup> *Public-Private Partnership Act*, as amended ("Act 29-2009").

<sup>14</sup> See Resolution and Order, *Certificate of Energy Compliance*, NEPR-AP-2020-0002, June 17, 2020.

<sup>15</sup> See Resolution and Order, *Request for Certification LUMA Energy ServCo, LLC*, NEPR-CT-2020-0007, November 4, 2020.



and PREPA under the Energy Bureau’s regulatory powers to ensure the appropriate use of ratepayers’ monies in furtherance of compliance with public policy.<sup>16</sup>

In light of the foregoing, the Energy Bureau **DENIES** LUMA’s January 3 Motion and **DETERMINES** that LUMA has not shown good cause as to why it should not be fined. Accordingly, pursuant to the provisions of Act 57-2014,<sup>17</sup> the Energy Bureau **IMPOSES** upon LUMA a fine in the amount of **twenty-five thousand dollars (\$25,000.00)**. LUMA is **ORDERED** to, within **fifteen (15) days** of the notification of this Resolution and Order, pay the aforementioned fine with the Energy Bureau’s Clerk. Such fine shall be treated as a *Disallowed Costs* as per section 7.6(a)(ii) of the OMA.

The Energy Bureau **REITERATES** that future budget amendment requests must be received in a timely manner, when expenditures are expected to exceed the approved budget and, in all cases, before the expense is incurred. If future LUMA’s Budget Amendment Requests are not filed opportunely, more significant fines will be imposed.

Be it notified and published.

Edison Avilés Deliz  
Chairman

Lillian Mateo Santos  
Associate Commissioner

Ferdinand A. Ramos Soegaard  
Associate Commissioner

Sylvia B. Ugarte Araujo  
Associate Commissioner

Antonio Torres Miranda  
Associate Commissioner



<sup>16</sup> Pursuant to the provisions of Act 57-2014, known as the *Puerto Rico Energy Transformation and RELIEF Act*, as amended (“Act 57-2014”), and Act 17-2019, known as the *Puerto Rico Energy Public Policy Act* (“Act 17-2019”), the Energy Bureau is tasked, among other things, with the enforcement of public policy to ensure that electric service companies provide services at reasonable and just prices. See Act 57-2014, Articles 1.2, 6.3, 6.4 and 6.25 and Act 17-2019, Article 1.5(1)(a). This duty inescapably entails the **review and monitoring of budgets, fiscal and operational practices, and the prudence of spending activities**.

<sup>17</sup> Article 6.37(a) of Act 57-2014 which states: “The Energy Bureau shall impose administrative fines for violations of this Act, or the regulations and orders issued thereunder, committed by any person or electric power company subject to its jurisdiction, of up to a maximum of twenty-five thousand dollars (\$25,000) per day. Said fines shall never exceed five percent (5%) of the gross sales, fifteen percent (15%) of the net income, or ten percent (10%) of the net worth of the sanctioned person or the electric power company. The greater of the aforementioned amounts corresponding to the most recent taxable year shall be the amount of the fine.”



**CERTIFICATION**

I hereby certify that the majority of the members of the Puerto Rico Energy Bureau has so agreed on March 20, 2023. I also certify that on March 20, 2023 a copy of this Resolution and Order was notified by electronic mail to jaime.elkoury@promesa.gov; margarita.mercado@us.dlapiper.com; ana.rodriguezrivera@us.dlapiper.com; jmarrero@diazvaz.law; brannen@genera-services.com; kbolanos@genera-services.com; regulatory@genera-services.com; and I have proceeded with the filing of the Resolution and Order issued by the Puerto Rico Energy Bureau.

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

  
\_\_\_\_\_  
Sonia Seda Gaztambide  
Clerk



## Annex B



## GOVERNMENT OF PUERTO RICO

PUERTO RICO ELECTRIC POWER AUTHORITY

Executive Director | Josué A. Colón Ortiz | [director\\_ejecutivo@prepa.com](mailto:director_ejecutivo@prepa.com)

March 22, 2023

BY ELECTRONIC MAIL

[Letters@promesa.gov](mailto:Letters@promesa.gov)

Mr. Robert F. Mujica, Jr.  
Executive Director  
Financial Oversight and Management  
Board for Puerto Rico  
PO Box 192018  
San Juan, Puerto Rico 00919-2018

Dear Mr. Mujica:

### Re.: Supplemental Information for Budget Amendment Review

The Puerto Rico Electric Power Authority ("PREPA") hereby refers to its letter to the Financial Oversight and Management Board for Puerto Rico ("Oversight Board" or "FOMB") dated March 21, 2023 (the "March 21<sup>st</sup> Letter"), in which PREPA reiterated its request to the FOMB for the approval of several necessary amendments to the Fiscal Year 2022-2023 ("FY2023") Budget. The March 21<sup>st</sup> Letter presents ample explanations and justifications for the requested amendments that include:

1. Up to \$15 million for the Mobilization Service Fee pursuant to Section 4.6 of the Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement ("LGA OMA") executed by PREPA, Genera PR LLC ("Genera PR"), and the Puerto Rico Public Private Partnerships Authority ("P3A") on January 24, 2023.
2. Up to approximately \$29.4 million in estimated costs for the implementation of the Voluntary Transition Program ("VTP") of PREPA employees transitioning to Genera PR.
3. \$46,440,594 increase to its "Operational Expenses, Necessary Maintenance Projects, and Capital Equipment" line item ("O&M Expenses") for FY2023:




PO Box 364267 San Juan, Puerto Rico 00936-4267 | 787.521.4671

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- Operating Budget: \$23,100,000
  - Necessary Maintenance Expense ("NME") Budget: \$23,340,594
  - To continue and achieve completion of the works to be performed with these additional FY2023 NME funds, the O&M Expenses for FY2024 need to include:
    - Operating Budget: \$28,581,226
    - NME Budget: \$6,858,176
4. \$200 million increase to fund PREPA's Employee Retirement System ("PREPA ERS"):
- FY2023: \$65 million (May and June)
  - FY2024: \$135 million (July through October)



Hereby, PREPA is providing supplemental information to the March 21<sup>st</sup> Letter, regarding PREPA's petition to increase its O&M Expenses budget for FY2023. This, to emphasize the need and urgency of continuing executing the repair projects and maintenance works before and after the commencement date of Genera PR as the operator of the thermal generating units. Accordingly, PREPA is attaching several technical documents that show the effect of having a limited dependable generation capacity in Puerto Rico's isolated power system.


As PREPA explained in the March 21<sup>st</sup> Letter, even though PREPA had completed several projects of its generating units' repairs program, its thermal generation fleet is still fragile and, unfortunately, was further damaged by Hurricane Fiona on September 18, 2022. We include the generation system damage reports in Annexes 1 and 2, attached with this letter. In addition, we include as Annex 3, a graph comparing the available generation capacity ("AC") with the maximum energy demand ("D<sub>max</sub>") from September 17, 2022 to October 11, 2022.

It is noted that the difference between the AC and D<sub>max</sub> graphs is called the operational reserve, which shall be maintained in a minimum value to minimize the risk of instability events in the power system that generally result in huge load shedding events. According to the System Operating Principles ("SOP") prepared by LUMA Energy LLC ("LUMA") and approved by the Puerto Rico Energy Bureau ("Energy Bureau" or "PREB"), the operating reserve in Puerto Rico shall be equal to or higher than 300 MW plus the MW capacity of the larger generating unit available. Considering the existing installed generating units' capacities, the operating reserve shall be maintained between approximately 700 MW and 750 MW.

As you can observe in Annex 3, on September 17, 2023, the day before the hurricane, there is an operational reserve of 878 MW (3,117 – 2,299), which was dramatically reduced after the passage of the Hurricane Fiona. The graphs clearly show that the week

after the hurricane, even though there was enough generation capacity to supply the energy, the operational reserve was extremely low, 180 MW (1,582 – 1,402) on September 23, which represented a very high risk of instability situations, which could result in a total blackout. To address this risky situation, on September 27, 2023, PREPA requested FEMA to provide temporary baseload generation, initially by means of water based generating units, that could supply energy to the customers while PREPA, and later the private operator, expeditiously execute its generating fleet repairs and maintenance program.


In response to PREPA's request, on October 12, 2022, the Puerto Rico Power System Stabilization Task Force ("Federal Task Force") was created to conduct assessments, develops plans, and begins executing strategies to stabilize the Puerto Rico's power system prior to the 2023 Hurricane Season. The Federal Task Force, composed by representatives from the U.S. ARMY Corps of Engineers ("USACE"), Federal Emergency Management Agency ("FEMA"), U.S. Department of Energy ("DOE"), and Environmental Protection Agency ("EPA"), assessed the condition of the power system after the passage of Hurricane Fiona and found, among others, that:

- 
- Actions are necessary to eliminate or lessen the immediate threat to lives, public health, and safety due to the instability of the power grid exacerbated by Hurricane Fiona damage to generation, transmission, and distribution systems.
  - There is insufficient generation reserve capacity to complete repairs and ensure stability of the system.
  - As a course of action, it is needed to execute the following:
    - Short- to mid-term: Provide temporary generation, land-, water-based or both, to increase the power system capacity to complete priority emergency repairs to stabilize the system without significant interruption in service.
    - Mid- to long-term: complete priority emergency repairs to stabilize the system without significant interruption in service.

As explained in the March 21<sup>st</sup> Letter, the efforts of the Federal Task Force, PREPA and other stakeholders are making it possible to install temporary generation, of which the first three (3) portable generators arrived in Puerto Rico last week. The Federal Task Force is working to install approximately 350 MW of temporary generation between the Palo Seco and San Juan Power Plants. As found by the Federal Task Force, this temporary generation capacity will help PREPA and Genera PR to expedite the repairs projects and maintenance works on the existing generating units.



In addition to PREPA's actions to assess the generation system condition after Hurricane Fiona, on October 6, 2022, LUMA, as the electrical system operator, submitted a letter to the Energy Bureau informing their risk assessment of the electrical system after the hurricane. We include copy of this letter in Annex 4, where LUMA stated that the operating reserves levels after the emergency are not in compliance with the SOP and urged the Energy Bureau to "explore generation capacity increases for the near-and-medium term to benefit the people of Puerto Rico". In response to the letter, the PREB conducted a technical conference with LUMA on October 11, 2022<sup>1</sup>, where LUMA recommended implementing a generation risk mitigation plan. We include copy of the presentation by LUMA in the October 11 conference in Annex 5 ("LUMA October 11 Presentation").



The page 9 of the LUMA October 11 Presentation shows a forecast of the system load and generation availability from September 29 to November 12, 2022, where can be clearly observed how the reserve deficiency increase when occurs the outage of a baseload unit, like Aguirre 2, EcoEléctrica, Palo Seco 4, and Costa Sur 5 and 6. LUMA stressed in its assessment that the emergency of Hurricane Fiona delayed PREPA's repair schedule and that worsen the already fragile condition of the generation fleet. Furthermore, LUMA informed that a preliminary analysis estimated that the Loss of Load Event ("LOLE") probability increased from 28 day per year before Hurricane Fiona to as high as 98 days per year after the hurricane, indicating that the generation system reliability decreased with the damages caused by the hurricane.

As ordered by the Energy Bureau on October 12, 2022, LUMA has submitted regular updates to the PREB regarding the generation stabilization plan ("Stabilization Plan") required by the Energy Bureau after the LUMA October 11 Presentation, when LUMA considered the possibility of the installation of temporary generation requested by PREPA. In its first update submitted on October 31<sup>st</sup>, 2022, LUMA informed that, when simulating 500 MW of additional generation capacity, the LOLE is reduced from a current value of 49.8 days per year to 27.7 days per year. See Annex 6. This analysis shows the importance of increasing the dependable generation capacity in Puerto Rico's power system.


Starting with the update reports submitted by LUMA in November 2022, LUMA included the temporary generation requested by PREPA and being worked by the Federal Task Force as part or the short- to mid-term solution to stabilize the generation system in Puerto Rico. In its update report of January 15, 2023, LUMA included a graph of the average daily availability rate from July 1<sup>st</sup>, to December 10, 2022 (See Annex 7). This graph clearly shows how the availability of PREPA's generation fleet decreased after the passage of Hurricane Fiona. Considering this fact, LUMA concluded that the concerns regarding having adequate generation capacity remains. This concern continues appearing in LUMA's update reports submitted in February and March of 2023.

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<sup>1</sup> See Case No. NEPR-MI-2022-0003, LUMA's Response to Hurricane Fiona.



The last update report of the Stabilization Plan was submitted by LUMA on March 15, 2023. We include copy of this report in Annex 8, which shows that the availability of PREPA's generating units has stabilized during February and March (see page 12 of the update report) and that the 350 MW that the Federal Task Force will install would increase the system reliability from current LOLE of 37.2 days per year to 28.6 days per year (see page 12 of the update report). These updated analyses show that there has been an improvement in the generation system availability and reliability, which shall be due to the repairs and maintenance works that PREPA have been executing after the restoration works of Hurricane Fiona. In addition, it is expected that the forecasted reliability will increase more when the addition of 350 MW of baseload generation to the power system is completed. However, it is important to always validate the forecasts and simulations with field data and the experience of the expert operational staff.



It is also noted that Puerto Rico's generation system availability and reliability has been affected by the current condition of the generating units of AES Puerto Rico LP ("AES"). Since 2018, AES has been experiencing an increase in the forced outages of its units, as can be seen in the Annex 9<sup>2</sup> attached herein, that has reduced its availability and dependability. PREPA understands that one reason for this increase could be the fiscal constraints that AES has been experiencing mainly because of the high cost of the disposal of ashes. The forced outages of AES units have affected PREPA's repairs and maintenance program, as its units have been kept online to supply the energy demand.

As can be observed in the LUMA's update reports on the Stabilization Plan as well as the assessments conducted by the Federal Task Force, the reliability and safety of the power system greatly depends on maintaining an adequate capacity of dependable installed generation, that is capable to supply the energy demand with safe levels of operational reserve. Another important aspect that affects the reliable and safe operation of an electrical system is the load behavior, as the adequate capacity of available generation and the operational reserve must be determined considering the maximum or peak demand. Therefore, the utility is responsible to have as much as possible of available generation capacity during the months that it is expected to experience maximum or peak demand of energy.

Consequently, any programmed repair or maintenance work shall be completed before the peak demand season. In Puerto Rico, the peak demand season coincides with the high hurricane season, usually occurring from August through October, been September and October the most common peak demand months. In general, the peak demand occurs during the hottest months of the year, like those mentioned before, but there are years that the peak occurs earlier, like the peak of the year 2022 that was 3,016 MW of production of energy on June 6, 2022, 8:16 p.m. See Annex 10.


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<sup>2</sup> This annex shall be protected as confidential information.



Hence, PREPA's and private generators' major maintenance programs are schedule out of the peak season, from November through May, usually leaving June and July for contingency works in case the programmed works are delayed. This is another reason why PREPA must not stop or delay the units repairs and maintenance until Genera PR starts its operations, which is expected to occur close to the start of the hurricane season.

It must be noted that the system reliability decreases as the dependable available generation capacity decreases. When the available operational generation capacity is lower than the minimum required for a reliable operation, the power system is under a high risk of losing stability. This risk is even higher in an isolated system like Puerto Rico's system, where an instability event can evolve to a total outage or blackout more easily than in an interconnected system. To prevent such total system outage during generation capacity limitations, the system operator needs to execute partial outages across the power system, affecting thousands of customers. Therefore, outages resulting from generation capacity limitations usually disconnect huge blocks of load from the power system, which could include critical loads such as hospitals and other essential services facilities.



To increase the current limited dependable available generation and provide a reliable and continuous generation service to the People of Puerto Rico, preventing massive load shedding events, and comply with the minimum reserve levels of the SOP, it is crucial to keep the generating units and their auxiliary equipment operational and in the best possible condition. Therefore, the prioritization of conservation, repairs, and retrofitting works projects of the units is essential to PREPA, who has been conducting repairs and maintenance works, facing many challenges while operating an old and fragile generation fleet. It is stressed that the short- and mid-term solution to increase the reliability of the generation system is to execute the programmed repairs without disruption, especially taking advantage of the temporary 350 MW units that will support the reliability of the system while PREPA's units are repaired.

It is further stressed that the current available budget will not allow PREPA to operate and maintain the generation system until Genera PR starts its operations, as expressed by the Oversight Board. As explained before, responsibly, PREPA's generation budget shall include the funds that Genera PR will need to continue the repair and maintenance works since its commencement that should occur not later than July 1, 2023. PREPA reiterates that the current budget is not enough to maintain the continuance of operations and of repair and maintenance works without disruption of the energy supply. If PREPA must stop these works, due to the lack of access to its reimbursed funds, it would result in a high risk of decreasing the reliability and availability of the generation system, with the consequence of putting the lives of the people of Puerto Rico at risk and destabilizing the economy.

Finally, PREPA again reiterates that it is working for the benefit of the people of Puerto Rico, the thousands of retired and current employees, committed to move forward in its path through the energy sector transformation, and trusts that the Oversight Board does so collaboratively and with the support requested. PREPA's current management has proven being effective using its approved budget, completing operational and permanent works, and gathering federal funds reimbursements from those works. This, even with very limited and constraint resources, both staffing and funding. Furthermore, PREPA is committed to spend only what is needed to comply with its obligations, including the transition to Genera PR, and transferring back any unused fund.

PREPA reiterates its availability to meet with the representatives of the Oversight Board and provide any clarification to this request that helps the FOMB to understand its importance.

Cordially,



Josué A. Colón-Ortiz  
Executive Director

#### Annexes

c Omar J. Marrero Díaz, Esq., Executive Director, AAFAF; [Omar.Marrero@aafaf.pr.gov](mailto:Omar.Marrero@aafaf.pr.gov)  
Fernando Gil Enseñat, Esq., President, PREPA Governing Board; [fernando.gilensenat@gmail.com](mailto:fernando.gilensenat@gmail.com)  
Nelson Morales, Chief Financial Officer, PREPA; [Nelson.Morales@prepa.com](mailto:Nelson.Morales@prepa.com)  
Edison Avilés Vélez, Esq., President, PREB; [eavilesdeliz@jrsp.pr.gov](mailto:eavilesdeliz@jrsp.pr.gov)  
Fermín Fontanés Gómez, Executive Director, P3A; [Fermin.Fontanes@p3.pr.gov](mailto:Fermin.Fontanes@p3.pr.gov)  
Wayne Stensby, CEO LUMA, LLC; [wayne.stensby@lumapr.com](mailto:wayne.stensby@lumapr.com)  
Brannen McElmurray, CEO Genera PR; [brannen@genera-services.com](mailto:brannen@genera-services.com)  
Mary C. Zapata Acosta; Deputy Executive Director, PREPA; [Mary.Zapata@prepa.com](mailto:Mary.Zapata@prepa.com)



## Hurricane Fiona Generation System and Water Assets Preliminary Damage Report

### I. Generation Base Load Power Plants

During the incident period of 9/15/2022 through 9/18/2022, Hurricane Fiona created an immediate threat to the health and safety of the public requiring emergency response and protective measures. Provided Emergency Power Restoration for Emergency Protective Measures following Hurricane Fiona that produced hostile wind conditions, storm surges, mudslides, wind driven rain and flooding, which destroyed segments of the island's electrical power grid, damaging power generation, dams, hydroelectric systems, irrigation systems, and reservoirs.

PREPA has an estimated amount of \$30 million dollars in damages cost for its generation fleet, Dams, hydroelectric systems, irrigation systems, and reservoirs. During this period PREPA has rely on it peaking units to maintained it generation. This represents an extraordinary, estimated cost of \$110 million dollars in fuel consumption.

The following is a description of the damages by power plant and its auxiliary systems attribute to the passing of Hurricane Fiona:

#### A. San Juan Power Complex

##### Combustion Turbine Unit 5 – 150 MW

- Damaged boiler feed water pump. Unit not available for a period of eight days. The unit returned to service on September 26, 2022.

##### Steam Turbine Unit 5 – 50 MW

- Damaged bearings and journal of the steam turbine due to failure of the oil lubrication system. Unit not available since September 18, 2022.

##### Steam Unit 7 – 100 MW

- Damaged Normal Service Station Transformer (NSST) which serves as a Back-In Power for Auxiliary Equipment Units 7 & 8.





- Damaged Battery Banks Units 7 and 8, which serves as power back up for the unit's auxiliary equipment.
- Unit not available for a period of eight days. The unit returned to service on September 26, 2022.

SJ 9 Fuel Service Tank (Bunker C)

- Flood Secondary Containment with presence of hydrocarbon.
- Cleaning process was completed on October 7, 2022.

**SJ 5 CT**

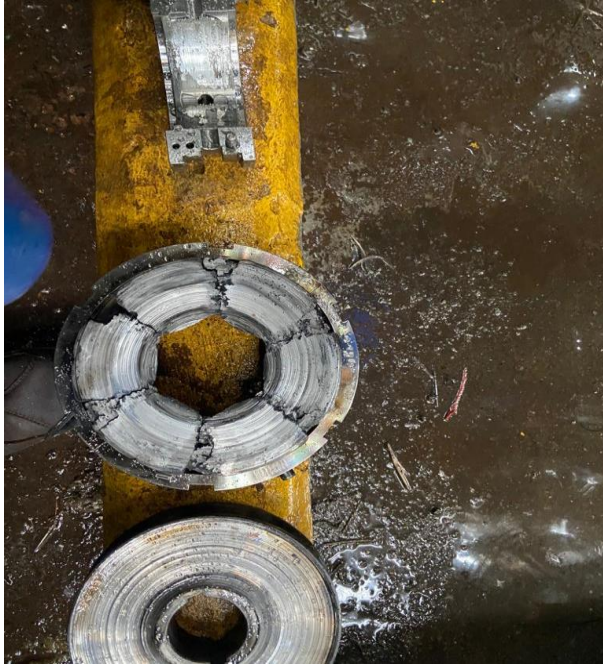
**150 MW**

**Damage on Boiler Feed Pump**



Boiler Feed Pump Damage Unit 5





**SJ 5 ST**

**50 MW**

**Damage on Steam Turbine**



**Steam Turbine Damaged Bearings Area Unit 5**



Steam Turbine Damage Area Unit 5  
(Atmospheric Diaphragm Low Pressure Turbine)



Steam Turbine Damage Area Unit 5  
(Oil Leak)

**SJ5**

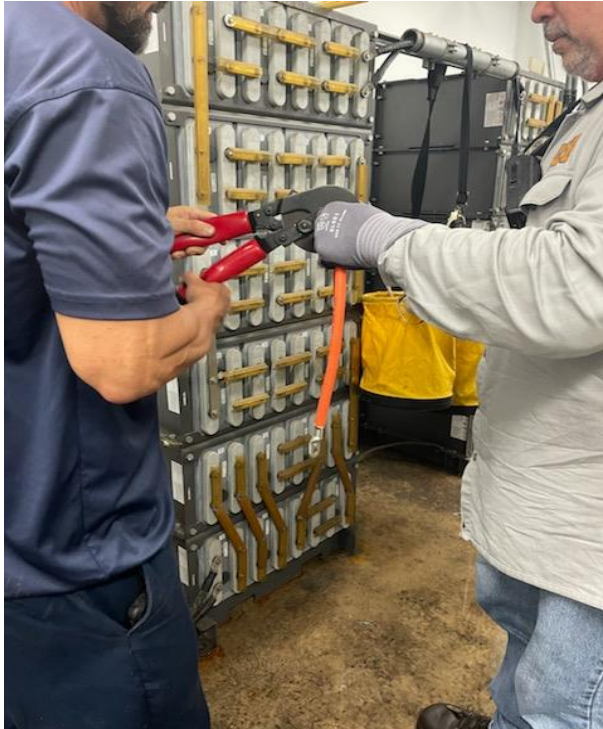
**100 MW**

**Damage on Battery Bank Unit 5**



Backup Battery System ST Unit 5





Backup Battery System ST Unit 5

**SJ7 & 8**

**100 MW**

**Damage to Normal Service Transformer 8**



NSST 8 Damaged – Back-In Power for Auxiliary Equipment Units 7 & 8



NSST 8 Damaged – Back-In Power for Auxiliary Equipment Units 7 & 8

**SJ 9**

**100 MW**

**Bunker C Fuel Service Tank 9 Area Flooded**



SJ 9 Fuel Service Tank Flooded by Fiona



## **B. Aguirre Steam Plant & Power Complex**

### Steam Unit 2 – 450 MW

- Damaged motor driven boiler feed water pump. Damages to bearings, truss bearings, impellers, balancing drum, and coupling (pump to motor) of the Motor Driven Boiler Feed Water Pump 2-2.
- Unit not available since September 18, 2022. return to service on October 13, 2022

### Fuel and Water Tanks Secondary Containment Flooded

- Fuel Reserve R1 – R5 Tanks Secondary Containment Flooded. It will be drained by the end of the 1<sup>st</sup> Week of October 2022.
- Water Tanks Secondary Containment Flooded. It was drained by the end of the 1<sup>st</sup> Week of October 2022.

### **Aguirre 2                      450 MW    Damage on Boiler Feed Pump**



Damage Boiler Water Feed Pump 2-2



Damage Boiler Water Feed Pump 2-2



Damage Boiler Feed Water Pump Unit 2



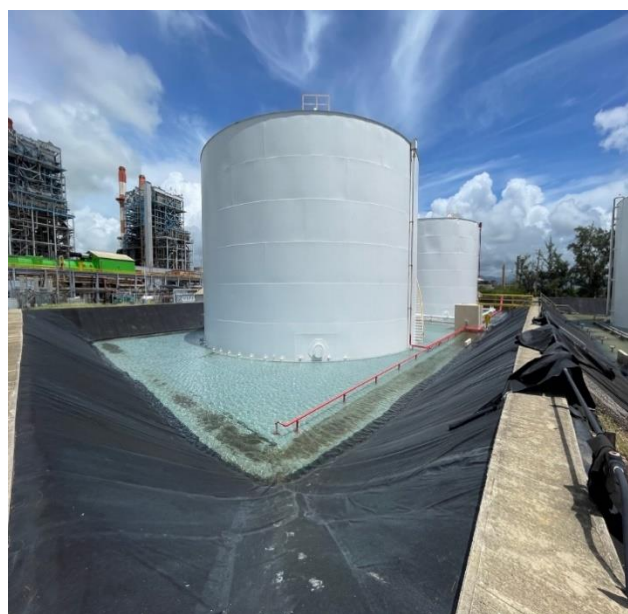
**Aguirre Power Complex**



**Fuel and Water Tanks Area Flooded**



**Bunker C Reserve Tank Farm Secondary Containment Area Flooded**



**Diesel Tanks Secondary Containment  
Area Flooded**



**Water Retention & Final Effluent Tank  
Secondary Containment Flooded**

### **C. Aguirre Combined Cycle**

#### Unit 1-2 & 1-4 – 100 MW

- Damaged on generator auxiliary equipment due to water intrusion. Unit not available for a period of eight days. The unit 1-4 returned to service on September 24, 2022 and the unit 1-2 returned to service on September 25, 2022

#### Unit 2-3 & 2-4 – 100 MW

- Damaged on generator and auxiliary equipment due to water intrusion. Unit not available for a period of eight days. The unit 2-3 and 2-4 returned to service on September 26, 2022.

#### Stag 1 Steam Turbine – 96 MW

- Damaged on auxiliary equipment due to water intrusion. Unit not available for a period of eight days. The unit returned to service on October 1, 2022.



Drying Up Due to High Humidity on Starting Up Motor-CC 1-2





Drying Up Due to High Humidity on Starting Up Motor-CC 1-2



Inspection and Tests of Auxiliary Equipment Breakers due to Humidity

#### **D. Costa Sur Power Plant**

##### Raw Water Tank 1 – 1.4 million of gallons

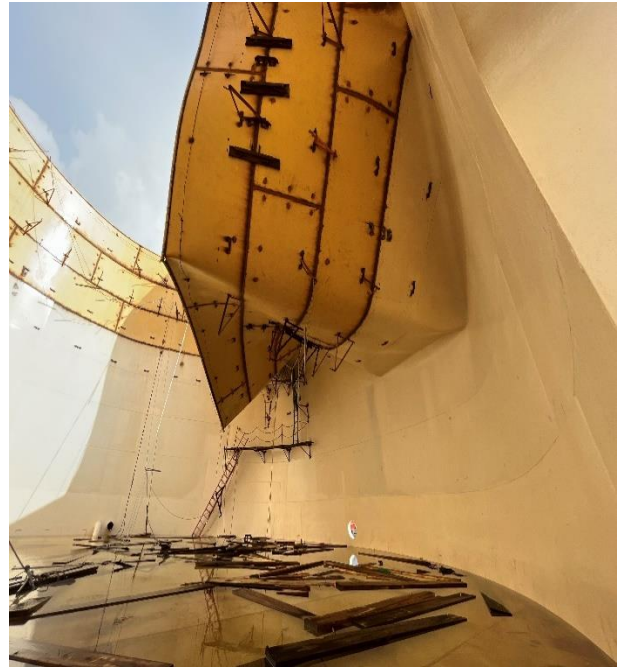
- Collapsed 1.4 million gallons steel water storage tank. Damages to shell and tank bottom.

### Control Room Units 5 & 6

- Damages to the Units 5 and 6 Control Room due to water intrusion caused to the interior's reflected ceiling.

### **Costa Sur Equipment 410 MW**

### **Collapse Raw Water Tank 1 for all the power plant**



Collapse Raw Water Tank 1 for all the power plant

### **Control Room Units 5 & 6**

### **Damages to the Roof Built Up and Reflected Ceiling**



Damages to Control Room Reflected Ceiling

## **II. Peaking Combustion Turbines and Hydroelectric Plants**

### **A. Mayagüez Power Plant**

#### Unit 1, FT 8 – 55 MW

- Unit had to lowered load, valve combust. fully open. Unit is taken out: clean strainer. Governor of 1A and 1B was found covered. Two governors were replaced: it is removed from the 3B to install in 1A and a new one is installed in the 1B. The damage was caused due to over fatigue of the unit during the Puerto Rico's power restoration process. The unit returned to service on September 26, 2022.

#### Unit 2, FT 8 – 55 MW

- Hydraulic pump of Unit starting system: coupling failed while unit in service. The damage was caused due to over fatigue of the unit during the Puerto Rico's power restoration process. Unit available.

#### Unit 3, FT 8 – 27.5 MW

- Hydraulic pump coupling Unit starting system – coupling bushing is damaged. The damage was caused due to over fatigue of the unit during the Puerto Rico's power restoration process. Unit available.

#### Unit 4, FT 8 – 55 MW

- Hydraulic pump coupling Unit starting system. The damage was caused due to over fatigue of the unit during the Puerto Rico's power restoration process. Unit available.

### **B. Peaking and Backup Remote Generating Units**

#### Yabucoa 1-2 – 20 MW

- Generator (Stator) Failed. The unit is not available since September 18, 2022. A replacement of the generator's stator would be completed in a period of 10 days. Catastrophic damage to generator stator.

#### Jobos 1 – 20 MW

- Alarm and trigger of unit by Excitation Control. ECTB and EMIO cards are replaced using PS 1-2 cards. The unit was taken out for repairs on September 25 2022, and return to service in September 26, 2022.

#### Vieques 1 – 3 MW

- Explosion in generator area with unit in service the night before - High voltage. Cable failures of the three phases, CT and PT's. Unit in repair works.

#### Vieques 2 – 3 MW

- Alarm Problems in excitation control. Available unit, limited to 2.5MW.

#### Culebra 2 – 1.8 MW

- Coolant leak by engine water pump seal. Pump was replaced. The unit was taken out on September 21 and the unit was returned to service on September 23.

#### Culebra 3 – 1.8 MW

Oil and coolant leaks from engine block cover. Manufacturer recommended taking unit out of service.

#### Toro Negro 1 – 9 MW

Obstruction in water channel for Lake Aceitunas caused by collapse of rocks and sediments. Partial removal of rocks and vegetation and sediments was carried out. Tree trunk in Lake Guineo area that affects morning glory inspection pathway. On September 21, 2022, the unit was taken out and was returned to service on September 24, 2022.

### **C. Hydroelectric plants**

The Engineering and Technical Services Division continues to assess all the hydroelectric power phase.

### **D. Estimated Costs of Damages in Power Plant**

The preliminary data documented by the personnel of the engineering and technical division concludes that PREPA, in its power plants has a preliminary estimated costs of damages close to \$20 million dollars.

### **E. Damages Summary**

Following, a summary of damages recorded by the HydroGas – Cambalache Power Plants Division. The reference pictures are included in the Annex to this report.

#### Acronyms:

Fa	Fatigue
W	Wind
R	Rain
F	Flooding
MPT	Main Power Transformer

Area	Unit	Description of Damages	Date of occurrence	Type of Failure	Date of Correction	Reference Picture	Cost (\$, Est)
Toro Negro 1	Canal	Obstruction in water channel for Lake Aceitunas caused by collapse of rocks and sediments. Partial removal of rocks and vegetation and sediments	9/18/22	F, W	9/22/22	11.0, 11.1, 11.2	



Area	Unit	Description of Damages	Date of occurrence	Type of Failure	Date of Correction	Reference Picture	Cost (\$, Est)
		was carried out. Tree trunk in Lake Guineo area that affects morning glory inspection pathway - pending removal.					
Yabucoa	1-2	Catastrophic damage to generator stator. Phases burned after unit with load during the passage of the hurricane. Vega Baja unit 1-2 stator is removed to be installed in Yabucoa. Cleaning rotor generator.	9/18/22, 8:34PM	R		5.0, 5.1, 5.2	
Culebra	3	Oil and coolant leaks from engine block cover. Manufacturer recommended taking unit out of service	9/18/22, PM	Fa		2.0, 2.1, 2.2	41,240.73
Culebra	2	Coolant leak by engine water pump seal – Pump replaced.	9/21/22, 11AM	Fa	9/23/22	1.0, 1.1, 1.2	3,267.00
Vieques	1	Unit forced out by over speed. Problems with the speed sensors system.	9/18/22 PM	R	9/23/22 PM		7,705.60 (est)
Vieques	2	Unit is triggered by high temperature. Failure in breaker of starter motor of louvers fans, Generator Cooling System.	9/18/22 PM	R	9/27/22 PM		65,000 (est)
Yauco 2	Exterior Powerhouse	Fallen trees, lines and poles	9/18/22	F, W		3.0, 3.1, 3.2	
Garzas 1		Vegetation and fallen trees, obstructing the passage	9/18/22	F, W		4.0, 4.1, 4.2, 4.3	
Lago Garzas		Vegetation and fallen trees obstructing way for morning glory inspection.	9/18/22	F, W			
Vieques	1	Explosion in generator area with unit in service the night before - High voltage. Cable failures of the three phases, CT and PT's.	9/25/22	R		8.0, 8.1, 8.2, 8.3	
Vieques	2	Problems in excitation control. Trouble Shooting performed. Available unit, limited to 2.5MW	9/27/22	R	9/28/22		
Mayagüez	1	lowered load, valve combust. fully open. Unit is taken out: clean strainer. Governor of 1A and 1B was found covered. Two governors were replaced: it is removed from the 3B to install in 1A and a new one is installed in the 1B.	9/26/22	Fa	9/26/22	7.0, 7.1	48,000.00 (est)
Daguao	1-1	Oil leak by speed reducer – through 1.5" nipple connection. Replaced	9/27/22	Fa	9/28/22	6.0	
Jobos	1	Alarm and trigger of unit by Excitation Control. ECTB and EMIO cards are replaced using PS 1-2 cards.	9/25/22	R	9/26/22	9.0, 9.1, 9.2	11,306.00 (est)
Dos Bocas	MPT 3	5:22AM transformer explosion 7.5MVA. Apparent failure in phase B. Oil spill in dam and ground. Repair works done by Luma	9/28/22	R		10.0 a 10.8	350,000 (est)

Area	Unit	Description of Damages	Date of occurrence	Type of Failure	Date of Correction	Reference Picture	Cost (\$, Est)
Dos Bocas	MPT 2	oil leak through pipe. Piece of bushing from transformer 3 broke the pipe.	9/28/22		10/1/22		
Mayagüez	2	Hydraulic pump of Unit starting system: coupling failed while unit in service.	9/28/22 6:40pm	Fa	10/1/22	12.0, 12.1	1,513.10
Mayagüez	4	Hydraulic Pump Coupling, Unit starting system, partially broken	9/28/22	Fa	10/2/22	12.2	1,513.10
Mayagüez	3	Hydraulic pump coupling Unit starting system – coupling bushing is damaged,	9/28/22	Fa		12.3	171.60

#### F. Fuel Estimated cost for Peaking Units

PREPA has summited an estimated fuel consumption cost of \$110 million dollars for the peaking units during Fiona Emergency period as of today.

### III. Irrigation, Dams, Reservoirs

Following, a summary of the preliminary assessment of damages at the irrigation, dams, reservoirs assets.

#### A. Debris affecting the irrigation districts



ISABELA IRRIGATION DISTRICT AGUADILLA CHANNEL



ISABELA IRRIGATION DISTRICT DERIVATION CHANNEL



ISABELA IRRIGATION DISTRICT DERIVATION CHANNEL



SOUTH COAST IRRIGATION DISTRICT GUAMANI CHANNEL



SOUTH COAST IRRIGATION DISTRICT PATILLAS CHANNEL





SOUTH COAST IRRIGATION DISTRICT PATILLAS CHANNEL

## B. Patillas Channel

Erosion caused by Ciro One Flooding Control:







### C. Guamaní Channel

Guamaní Channel Dam destroyed by Hurricane Fiona:







Guamaní Channel Dam destroyed by Hurricane Fiona:





#### **D. Patillas Dam**

Patillas Dam Discharge Channel:



Patillas Dam Discharge Channel:





## E. Carite Reservoir

Carite Dam Reservoir & Spillway Structure:



Carite Dam Spillway Structure:





Undermining damages to Carite Dam Spillway Structure:



Undermining damages to Carite Dam Spillway Structure:







GOVERNMENT OF PUERTO RICO  
PUERTO RICO ELECTRIC POWER AUTHORITY

**VIA ELECTRONIC MAIL**

January 13, 2023

Mr. John G. Stone, IV  
Director of Risk Management  
LUMA Energy, LLC  
San Juan, Puerto Rico

**Re: Generation Fleet Damage Assessment Report**

Pursuant to your letter dated December 19, 2022 (Transmittal # LUMA-PREP-T-00433) requesting a finalized Damage Report related to Hurricane Fiona, attached is a Final Damages Assessment Report as of December 28, 2022.

Please note that costs are subject to change as contracts are awarded and invoices for repair of the units are paid.

Should you have any questions, please feel free to contact Jorge Cotto Pérez, Generation Director at (787) 521-1230 or via email at [jorge.cotto@prepa.com](mailto:jorge.cotto@prepa.com).

Sincerely,

Nelson Morales  
Chief Financial Officer

Attachment

C: Josué A. Colón Ortiz, P.E., Executive Director, PREPA  
Mary Zapata, Deputy Executive Director, PREPA; [Mary.Zapata@prepa.com](mailto:Mary.Zapata@prepa.com)  
Richard Cruz Franqui, Legal Counsel, PREPA; [Richard.Cruz@prepa.com](mailto:Richard.Cruz@prepa.com)  
Jorge Cotto Pérez, Generation Director, PREPA; [jorge.cotto@prepa.com](mailto:jorge.cotto@prepa.com)  
Wayne Stensby, Chief Executive Officer, LUMA; [wayne.stensby@lumapr.com](mailto:wayne.stensby@lumapr.com)  
Mike Shaw, Vice President, PREPA Restructuring, LUMA; [Mike.Shaw@lumapr.com](mailto:Mike.Shaw@lumapr.com)  
Ashley Engbloom, Vice President, Regulatory, LUMA; [ashley.engbloom@lumapr.com](mailto:ashley.engbloom@lumapr.com)  
Fermín Fontanés Executive Director, P3A; [fermin.fontanes@p3.pr.gov](mailto:fermin.fontanes@p3.pr.gov)



Puerto Rico Electric Power Authority  
Final Damages Assessment Report  
December 28, 2022

Num.	Plant or Asset	Type of Damage Flood, Fire, Wind <sup>1</sup>	Explanation of Damages	Estimated Costs	Actual Costs	PREPA's Labor Costs	Materials Cost	Contract Costs	Contract Number	Comments
1	Aguirre Power Plant Unit 2	Wind	Damages to the bearings, truss bearings, shaft,impellers, balancing drum, and coupling (pump to motor) of the Motor Driven Boiler Feed Water Pump 2-2.	\$ 1,200,000.00	\$ 630,591.00	\$ 49,074.00	\$ 469,981.00	\$ 111,536.00	97294	Pending Materials Cost, Labor Costs from engineers Alexis Cruz and Miguel Beauchamp. Parts are within Material Requests 757677, 757684, 757333.
2	Aguirre Power Plant Unit 2	Wind and Flood	Contamination on Air Preheaters Areas that requires chemical cleaning with soda ash product	\$ 25,000.00	\$ 22,257.88			\$ 22,257.88	92884	Services Completed
3	Aguirre Power Plant	Wind & Flood	Damages to the control and mechanical systems of a Emergency Generator 600 kW; 480V	\$ 9,572.00	\$ 9,572.00			\$ 9,572.00	96049	Services Completed
4	Aguirre Power Plant Water Treatment Plant	Wind & Flood	Repair of HDPE Liners on Water Retention and Final Effluent Tank	\$ 95,900.00	\$ 95,900.00			\$ 95,900.00		Proposal Submitted by Contractor RG Engineering, Corp., December 12, 2022
5	Aguirre Power Plant Travelling Screens Area	Wind	Damage to Existing MCC for Travelling Screens	\$ 15,000.00	\$ 15,421.22	\$ 10,000.00	\$ 5,421.22		P.O. 95366	The P.O. is for the materials.
6	Aguirre Combined Cycle	Flood	Damages to HMI (Human Machine Interphase - 8 Units)	\$ 730,589.00	\$ 730,589.00			\$ 730,589.00	C.R. 267288	Proposal by Baker & Hugues. Contract Requestion prepared by Power Plant.
7	Aguirre Combined Cycle	Flood & Wind	Damages to Normal Service Transformer Unit 1-2 (500 kVA)	\$ 100,000.00	\$ -					Pending Labor and Material costs from engineer William Rios Mera.
8	Aguirre Combined Cycle	Flood & Wind	Humidity on Units Generators, 4000 kV, MCC of Auxiliary Equipments. Rental of Emergency Generators for Blowers; to apply warm air.	\$ 45,000.00	\$ 45,000.00			\$ 45,000.00	95939	Services Completed
9	Aguirre Combined Cycle	Water Intrussion & Wind	Blowers and Other Equipment for miscellaneous repairs and to warm up equipment which had low insulation readings (Meggers)	\$ 500,000.00	\$ -					Pending Labor and Material costs from engineer William Rios Mera.
10	Aguirre Combined Cycle	Water Intrussion & Wind	Emergency Contract Technical Craft & Labor for electrical, instrumentation and protection works related to the damages by Hurricane Fiona.	\$ 135,000.00	\$ 53,795.95			\$ 53,795.95	95942	Contract is being executed.
11	South Coast Power Plant	Wind	Collapsed of a 1.4 Million Gallon (Diameter - 70' ; Height - 48')	\$ 1,200,000.00	\$ 1,117,000.00			\$ 1,117,000.00		Pending Contract Approval on November 2022. LUMA already have the info of costs.
12	South Coast Power Plant	Wind	Induced Fan 5-2 (Blown Cap of the Motor)	\$ 2,500.00	\$ 4,000.00	\$ 2,500.00	\$ 1,500.00			The Contract cost is estimated by Power Plant.
13	South Coast Power Plant	Water Intrussion & Wind	Damages to Steel Platform Over Underground Sulfuric Acid Horizontal Tank	\$ 50,000.00	\$ 2,000.00	\$ 2,000.00		\$ -		The Contract cost is estimated by Power Plant.
14	South Coast Power Plant	Water Intrussion & Wind	Damages to Control Room Built-Up Roof and Interior Reflected Ceiling (Including Cleaning of Water)	\$ 50,000.00	\$ 22,000.00	\$ 2,000.00		\$ 20,000.00		The Contract cost is estimated by Power Plant.
15	Cambalache Power Plant	Water Intrussion & Wind	Miscellaneous Mechanical and Electrical Equipment		\$ -					Final Determinatin by Hidrogas - No Damages to the Power Plant
16	Mayaguez Power Plant Unit 1	Water Intrussion & Wind	Miscellaneous Mechanical and Electrical Equipment-lowered load, valve combust. fully open. Unit is taken out: clean strainer. Governor of 1A and 1B was found covered. Two governors were replaced: It is removed from the 3B to install in 1A and a new one is installed in the 1B.	\$ 48,000.00	\$ 307,524.06	\$ 1,530.32		\$ 305,993.74	96411	Repair of the Equipment by Contractor and Replacement of the Equipment by PREPA's personnel.
17	Mayaguez Power Plant Unit 2	Water Intrussion & Wind	Hydraulic pump of Unit starting system: coupling failed while unit in service.		\$ 2,563.02	\$ 380.62	\$ 2,182.40			
18	Mayaguez Power Plant Unit 3	Water Intrussion & Wind	Hydraulic pump coupling Unit starting system – coupling bushing is damaged,			\$ 381.86	\$ 2,182.40			
19	Mayaguez Power Plant Unit 4	Water Intrussion & Wind	Hydraulic pump coupling Unit starting system – coupling bushing is damaged,			\$ 492.33	\$ 2,182.40		P.O.96429	Procurement of the Parts (PO 96429) by Contractor and Replacement of the Equipment by PREPA's personnel.
20	San Juan Steam Plant Unit 5	Water Intrussion & Wind	Damage to Bearing Steam Turbine Rotor Unit 5 - Repairs	\$ 2,500,000.00	\$ 854,000.00	\$ 4,000.00	-----	\$ 850,000.00	96310	Repairs in Process
21	San Juan Steam Plant Unit 5	Water Intrussion & Wind	Damage to Rotor Steam Turbine Rotor Unit 5 - Open and Close Inspection	\$ 1,205,000.00	\$ 1,205,000.00	-----	-----	\$ 1,205,000.00	96515	Inspection in Process. Preliminary findings show that the rotor must be sent to the United States for Repairs. A Contract will be signed for repairs. Costs for the repairs will be on the range \$1,000,000 - \$1,750,000.
22	San Juan Steam Plant Unit 7 & 8	Water Intrussion & Wind	NSST 8 - Damages to Bus Duct, Coils, etc.. (At this moment the transformer is being used as a emergency transformer for Units 7 and 8), to energize the emergency bus (4.16 kV). This allowed Unit 7 to return to service.	\$ 250,000.00	\$ -	-----	-----	-----	-----	<b>Conservación Eléctrica ingeniero Joaquín Carrillo.</b>
23	San Juan Steam Plant Unit 5	Water Intrussion & Wind	Damages to thrust bearing, BFWP High Pressure - 5-A, Unit 5	\$ 450,000.00	\$ 223,000.00	\$ 10,000.00	\$ 180,000.00	\$ 33,000.00	94952	Pending Labor and Materials Costs from engineers Joaquín Carrillo and Victor Ortiz Pérez.
24	San Juan Steam Plant	Flood	Flood Secondary Containmen Area SJ 9 Fuel Tank	\$ 25,000.00	\$ 305,500.00	\$ 4,000.00	\$ 1,500.00	\$ 300,000.00	96377	Services in Process.
25	San Juan Steam Plant Unit 5	Water Intrussion & Wind	Battery Bank Blown (Batteries) - Auxiliary Equipments	\$ 15,000.00	\$ 3,700.00	\$ 2,400.00	\$ 1,300.00	N/A	N/A	Pending Labor and Materials Costs from engineer Victor Ortiz Pérez.
26	San Juan Steam Plant Unit 7 & 8	Water Intrussion & Wind	Humidity on Generator Rotor required desconection and application of heat to increase Megger Readings	\$ 25,000.00	\$ 10,000.00	\$ 6,000.00	\$ 4,000.00	N/A	N/A	Pending Labor and Materials Costs from engineer Victor Ortiz Pérez.
27	San Juan Steam Plant Unit 7	Water Intrussion & Wind	Damaged PT in 115 kV Switchyard (It allows to have referenced voltage for Unit 7 electric bus for synchronization process) - Equipment replaced by LUMA.	\$ 10,000.00	\$ -					<b>Pending information from LUMA.</b>

Puerto Rico Electric Power Authority  
Final Damages Assessment Report  
December 28, 2022

Num.	Plant or Asset	Type of Damage Flood, Fire, Wind <sup>1</sup>	Explanation of Damages	Estimated Costs	Actual Costs	PREPA's Labor Costs	Materials Cost	Contract Costs	Contract Number	Comments
28	Hydropower Sites <sup>2</sup>	Water Intrussion & Wind	Miscellaneous Damages to Mechanical and Electrical Equipment (7.5 MVA Transformer Unit 3 Dos Bocas - \$350,000)	\$2,000,000.00	\$-					
29	Dos Bocas MPT 3		5:22AM transformer explosion 7.5MVA. Apparent failure in phase B. Oil spill in dam and ground. Repair works done by Luma. Transformer damaged and unoperable, have to be replaced	\$400,000.00	\$-					LUMA Share Services. Pending for repairs report from LUMAPending for SOW and Specs.
30	Dos Bocas MPT 2		oil leak through pipe. Piece of bushing from transformer 3 broke the pipe.	\$45,000.00	\$-					LUMA Share Services. Pending for repairs report from LUMA
31	Toro Negro 1		Obstruction in water channel for Lake Aceitunas caused by collapse of rocks and sediments. Partial removal of rocks and vegetation and sediments was carried out. Tree trunk in Lake Guineo area that affects morning glory inspection pathway - pending removal.		\$24,888.60	\$24,888.60				Pending for information from area supervisor
32	Yauco 2		Fallen trees, lines and poles	\$12,000.00	\$-					Pending for information from area supervisor
33	Garzas 1		Vegetation and fallen trees, obstructing the passage	\$8,000.00	\$-					Pending for information from area supervisor
34	Lago Garzas		Vegetation and fallen trees obstructing way for morning glory inspection.	\$12,500.00	\$-					Pending for information from area supervisor
35	Yabucoa Unit 1-2	Water Intrussion & Wind	Damaged Generator -Catastrophic damage to generator stator. Phases burned after unit with load during the passage of the hurricane. Vega Baja 1-2 unit stator is removed to be installed in Yabucoa. Cleaning rotor generator.	\$2,500,000.00	\$-					Including the labor, equipment and material costs for replacement of the stator of Yabucoa by using one of the units of Vega Baja, and the cost for the fabrication, delivery and installation of a new stator. Budgetary proposal from MD&A received for rewinding, \$2,100,000.00
36	Culebra 3		Oil and coolant leaks from engine block cover. Manufacturer recommended taking unit out of service		\$41,240.73	\$-		\$41,240.73	96164	Performed by Antilles Power
37	Culebra 2		Coolant leak by engine water pump seal – Pump replaced.		\$7,845.27	\$1,311.27	\$3,267.00	\$3,267.00	96022	Perfomed by plant personnel
38	Vieques 1		9/18/22 Unit forced out by over speed. Problems with the speed sensors system.		\$18,789.70	\$3,378.50	\$7,705.60	\$7,705.60	95864	Perfomed by plant personnel
39	Vieques 1		9/25/22 Explosion in generator area with unit in service the night before - High voltage. Cable failures of the three phases, CT and PT's.	\$45,800.00	\$353.10	\$353.10				Labor cost in troubleshooting, performed by plant personnel. Additional labor cost is expected for the installation of parts. MR763852
40	Vieques 2		9/18/2022 Unit is triggered by high temperature. Failure in breaker of starter motor of louvers fans, Generator Cooling System.	\$65,000.00	\$6,396.20	\$6,396.20				Only labor cost in troubleshooting, performed by plant personnel. MR 763219 pendiente por aprobacion.
41	Vieques 2		9/27/22 Problems in excitation control. Trouble Shooting performed. Available unit, limited to 2.5MW		\$5,943.60	\$5,943.60				ESI Service Contract upon requirement
42	Daguao 1-1		Oil leak by speed reducer – through 1.5" nipple connection. Replaced		\$404.60	\$404.60				Only labor cost
43	Jobos 1		Alarm and trigger of unit by Excitation Control. ECTB and EMIO cards are replaced using PS 1-2 cards.	\$190,000.00	\$1,629.44	\$1,629.44				GE Service contract
44	Palo Seco MG 1		Unit tripped. Check Valve of fuel/water Mixing Bed		\$1,242.44	\$1,242.44				labor performed by plant personnel
			Preliminary Cost Estimate for Damages -	\$13,964,861.00	\$5,768,147.81	\$140,306.88	\$681,222.02	\$4,951,857.90		

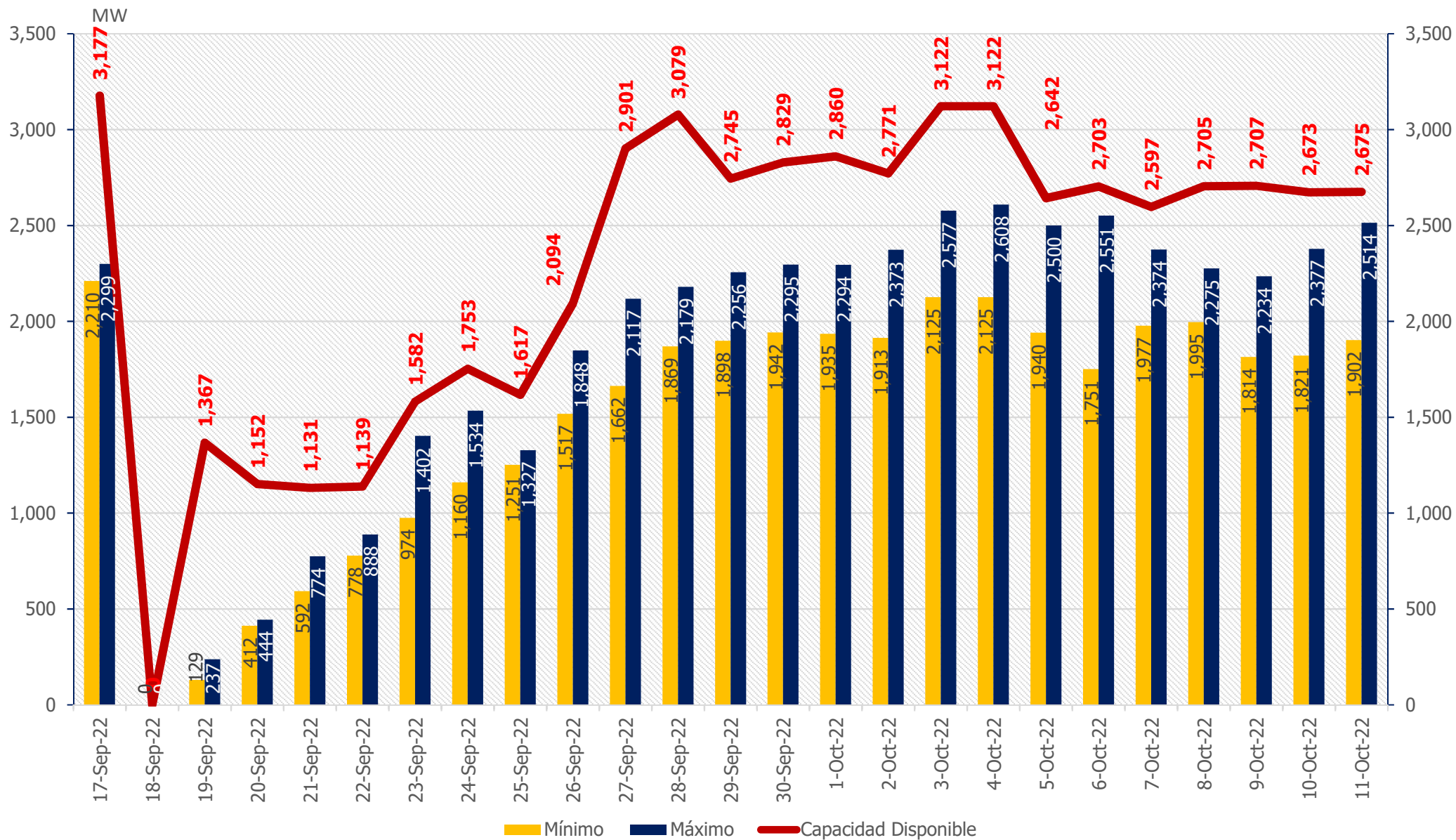
Notes:

- When the word Flood is used on the Type of Event for Damage, it also means water entering the equipment.
- The damage assesment is final, but current costs may continue to change as contracts are awarded and payment invoices are issued for the repair of the units.



# Restauración Sistema Eléctrico - Impacto Huracán Fiona

## Demanda Mínima y Máxima vs Capacidad Disponible



October 6, 2022

**To: Puerto Rico Energy Bureau**

World Plaza Building  
268 Munoz Rivera Ave,  
San Juan, PR 00918

**Re: Risk Assessment of the Puerto Rico Electric Grid Following Hurricane Fiona**

To the Honorable Energy Bureau:

As System Operator, LUMA has the responsibility to assess Resource Adequacy and to identify Generation resource deficiencies to the PREB and to the Administrator.<sup>1</sup> In the immediate aftermath of Hurricane Fiona, the Puerto Rico electric grid is now operating in a condition of heightened risk of load shed which is expected to continue for several months. As identified initially in the Emergency Event Update provided on September 25, 2022, the following paragraphs briefly describe this increased risk and potential mitigation steps that PREB and the P3A Administrator to consider.

**Storm damage to the electric generating facilities in Puerto Rico from Hurricane Fiona has pushed the grid to a high probability of load shed events.**

Storm damage is of two types:

1. Known and observed, such as observed physical damage to the LNG handling facilities at EcoElectrica
2. Increased probability of failure from damages that cannot be fully assessed until plants are taken offline for inspection but are known, as evidenced by continued operating challenges / trips at units that have been successfully restarted. Examples include the trip of Costa Sur 6 on September 29, 2022, the controlled shut down of Palo Seco 3 and San Juan 6 on October 1 and 2, 2022 and more recently the trip of Costa Sur units 5 and 6 on October 6, 2022.

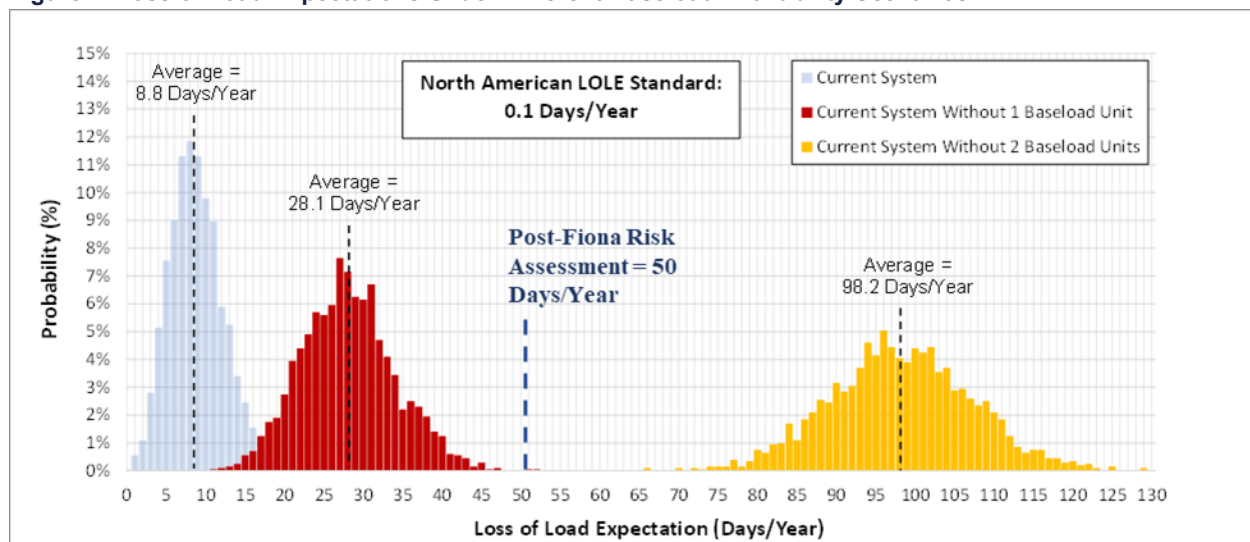
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<sup>1</sup> Under the Puerto Rico Transmission and Distribution Operation and Maintenance Agreement (OMA) between the Puerto Rico Electric Power Authority (PREPA), the Public Private Partnerships Authority (P3 Authority), LUMA Energy, LLC and LUMA Energy ServCo (collectively, LUMA) effective June 21, 2020 (T&D OMA), LUMA carries out multiple activities as System Operator. Section 5.13 (d) of the T&D OMA states that LUMA shall prepare risk assessments and analyses in support of Resource Adequacy and Generation Project or Generation Supply Contract procurement prioritization and planning.

The storm damage has dramatically increased the risk of customers experiencing load shedding events. Prior to Hurricane Fiona, customers were 88 times more likely to have a load shed event, when compared to the average mainland electric customer. They are now approximately 500 times more likely to have a load shed event (compared to the average mainland electric customer).

The Resource Adequacy report (filed on August 30, 2022, in docket NEPR-MI-2022-0002) outlines customers' risk exposure under different scenarios. The report outlines a 'base case' scenario and a scenario where one baseload unit is out for the full year. Given the impact of Hurricane Fiona, LUMA has added a third scenario where two baseload units are out for a full year. As shown in Figure 1 below, the loss of load expectations (LOLE) increase dramatically as baseload units are not available. The first scenario, in blue, assumes that all baseload units are available, the second scenario, in red, assumes one baseload unit is out for the year and the third scenario, in yellow, assumes two baseload units out for the year. LUMA estimates that post-Hurricane Fiona the electric system likely resembles between one or two baseload units being out and a LOLE around 50 days/year.

Figure 1. Loss of Load Expectations Under Different Baseload Availability Scenarios



As an example, during calendar year 2021 there were 15 days in August and September when lack of sufficient generation capacity resulted in load shed. Further, the Puerto Rico Electric system experienced 18 load shed events from January 1, 2022, to July 31, 2022, solely attributed to generation event issues. During that same period, the electric system suffered an additional 16 events attributed to generation issues, but they did not result in load shed due to interventions from the System Operator.

#### SITUATION BEFORE AND AFTER FIONA

Since June 2021, the electric system has operated for extended periods with at least one major generation unit offline that was not planned. This situation dramatically impacts the ability to



take other units offline to perform overdue planned maintenance, pushes outages for planned maintenance into the peak summer months, and increase the number of forced outages on available units. It also requires the system to utilize peaking units to a higher dispatch level, increasing CO<sub>2</sub> emissions and the cost of generation for the customers.

For most of calendar year 2022, the entire PREPA generation portfolio has operated with approximately 52% availability. This situation is even worse than the assumptions used in the Resource Adequacy report, which is based upon planned outage schedules and derates provided by the generator. As an example, on September 16, 2022, prior to the arrival of Hurricane Fiona, the electric system was experiencing two base load unit outages with the extended outage of Aguirre unit 1 and unplanned outage of Palo Seco unit 4.

With these low levels of availability, the reserves during peak hours have been 200 MW on average. These levels are in violation of the System Operating Principles and prudent utility practices which have defined a required reserve margin of 750 MW. After the passage of Hurricane Fiona, the generation fleet suffered damages and as of October 3, 2022, the availability has been trending closer to 49% with some major units still yet to return to service. Further, in the morning of October 6, 2022, the availability rate decreased to 44% and load shed was experienced by customers following trips at Costa Sur units 5 and 6. This situation will remain highly uncertain as complete damage assessments of the generation units have not yet been completed on those units that were brought back online after Hurricane Fiona. This uncertainty increases the risk of load shed for customers.

Furthermore, typically EcoElectrica is available at full capacity. However now, as mentioned above, EcoElectrica suffered damage on its refueling line and with the current stored natural gas fuel levels, it is expected that the units can only be in operation until October 13, 2022, depending on utilization. EcoElectrica's current estimates expect the work on the refueling line to be completed by October 14, 2022, and the next fuel delivery is expected on October 26, 2022. EcoElectrica's fuel shortage is expected to increase the risk of load shed, deprive the system of reliable generation and frequency regulation, and increase costs and emissions of the generation portfolio.

**Without any intervention, a Puerto Rican customer is expected to incur on average 10-12 load shed events in the next three months as a direct result of Hurricane Fiona damage to the existing generation assets.**

The Value of Loss Load (VOLL) is the generally recognized metric to assign the economic cost to consumers from load shed events. The 2017 IRP used an industry consensus approach to estimate the VOLL in Puerto Rico as \$57,488/MWh. Adjusting for inflation and using an average load shed event size in Puerto Rico of 200 MW, this results in an average VOLL per load shed event of \$14 million. This will result in an economic cost to Puerto Rican customers of \$140 million - \$168 million for next 90 days or approximately \$700 million in the coming year unless



the generation shortfall is addressed. In addition to the direct economic cost of load shed, the related fragility in the power portfolio will increase the reliance on old, inefficient diesel peakers which will increase fuel costs and CO<sub>2</sub> emissions by approximately 7 to 9%.

## MITIGATION STRATEGIES

**Mitigation strategies should be employed to reduce the economic cost to Puerto Rican customers.**

At this time, LUMA has investigated the limited number of alternatives to mitigate existing risks and can provide the Energy Bureau will additional detail as required. LUMA has reviewed floating and on land generation options. Barge mounted units have greater flexibility in location and could be interconnected to the existing grid at locations where current generation facilities exist. Other land-based options are available, which could be either mobile or semi-permanent, and can be procured with sale or lease options. Locations have been preliminarily assessed, but a full assessment will be required. Land-based generation options have limited fuel delivery access and so a southern location on the water is likely a stronger candidate.

LUMA suggests that the Energy Bureau immediately explore emergency generation options. LUMA can support through interconnection studies to identify feasible locations for emergency generation interconnections.

## SUMMARY

In summary, the damages from Hurricane Fiona have put the electric grid in Puerto Rico at a significantly increased risk of incurring multiple load shed events in the coming weeks, months and years if nothing is done. This will have a significant impact beyond the electric grid. This will have a real and significant effect on the economy as residents and businesses start to build back from Hurricane Fiona. Their speed of recovery will be negatively impacted as will other economic drivers of the economy including, manufacturing processes, inventory and the quality of health care.

While LUMA continues to act with urgency to restore the grid as safely and efficiently as possible, it urges the Energy Bureau to explore generation capacity increases for the near-and-medium term to benefit the people of Puerto Rico.

Sincerely,

*A Engbloom*

**Ashley Engbloom**  
Vice President, Regulatory



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

**NEPR**

**Received:**

**Oct 11, 2022**

**7:17 PM**

IN RE:  
LUMA'S RESPONSE TO HURRICANE  
FIONA

**CASE NO. NEPR-MI-2022-0003**

**SUBJECT: Presentation Offered in Technical  
Conference of October 11, 2022**

**MOTION SUBMITTING PRESENTATION OFFERED IN TECHNICAL  
CONFERENCE OF OCTOBER 11, 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 the following:

1. In a Resolution and Order of October 7, 2022 ("October 7<sup>th</sup> Order") with the subject "Baseload Generation Dispatch Status-Post Hurricane Fiona," this honorable Puerto Rico Energy Bureau ("Energy Bureau") convened a Technical Conference to discuss concerns raised by LUMA in a letter dated October 6, 2022 regarding Resource Adequacy and potential Generation resource deficiencies following Hurricane Fiona. Per the October 7<sup>th</sup> Order, the topics to be discussed at the Technical Conference were "Dispatch Status of the available Baseload Generation post Hurricane Fiona and (ii) the identified temporary emergency mitigation measures thought to address the generation deficiencies arising from Hurricane Fiona."

2. The Technical Conference was held as scheduled on October 11, 2022. With leave from this Energy Bureau, LUMA representatives offered a presentation on generation inadequacy concerns. As requested verbally by the Energy Bureau, LUMA hereby submits an



electronic copy in pdf format, of the presentation that was offered and projected during the Technical Conference. *See* Exhibit 1.

**WHEREFORE**, LUMA respectfully requests that the honorable Bureau **take notice** of the aforementioned and **accept** the pdf copy of the presentation offered by LUMA during the Technical Conference of October 11, 2022.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 11<sup>th</sup> day of October, 2022.



**DLA Piper (Puerto Rico) LLC**  
500 Calle de la Tanca, Suite 401  
San Juan, PR 00901-1969  
Tel. 787-945-9107  
Fax 939-697-6147

*/s/ Margarita Mercado Echegaray*  
Margarita Mercado Echegaray  
RUA NÚM. 16,266  
[margarita.mercado@us.dlapiper.com](mailto:margarita.mercado@us.dlapiper.com)

*Exhibit 1*

Presentation  
Generation Inadequacy Technical Conference



# Generation Inadequacy Technical Conference

NEPR-MI-2022-0003

October 11, 2022



## Executive Summary

- As System Operator, LUMA is performing its obligation under the OMA to inform PREB and relevant Puerto Rican Government Agencies of the risks from the Power Generation portfolio to Resource Adequacy and LUMA's ability to provide safe, reliable, and affordable energy to the people of Puerto Rico
- Prior to Hurricane Fiona, the existing power generation portfolio did not meet Prudent Utility Practices and has inadequate generation resources and excessive risk of generation shortfalls
- As a separate and new additional factor, several plants (e.g. AG2, SJ5, EcoElectrica, etc.) suffered direct damages from Hurricane Fiona. The generators are taking steps to return these units to previous availability levels, but the long-term impact from Fiona on these plants will not be fully understood for several weeks or months
- Furthermore, planned maintenance, scheduled for October and the fall has been postponed, creating a build up of maintenance required with an already very tight schedule in order to complete maintenance in advance of next summer
- Due to these impacts, the potential risk of load shed due to generation shortfall has increased as a direct result of Fiona.
- **LUMA is recommending a Generation Risk Mitigation Plan to be implemented to protect against the risk of significant deterioration in generator availability over the next several months.**

# Generation Risk Mitigation Actions Required

Urgent and immediate action is required. Recommendations:

1. Government to initiate the sourcing of emergency portable generation (300-500 MW) immediately to stabilize the generation for the next 12-18 months (look to utilize FEMA funding), to mitigate risk of load shed events and provide breathing room to complete repairs on existing fleet, options included (among others):
  - a. Power Barge
  - b. Mobile peaking units
2. Conduct an emergency assessment of additional generation (300-500 MW) options to replace the emergency portable generation in 12-18 months, complete in coordination with FEMA, considerations include:
  - a. PREPA project proposals
  - b. New generation options
  - c. Utility Scale Batteries
  - d. Demand Side Management
3. Continue with a review and update of the IRP in line with current timelines

# **Dispatch Status of the Available Baseload Generation Post- Hurricane Fiona**

2022-10-11



## Current Status of Baseload Generation

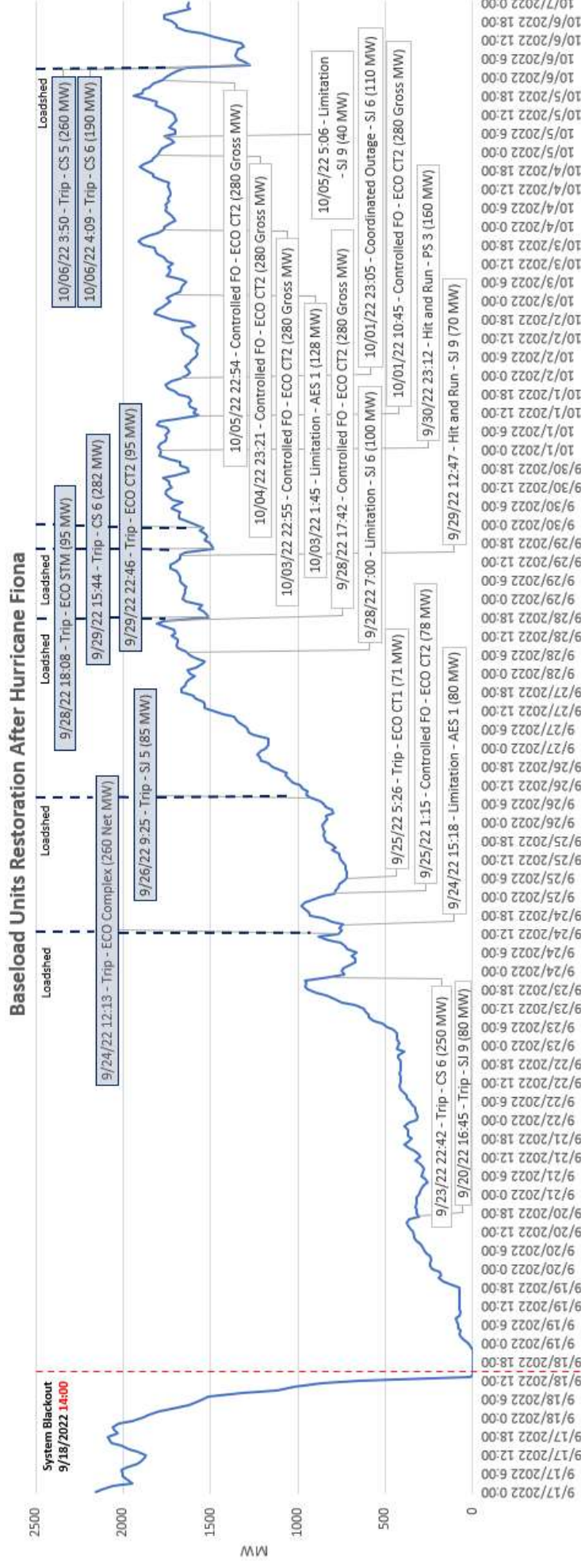
- In a note from PREPA, they have identified:

“Hurricane Fiona negatively impacted the already-compromised reliability and availability of Aguirre 2, San Juan Steam 5, Aguirre 1. Fiona caused outages, and to maintain minimum reserve in the system PREPA modified its outage programs. Aguirre 2 is expected to be online ending this week; SJ5 is expected to be in service December 21 2022. Also, PREPA had a forced outage last week in the Costa Sur Steam Plant. Unit CS6 was back online the same day, but CS5 suffered problems with the motor driver boiler feed pump. CS5 best-case forecast next week (October 17-October 20).

PREPA postponed maintenance for SJ6 -combustion inspection- from October 2022 to December 2022, postponed CS5 major outage from October 2022 to January 2023 and postponed PS3 mayor outage from December 2022 to March 2023.”

- PREPA has identified timelines for each unit to return to service, however additionally issues continue to be identified. For instance, today an additional issue at Aguirre 2 was identified, delaying the return to service (it has been delayed multiple times since the original October 2, 2022, return to service date). Similar delays to return to service dates have occurred with SJ5, PS4, Costa Sur 5 and Yabucoa. This shows the increased uncertainty of the generation availability forecast and the increased risk to the electric system
- Taking into account the damages from Hurricane Fiona, preliminary estimates are that the Loss of Load Event (LOLE) probability has increased from approximately 8.8 events per year, to as high as 50 events per year under worse case scenario (compared to 0.1 events per year recognized as industry planning standard)

# Significant Number of Generation Events During Restoration Period



## Dispatch Status of the available Baseload Generation post-Hurricane Fiona

UNIT	29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct
AG-1	0	0	0	0	0	0	0	0	0	0	0
AG-2*	0	0	0	0	0	0	0	0	0	0	0
CS-5	305	305	305	305	320	320	320	0	0	0	0
CS-6	290	300	300	300	320	320	320	0	200	320	300
PS-3	190	190	0	190	190	190	190	200	200	200	200
PS-4	0	0	0	0	0	0	0	0	0	0	0
SJ-7	60	65	65	65	68	68	68	68	68	68	68
SJ-9	90	90	90	90	90	90	90	90	90	90	90
SJCC-CT-5	140	140	140	140	140	140	140	140	140	140	140
SJCC-STG-5*	0	0	0	0	0	0	0	0	0	0	0
SJCC-CT-6	120	120	120	0	140	140	140	140	140	140	140
SJCC-STG-6	0	0	0	0	0	0	0	0	0	0	0
ECO-STG**	100	100	100	100	100	100	100	200	200	100	100
ECO-CT-1**	165	165	165	165	165	165	165	165	165	165	165
ECO-CT-2**	0	0	0	0	0	0	0	165	165	0	0
AES-1	251	254	253	251	196	234	230	165	244	243	244
AES-2	231	238	252	248	254	231	224	165	242	243	245

\* Units sustained damaged during Fiona

\*\* Plant fuel line sustained damaged during Fiona. Unit CT2 is utilize only when required to extend LNG reserves.

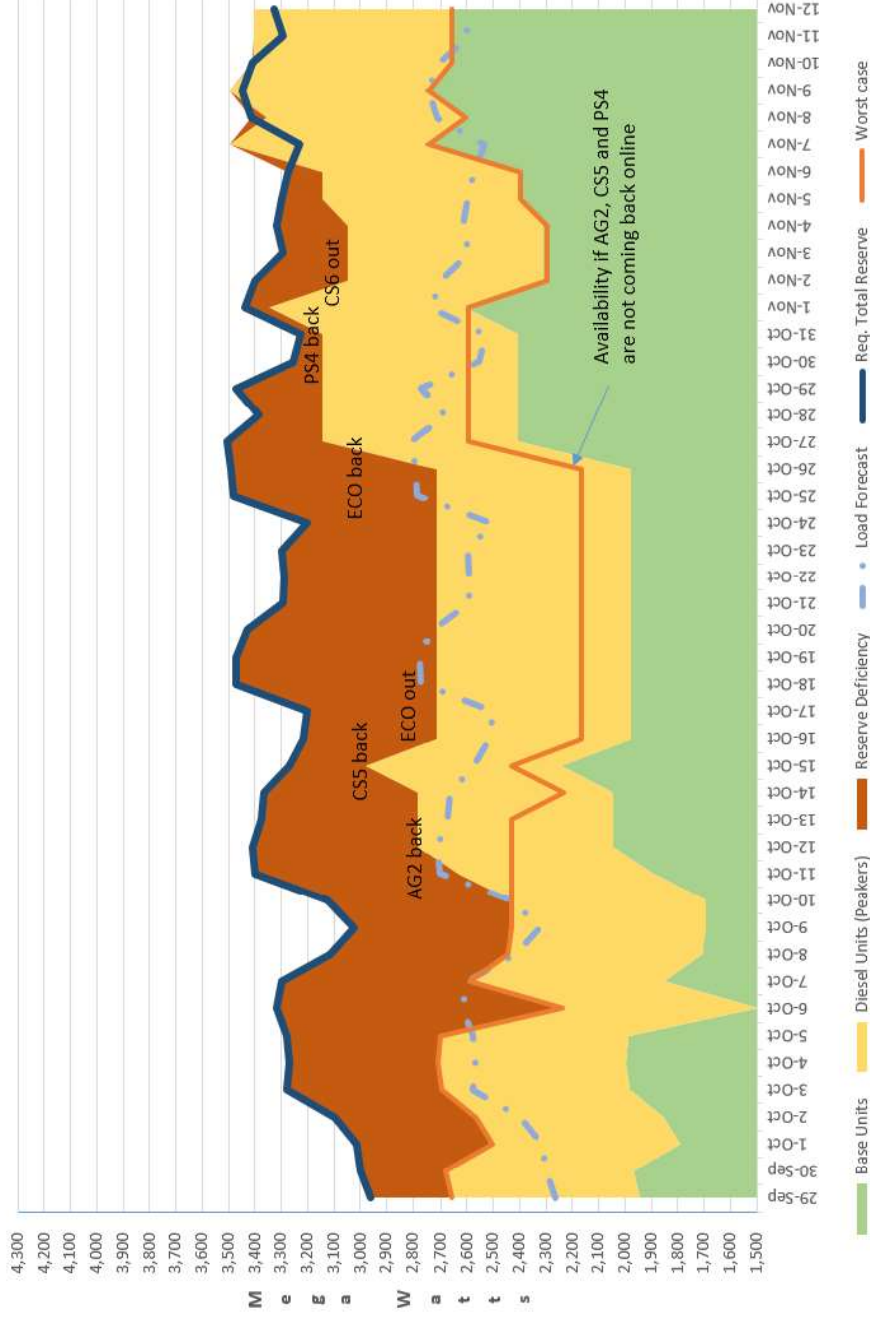


# **Identified Temporary Emergency Mitigation Measures Thought to Address the Generation Deficiencies Arising from Hurricane Fiona**

# Load Forecast and Forecasted Generation Availability in the Near-Term

45 Days Ahead: Forecast vs Available Capacity

29-Sep to 12-Nov 2022



## **Risk mitigation for Near Term** *(until end of October)*

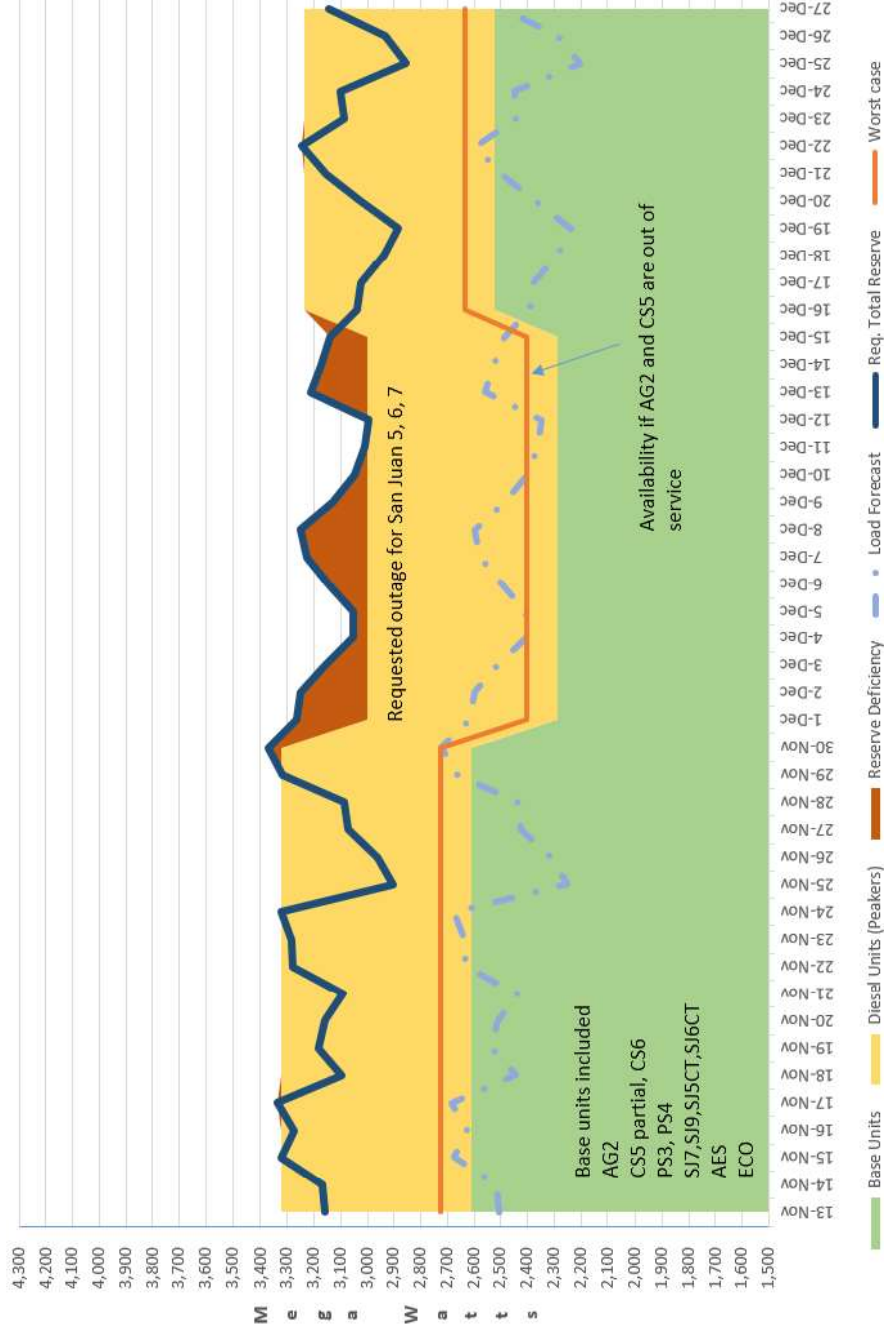
- EcoElectrica LNG situation
  - Minimize the utilization of EcoElectrica CT2 to extend the reserves of LNG
  - EcoElectrica testing and attempting to utilize CT2 in Diesel
  - LNG reserves Expected to last until October 15 to 16
  - LNG refuel line on target for repairs to be completed by October 15th
  - Next LNG delivery schedule for October 26th. Attempts are being made by PREPA to accelerate LNG delivery
- PREPA performing repairs on units:
  - Aguirre 2, expected Oct 11 with limitations
  - Costa Sur 5, expected Oct 15 with limitations
  - Palo Seco 4, expected Oct 31
  - Aguirre 1, expected end of year or early next year
  - San Juan 5 ST, San Juan 6 ST expected mid-December
- Managing peaking unit's utilization and fuel availability closely with PREPA



# Load Forecast and Forecasted Generation Availability in the Short Term

45 Days Ahead: Forecast vs Available Capacity

13-Nov to 27-Dec 2022



## **Risk Mitigation for Short-Term** *(end of 2022)*

- As we enter the fall and winter, the demand is naturally going down and helping mitigate the risk of generation deficit
- In coordination with the generators, accommodate requested outages to perform planned repairs on units. PREPA has identified units that will need planned outages during November are SJ9, SJ5, CS6
- If enough generation is available, restart the behind schedule planned maintenance of the units starting on December 1st with San Juan 5 and San Juan 6
- Continue managing peaking unit's utilization and fuel availability closely with PREPA

# Medium to Long Term Mitigation Strategies

2022-10-11



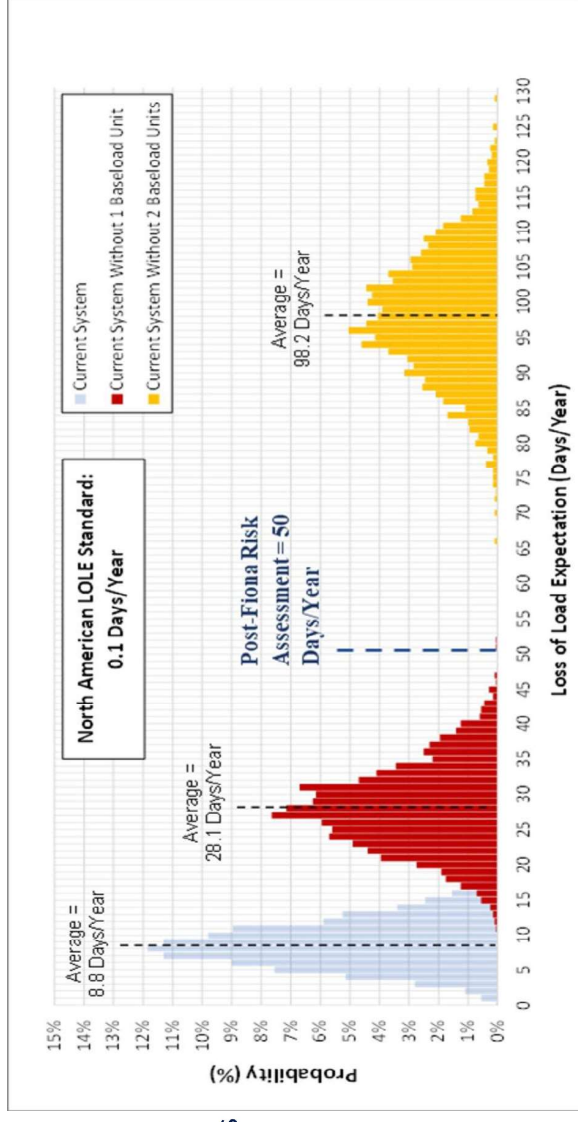
## Post-2022 Resource Adequacy Risks

- For several reasons including the advanced age and poor condition of existing generators, the projected availability and capability of existing generators is consistently and significantly worse than forecast by those generators
- It is not prudent to take generator availability forecasts as future availability, and these must be statistically adjusted for known tendencies
  - Planned outage durations last approximately 50% longer than scheduled
  - Forced Outage rates average approximately 13% for PREPA and 2% and 3% for AES and Ecoelectrica
  - Plant de-rates change rapidly and very frequently (reduced output capacity)
- On a probabilistic, risk-adjusted basis, the Loss of Load Expectation (LOLE) is sufficiently high, that a risk mitigation plan with identified contingencies is justified

## Medium to Long Term Impact on Risks of Load Shedding Events

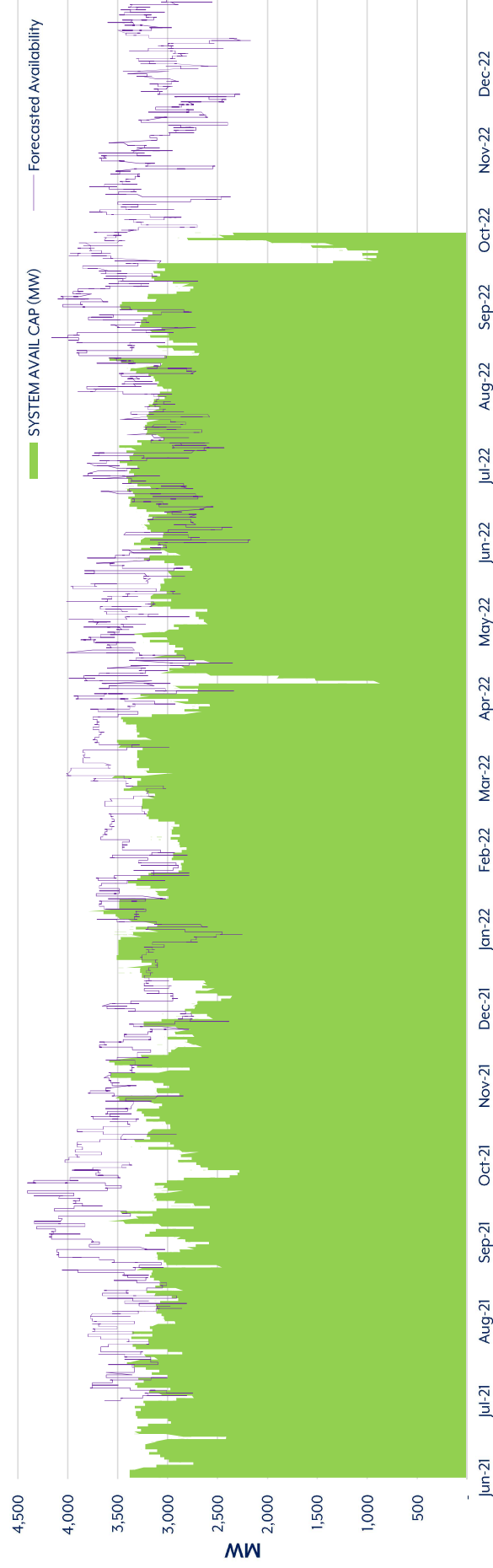
If a baseload plant incurred damages following Fiona and suffered an extended outage of a few weeks or a few months, it would significantly increase the potential for load shed events

- A preliminary analysis based upon Resource Adequacy report data and methodology suggests the expected Loss of Load Event (LOLE) probability could have increased from approximately 28 days per year to as high as 98 days per year. Currently estimated as 50 days per year for planning purposes
- Preliminary damage assessments from the generators received October 10<sup>th</sup> suggest plants (SJ5, AG2 and EcoElectrica) incurred some damage but exact extent is still undetermined until plants can conduct detailed assessments
- A scenario where a baseload unit is out for a 4-6 week outage, or longer is considered a reasonable risk to plan for



# Hourly PREPA Thermal Availability Forecast vs. Actual

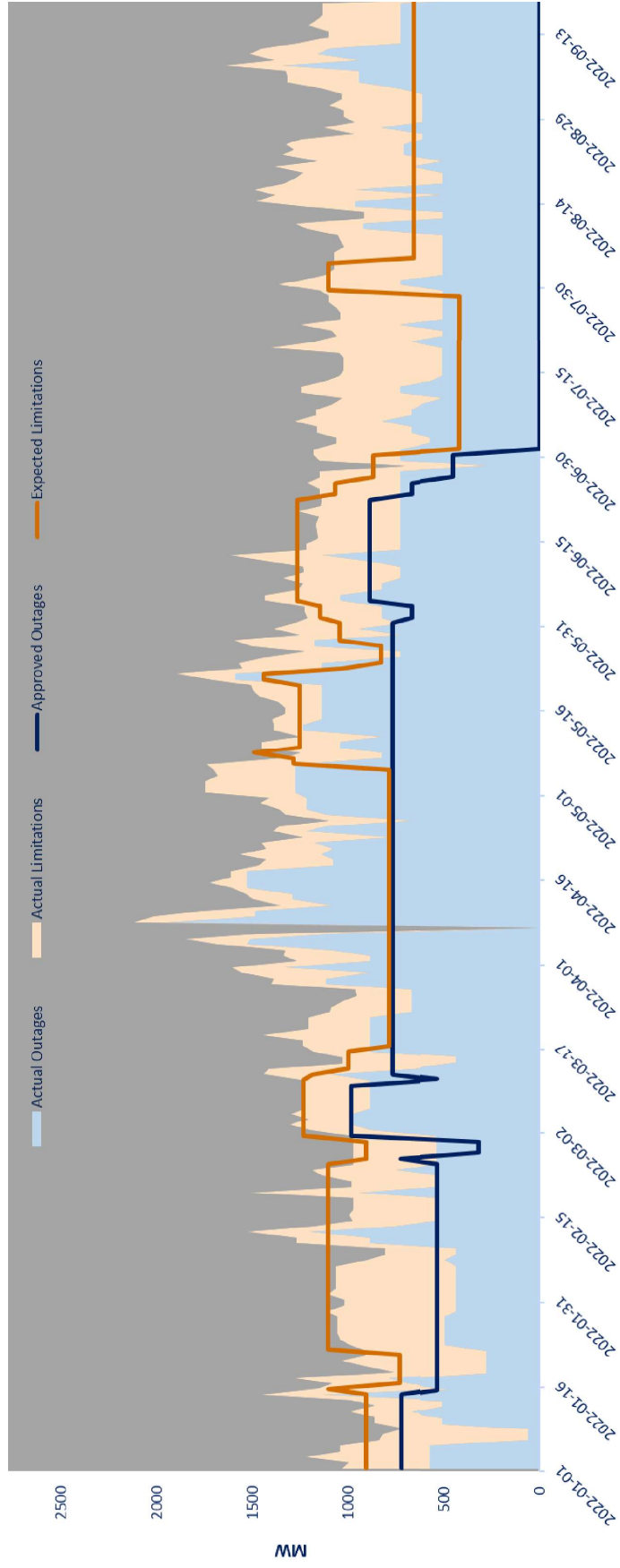
Forecast vs Actual Thermal Availability





## PREPA Expected Capacity Reduction (in MW) vs Actual Capacity Reduction

- This graph compares the expected capacity reduction based on the Approved Outages included in the Generation Outage Schedule updated quarterly with the actual capacity reduction caused by Actual Outages and Limitations.
- Date Range shown is 1/1/2022 to 9/18/2022



Data shown corresponds to in-service baseload units. This data does not consider the following units: SJ 8, SJ 10, PS 1, PS 2, CS 3, and CS 4.

# Emergency mitigation options to address the generation deficiencies arising from Hurricane Fiona

## Barge Mounted Generation

Recent phone calls identify two barge units in the Caribbean market:

- EDMII, a 106 MW Wartsila dual fuel (oil and gas). Cost is approximately \$85M plus another \$10M in spares
- Rigel I a 48 MW turbine power barge that is currently configured for distillates but can reconfigure for HFO or gas and costs an estimated \$12M including spares.
- Both units could be effectively put to work in Puerto Rico with EDMII as baseload and Rigel I is a as peak and emergency plant.

Rental

## Land Based, Mobile Generation

Renewable Internal Combustion Engine (RICE)

- Can be renewable if utilizing biodiesel (generally tri-fuel capable)
- Modular, ~20 MW gen-set blocks leads to more efficient dispatch
- 132 MW were emergency delivered to Bahamas in 9 months in 2019

Combustion Turbines

- GE has ~10 TM2500 units in Jacinto Point Texas; Grey market model: never sold, never used
- Approximately 10 days to ship, 11 days to install
- Approximately \$18 mil each (~30MW)

Rental/CAPEX

## New Capacity Construction

New capacity could increase reserves and remove the risk of load shed

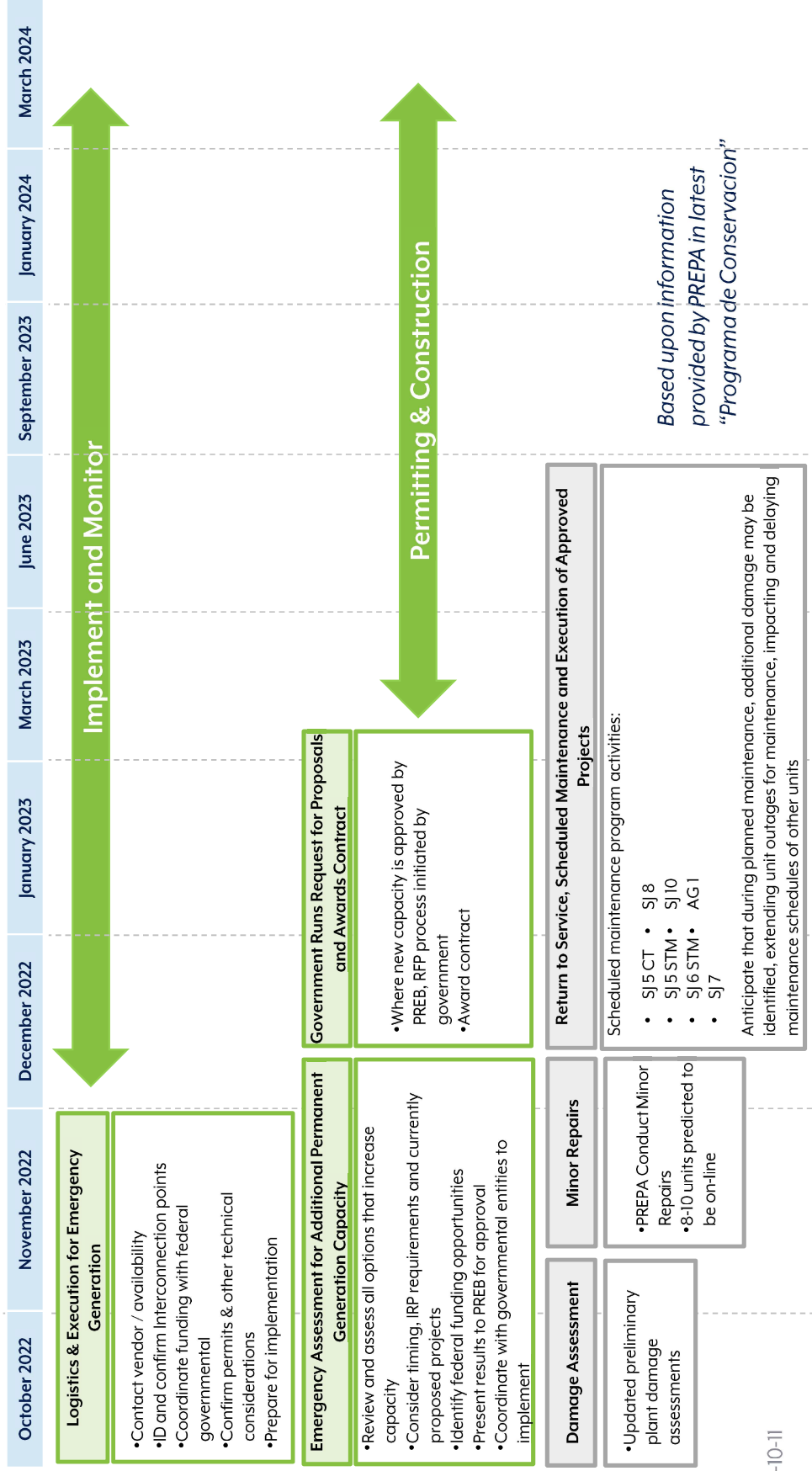
Solicitation and RFP management would need to be managed by PREB or P3A per the OMA; RFP would define decision evaluative criteria for selection of preferred alternatives

- Cost / Technology / Fuel / Environmental / Timing / Location

Options for construction of new capacity could be weighed against modification or conversion opportunities that have been proposed by PREPA and received recent resolution and order by PREB

CAPEX

# Potential Path Forward



2022-10-11



## **Demand Response Mitigation Actions**

- LUMA submitted a program plan for Large Commercial and Industrial Emergency Demand Response Program in the June 2022 Transition Period Plan
- This program will incentive customers to reduce load of shift load to back-up generation during emergency events
- It is expected that this program could enroll up to 20 MW of emergency demand response capacity during the first year of operation as these programs take time to develop, recruit customers and scale up
- LUMA is currently in the process of procuring a contract with an Energy Efficiency and Demand Response Program Implementation Contractor to develop the program
- Once the Implementation Contractor is onboard, they will begin recruiting for the C&I Emergency DR program along the other EE and DR programs in LUMA's Transition Period Plan
- Timeline could be accelerated, and enrollment could increase with additional funding

## Conclusion

- As System Operator, LUMA is performing its obligation under the OMA to inform PREB and relevant Puerto Rican Government Agencies of the risks from the Power Generation portfolio to Resource Adequacy and LUMA's ability to provide safe, reliable, and affordable energy to the people of Puerto Rico
- Prior to Hurricane Fiona, the existing power generation portfolio did not meet Prudent Utility Practices and has inadequate generation resources and excessive risk of generation shortfalls
- As a separate and new additional factor, several plants (e.g. AG2, SJ5, EcoElectrica, etc.) suffered direct damages from Hurricane Fiona. The generators are taking steps to return these units to previous availability levels, but the long-term impact from Fiona on these plants will not be fully understood for several weeks or months
- Furthermore, planned maintenance, scheduled for October and the fall has been postponed, creating a build up of maintenance required with an already very tight schedule in order to complete maintenance in advance of next summer
- Due to these impacts, the potential risk of load shed due to generation shortfall has increased as a direct result of Fiona.
- **LUMA is recommending a Generation Risk Mitigation Plan to be implemented to protect against the risk of significant deterioration in generator availability over the next several months.**

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

**NEPR**

**Received:**

**Oct 31, 2022**

**6:04 PM**

IN RE:  
LUMA'S RESPONSE TO HURRICANE  
FIONA

**CASE NO. NEPR-MI-2022-0003**

**SUBJECT: Submission of Update on Stabilization  
Plan**

**MOTION SUBMITTING UPDATE ON STABILIZATION PLAN**

**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 the following:

1. In a Resolution and Order of October 7, 2022 ("October 7<sup>th</sup> Order") with the subject "Baseload Generation Dispatch Status-Post Hurricane Fiona," this honorable Puerto Rico Energy Bureau ("Energy Bureau") convened a Technical Conference to discuss concerns raised by LUMA in a letter dated October 6, 2022 regarding Resource Adequacy and potential Generation resource deficiencies following Hurricane Fiona. Per the October 7<sup>th</sup> Order, the topics to be discussed at the Technical Conference were "Dispatch Status of the available Baseload Generation post Hurricane Fiona and (ii) the identified temporary emergency mitigation measures thought to address the generation deficiencies arising from Hurricane Fiona."

2. The Technical Conference was held as scheduled on October 11, 2022. During the Technical Conference, the Energy Bureau and consultants for the Energy Bureau posed questions to LUMA's representatives.

3. On October 11, 2022, LUMA filed a *Motion Submitting Presentation Offered in Technical Conference of October 11, 2022* whereby it included as *Exhibit 1* the presentation it



offered during the October 11<sup>th</sup> Technical Conference in compliance with a request by this Energy Bureau.

4. On October 12, 2022, the Energy Bureau entered a Resolution and Order whereby it ordered LUMA to develop a stabilization plan as a direct response to Hurricane Fiona, in coordination with the Federal Emergency Management Agency (“FEMA”) and the Puerto Rico Electric Power Authority (“PREPA”) “to address any baseload generation inadequacy or shortfall that affects the dispatch availability and has the potential to cause load shedding or a blackout event of the electric system (“Stabilization Plan”)” (“October 12<sup>th</sup> Order”).

5. Per the October 12<sup>th</sup> Order, LUMA was directed to submit the 1<sup>st</sup> and the 15<sup>th</sup> day of each month from the notice of the Order, an updated report addressing the efforts conducted by LUMA to assure the completion of the Stabilization Plan. As per the October 12<sup>th</sup> Order, therefore, the first of such reports is due on November 1, 2022.

6. On October 27<sup>th</sup>, 2022, the Energy Bureau issued a Resolution and Order whereby it set a technical conference for November 1, 2022 (“October 27<sup>th</sup> Order”) in connection with the first update on the Stabilization Plan. The Energy Bureau stated that it is particularly interested in “learning about the (1) U.S. Army Corps of Engineers (“USACE”) Generation Assessment underway, (2) Emergency Temporary Generation under a potential FEMA Public Assistance Emergency assignment that can expeditiously mitigate the impact of Hurricane Fiona, and (3) Replacement of Emergency Temporary Generation that seeks to phase out the temporary generation with permanent capacity, noting that this permanent capacity is consistent with the approved Integrated Resource Plan (“IRP”).” *See* October 27<sup>th</sup> Order at page 1.

7. In compliance with the October 12<sup>th</sup> Order, LUMA hereby submits the first update on the Stabilization Plan. *See* Exhibit 1. The update includes, among others, a statement of the

objectives of the Stabilization Plan, information on coordination with PREPA and FEMA, FEMA's efforts through the Power Stabilization Task Force, reference to LUMA's recent activities, and LUMA's risk analyses.

**WHEREFORE**, LUMA respectfully requests that the honorable Bureau **take notice** of the aforementioned, **accept** Exhibit 1 to this Motion, and **deem** that LUMA complied with that portion of the October 12<sup>th</sup> Order that requires submission of an update report on the Stabilization Plan.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 31<sup>st</sup> day of October, 2022.

I hereby certify that this motion was filed using the electronic filing system of this Energy Bureau. I also certify that copy of this motion will be notified to the Puerto Rico Electric Power Authority, through its attorneys of record: [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law) and [kbolanos@diazvaz.law](mailto:kbolanos@diazvaz.law).



**DLA Piper (Puerto Rico) LLC**  
500 Calle de la Tanca, Suite 401  
San Juan, PR 00901-1969  
Tel. 787-945-9107  
Fax 939-697-6147

*/s/ Margarita Mercado Echegaray*  
Margarita Mercado Echegaray  
RUA NÚM. 16,266  
[margarita.mercado@us.dlapiper.com](mailto:margarita.mercado@us.dlapiper.com)

*Exhibit 1*





# Update on Generation Stabilization Plan

NEPR-MI-2022-0003  
November 1, 2022

# Agenda

Background  
Generation Stabilization Plan Schedule  
Current System Status  
Ongoing Stakeholder Coordination  
Risk Analysis  
Next Steps

November 1, 2022  
NEPR-MI-2022-0003



# Background

<b>August 30, 2022</b>	LUMA submits Resource Adequacy Study for FY2023
<b>September 18, 2022</b>	Hurricane Fiona makes landfall in Puerto Rico
<b>October 6, 2022</b>	<p>LUMA sends a letter to the Energy Bureau:</p> <ul style="list-style-type: none"> <li>Significant concerns with generation availability post-Hurricane Fiona</li> <li>Significant impact to customers if mitigation measures are not deployed</li> </ul>
<b>October 11, 2022</b>	Energy Bureau Technical Conference on Generation Dependability Issues
<b>October 12, 2022</b>	PREB Resolution & Order directs LUMA to file bi-monthly updates on 1 <sup>st</sup> and 15 <sup>th</sup> day of every month





# Objectives of Generation Stabilization Plan

1. Coordinate with FEMA and PREPA and other generators to address on a short-term basis any generation inadequacy or shortfall that affects the dispatch availability and has the potential to cause load shedding or a blackout event; provide logistical or pre-deployment support needed as System Operator
2. Review estimated total costs and potential FEMA funding
3. Support Energy Bureau and identified Puerto Rican Government agencies with data and analysis as appropriate as System Operator

November 1, 2022  
NEPR-MI-2022-0003



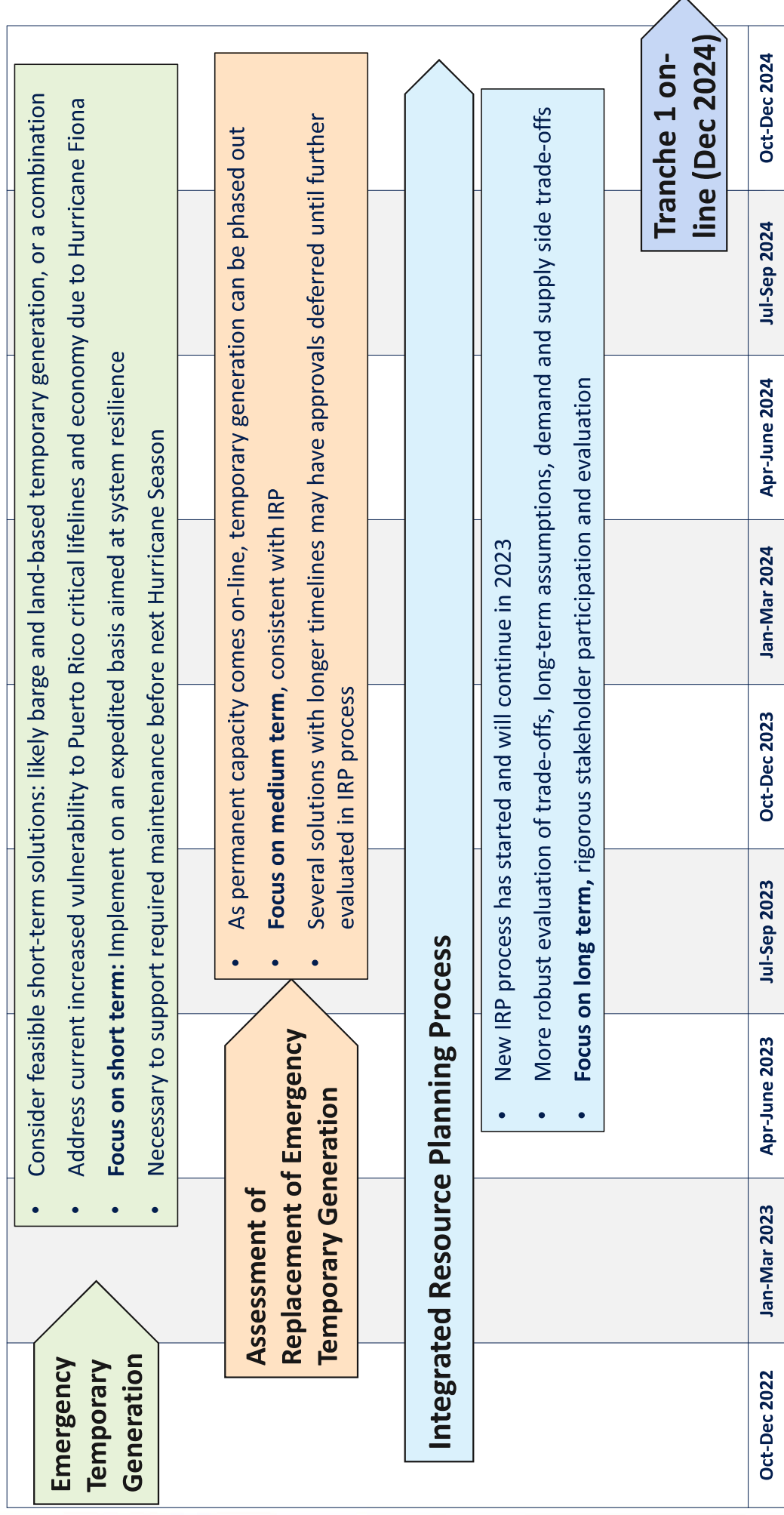
# LUMA's Role

- LUMA does not own or operate generation;
- As System Operator and operator of Transmission and Distribution, LUMA will coordinate and cooperate with FEMA and Puerto Rico agencies to provide data and analysis on system needs and options for emergency power
- LUMA will provide electrical system and resource planning
- LUMA will develop analysis for Energy Bureau and others to support decision making
- LUMA will coordinate efforts with generators, including maintenance schedules

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NEPR-MI-2022-0003



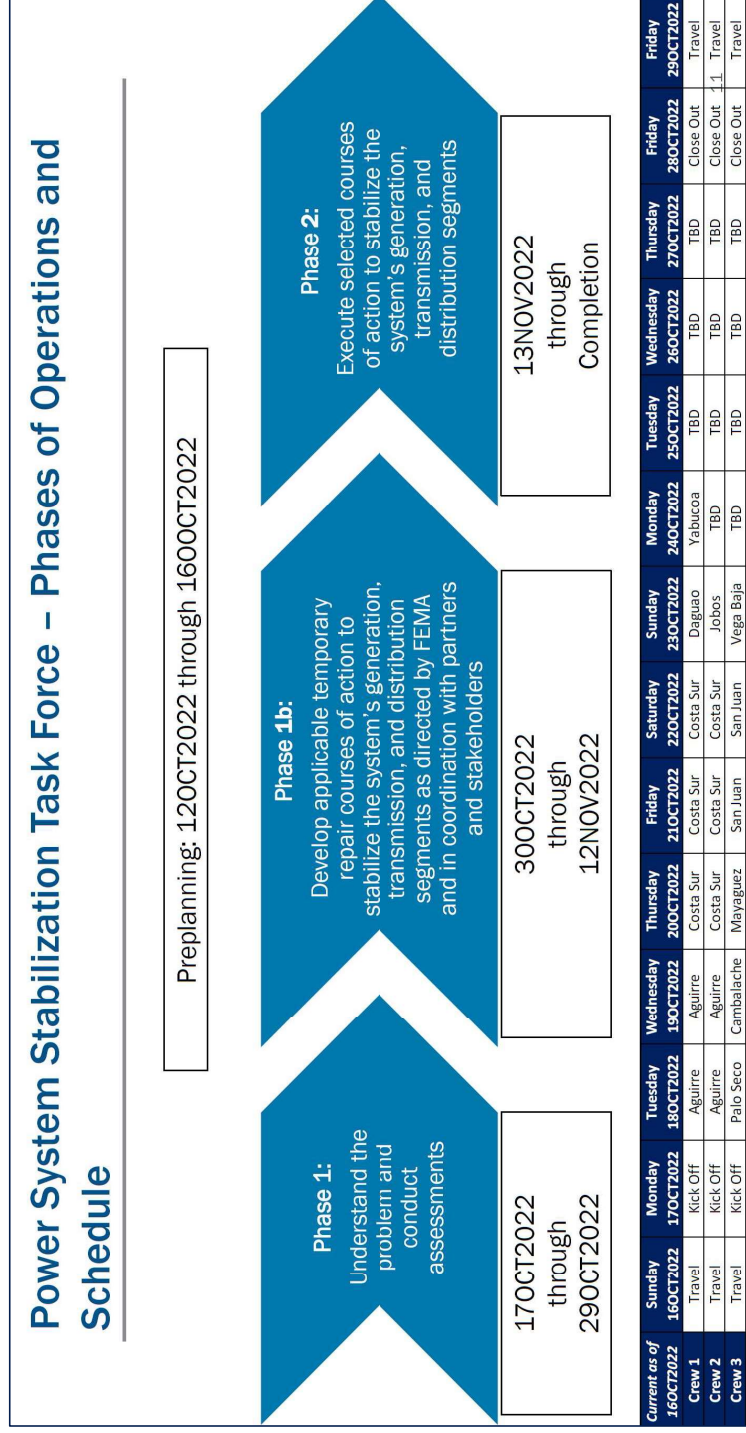
# Near-Term Focus on Temporary Emergency Generation





# FEMA launched a Power Stabilization Task Force

- As provided by FEMA, below is the Power System Stabilization Task Force Phases and Schedule



November 1, 2022  
NEPR-MI-2022-0003

# FEMA Task Force focus: repair generation to allow system to meet customer needs and make system more secure

- As provided by FEMA, below is the purpose, intent and desired end-state for the Puerto Rico Power System Stabilization Task Force

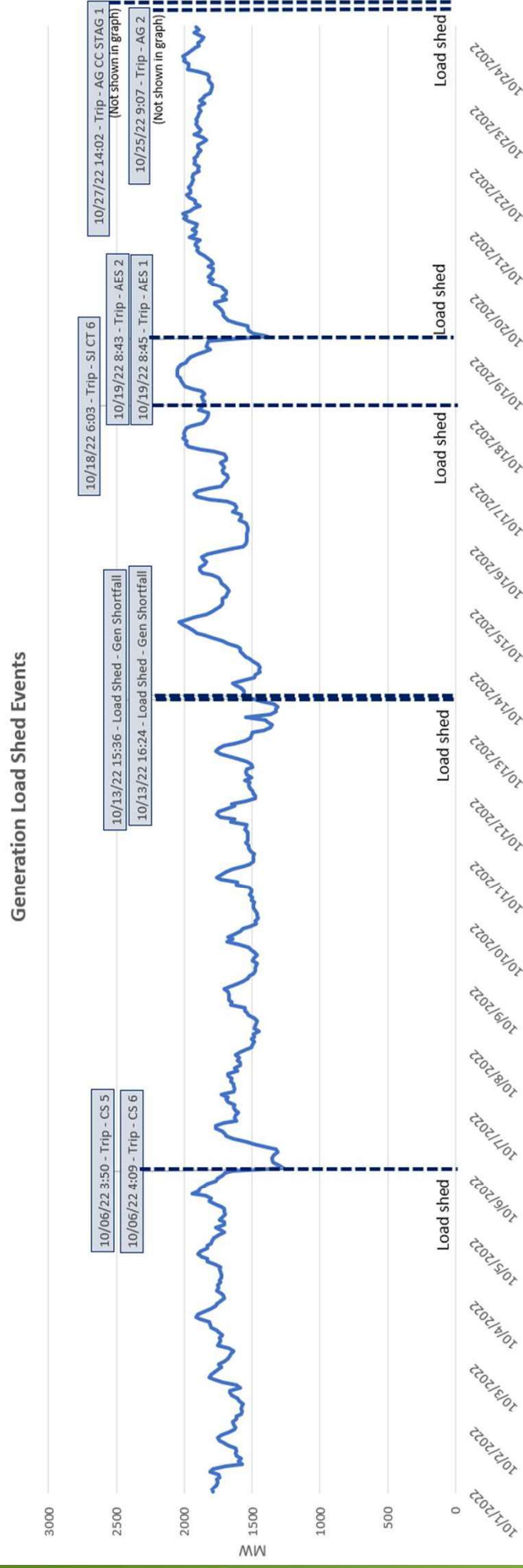
<b>PURPOSE</b>	The Puerto Rico Power System Stabilization Task Force shall plan, coordinate, and integrate efforts to execute power system stabilization in Puerto Rico due to impacts caused by Hurricane Fiona.
----------------	--

<b>SENIOR LEADER'S INTENT</b>	The primary focus of the Puerto Rico Power System Stabilization Task Force should be on temporary repair of generation facilities in order to stabilize the PR power system after Hurricane Fiona, however, the Task Force must also consider the interconnectedness and interdependencies of the whole system including generation, transmission, and distribution, as well as the supply chain.
-------------------------------	---

<b>DESIRED END STATE</b>	Stabilization: The Puerto Rico power system's ability to maintain enough power and reserve to meet the needs of its customers.  Moreover, the resulting conditions should include the completion of emergency repairs to make the facilities more secure and stable and unlikely to change, fail, or decline.
--------------------------	---

# Multiple generation events since October 1st\*

Six days with generation driven load shed events occurred in the four weeks of October



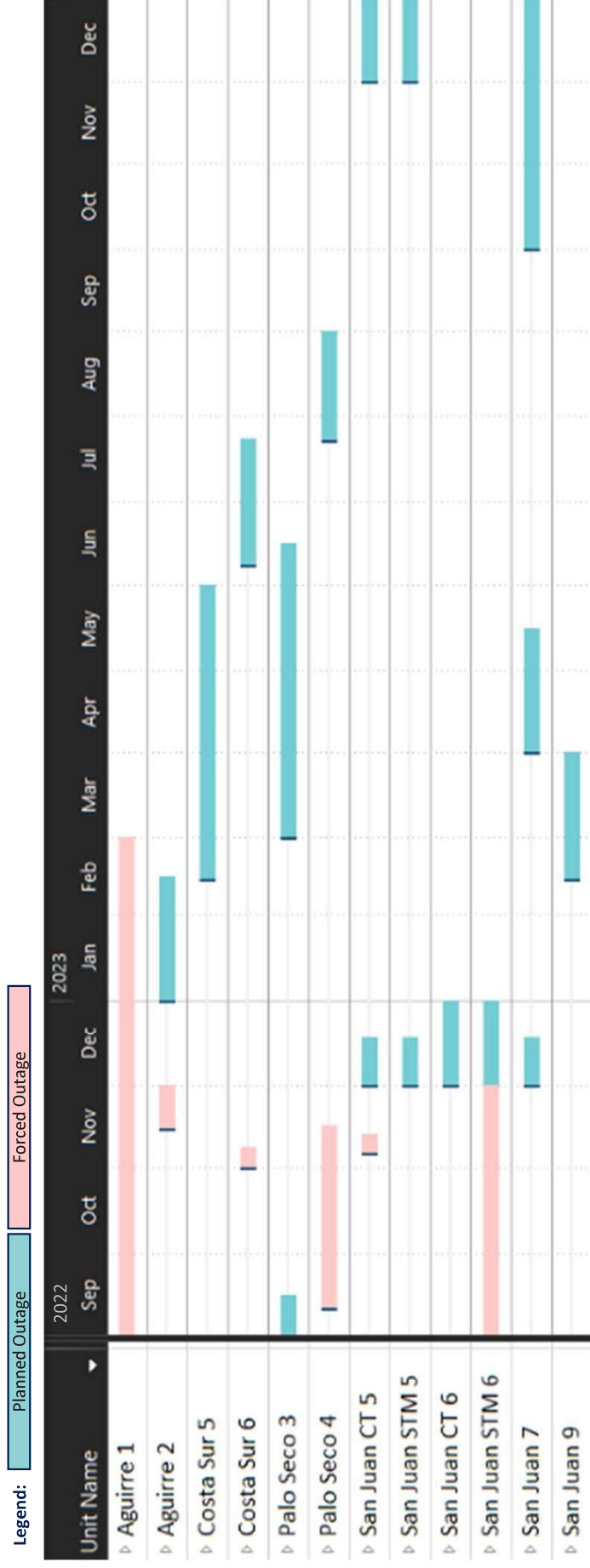
November 1, 2022  
NEPR-MI-2022-0003

\*October 1, 2022 was date that 90% of Customers restored





# Current Planned Outage Projections PREPA Baseload Units



\*Based on generation outage schedule provided by PREPA on October 28, 2022.

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NEPR-MI-2022-0003



# Stakeholder Coordination and Recent LUMA Activities

## PREPA

- Coordination focused on updated outage schedules
- Will continue as plant damage assessments better understood

## FEMA

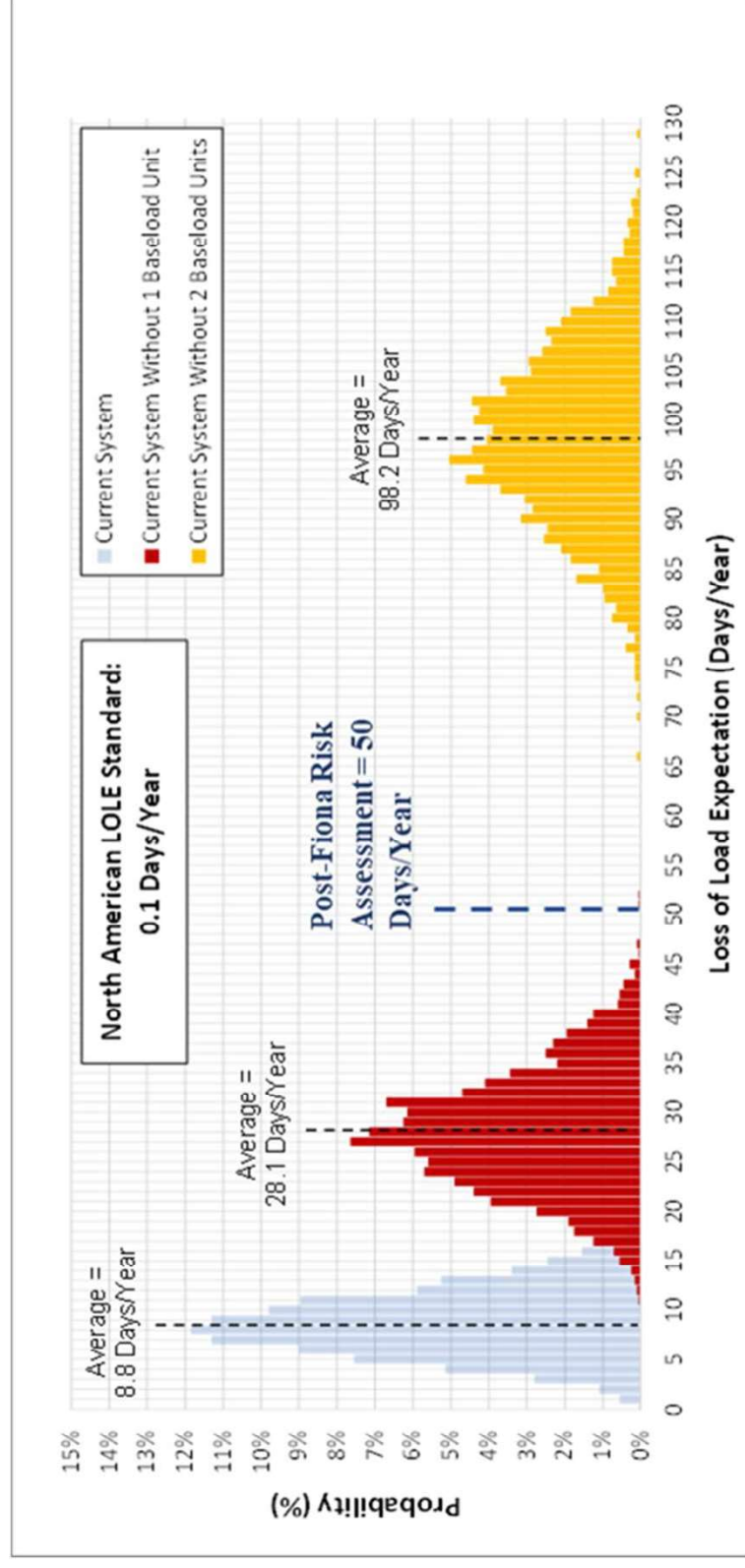
- FEMA kick-off meeting with LUMA, PREPA, and Puerto Rican and federal agencies conducted on Monday, October 17, 2022
- Providing data and analysis to FEMA Task Force

## LUMA

- Emergency Demand Response Program
- Federal funding analysis and coordination
- Risk, Resource Planning and Scenario Analysis

# Risk Analysis – Initial Assessment Fiona Impacts

October 6<sup>th</sup> letter identified the risk that up to one load shed event per week was possible due to damages to generators from Fiona



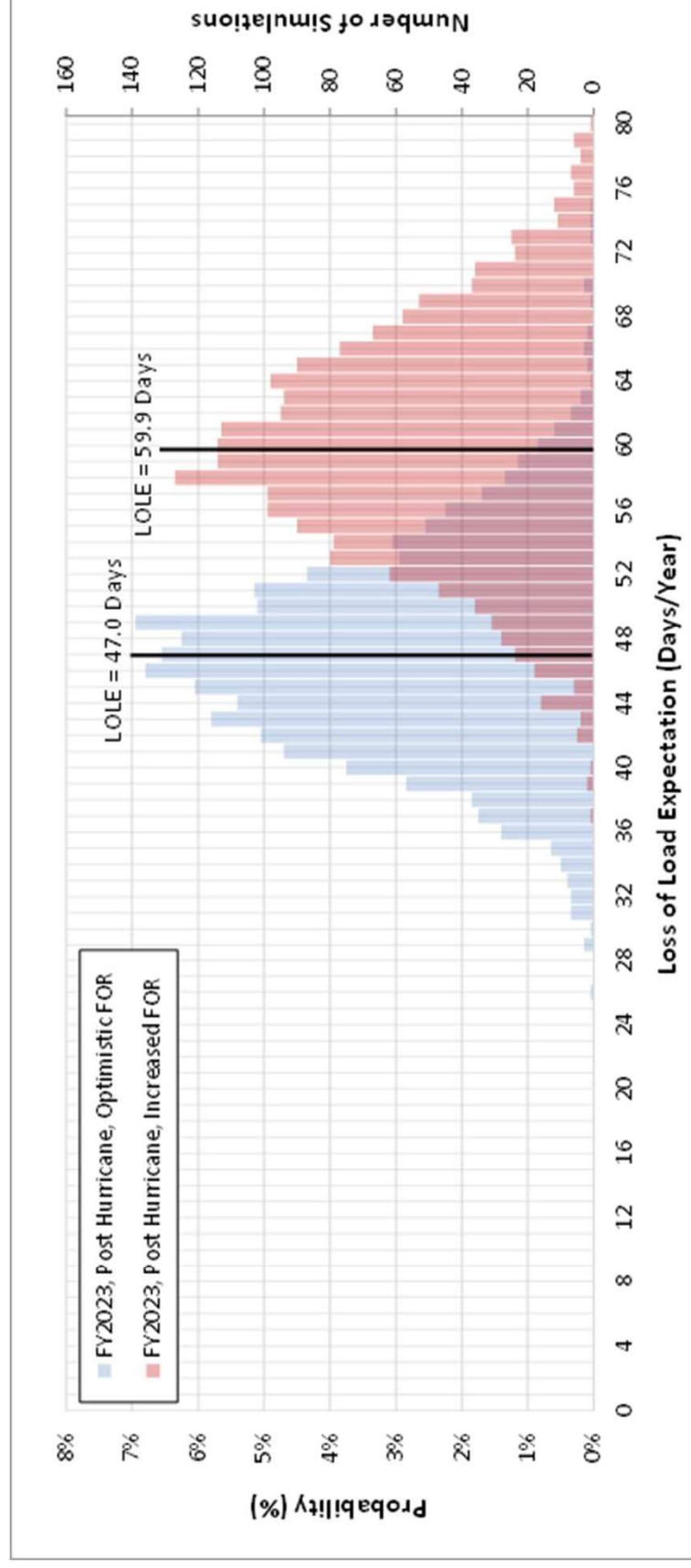
November 1, 2022  
NEPR-MI-2022-0003





# Risk Analysis – Range of potential generation damage

Additional risk analysis now focusing on impact to forced outage rates from Fiona damages

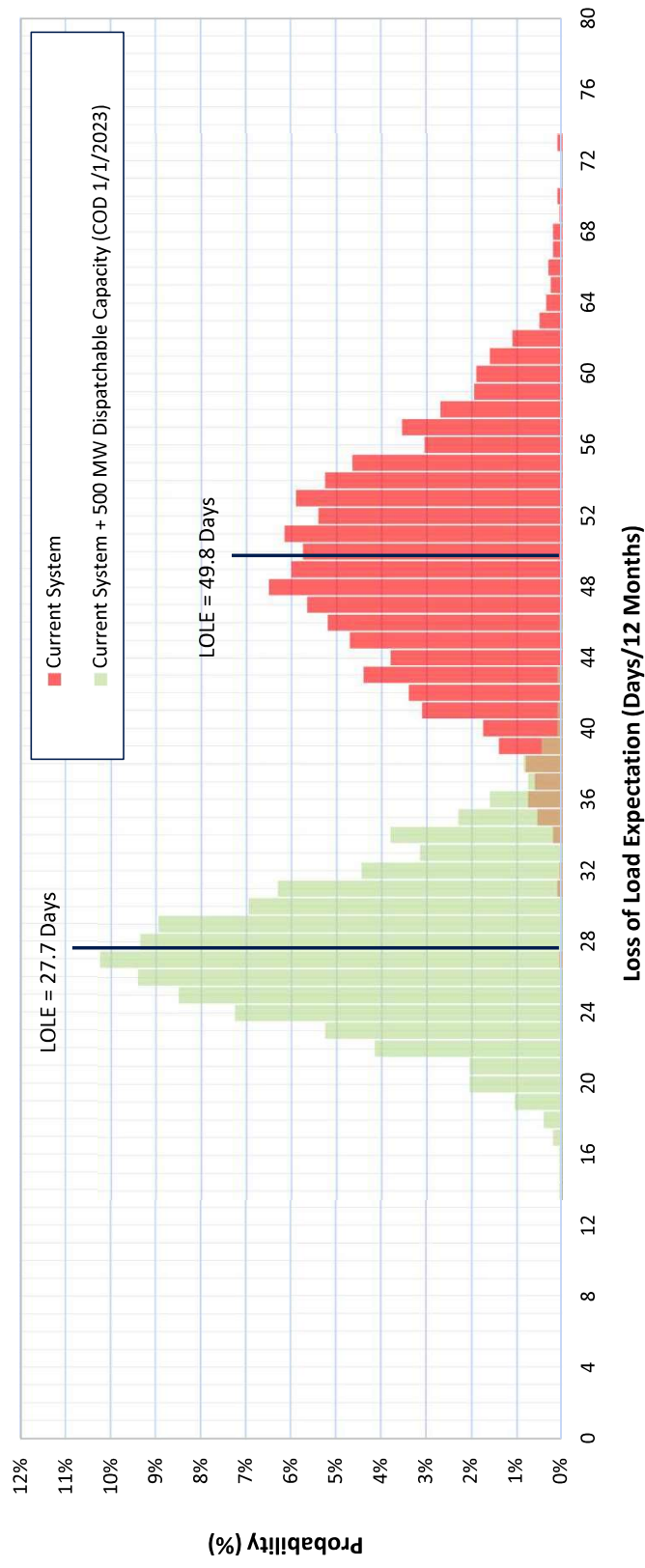


November 1, 2022  
NEPR-MI-2022-0003



# Risk Analysis – Impact of 500 MW of Emergency Generation

Emergency generation could significantly reduce risk of multiple load sheds

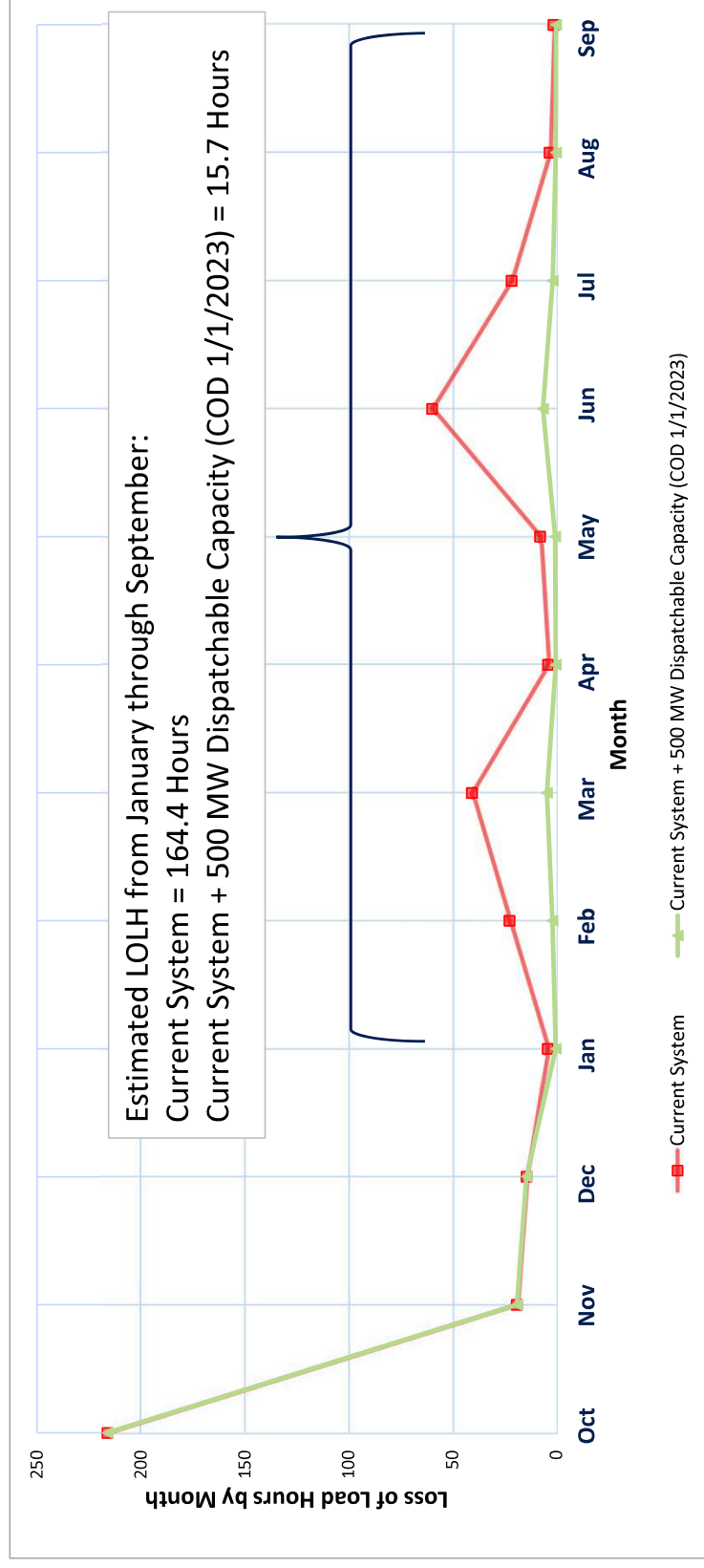


November 1, 2022  
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## Risk Analysis – Risk Exposure Varies by Month

Risks will decline as demand is reduced in winter months but critically important to complete maintenance before summer 2023 demand increases



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NEPR-MI-2022-0003



## Next Steps

- Continue to provide bi-weekly reports to update status and address any PREB questions and concerns
- Continue coordination with stakeholders as several groups simultaneously assess risks and stabilization options
- Focus additional risk analysis after initial results from FEMA damage assessment teams

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NEPR-MI-2022-0003





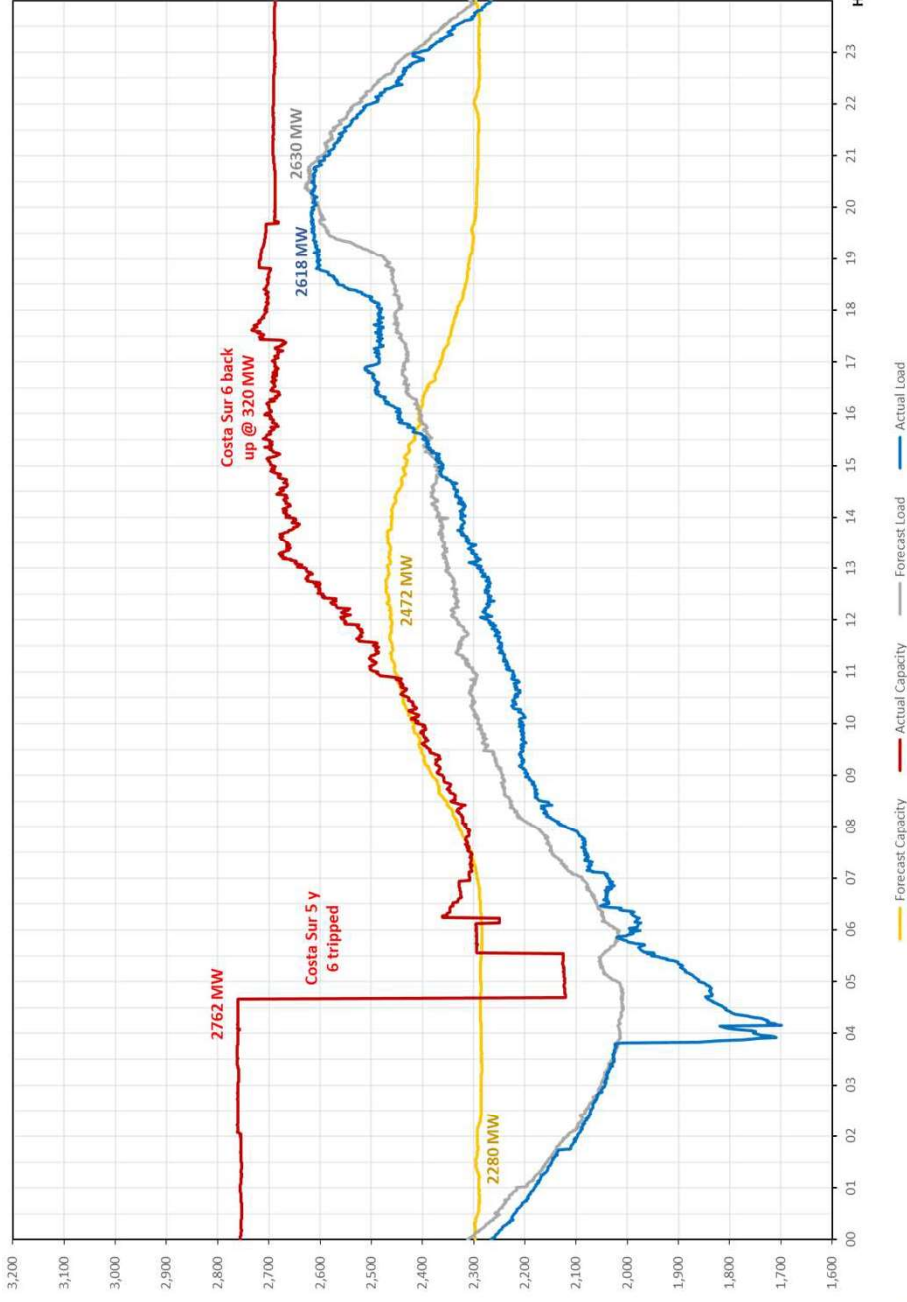
# Appendix

Hourly Activity During Load Shed Days

November 1, 2022  
NEPR-MI-2022-0003



# Hourly Activity During Load Shed Days – October 6, 2022

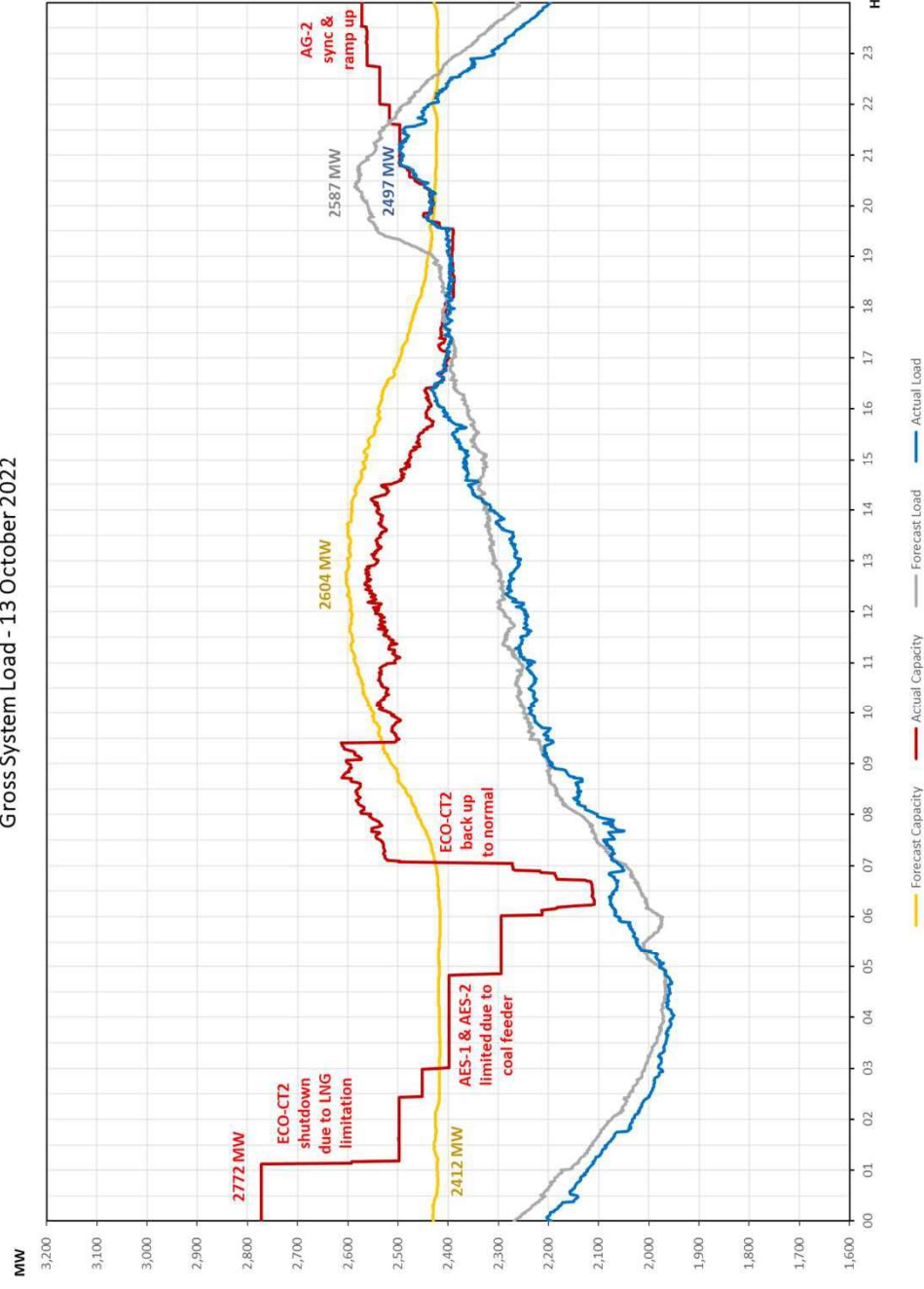


November 1, 2022  
NEPR-MI-2022-0003



# Hourly Activity During Load Shed Days – October 13, 2022

Gross System Load - 13 October 2022

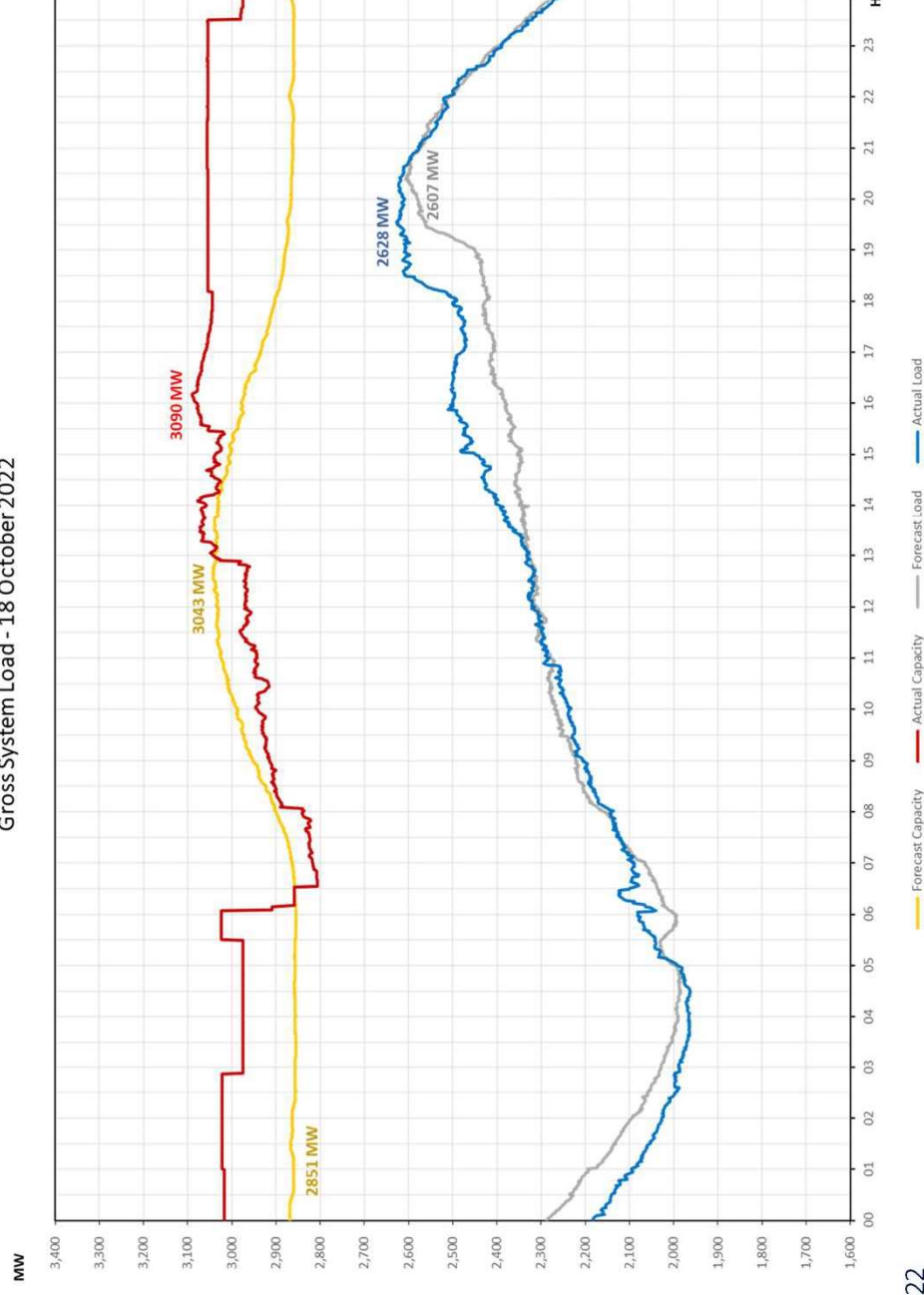


November 1, 2022  
NEPR-MI-2022-0003



# Hourly Activity During Load Shed Days – October 18, 2022

Gross System Load – 18 October 2022



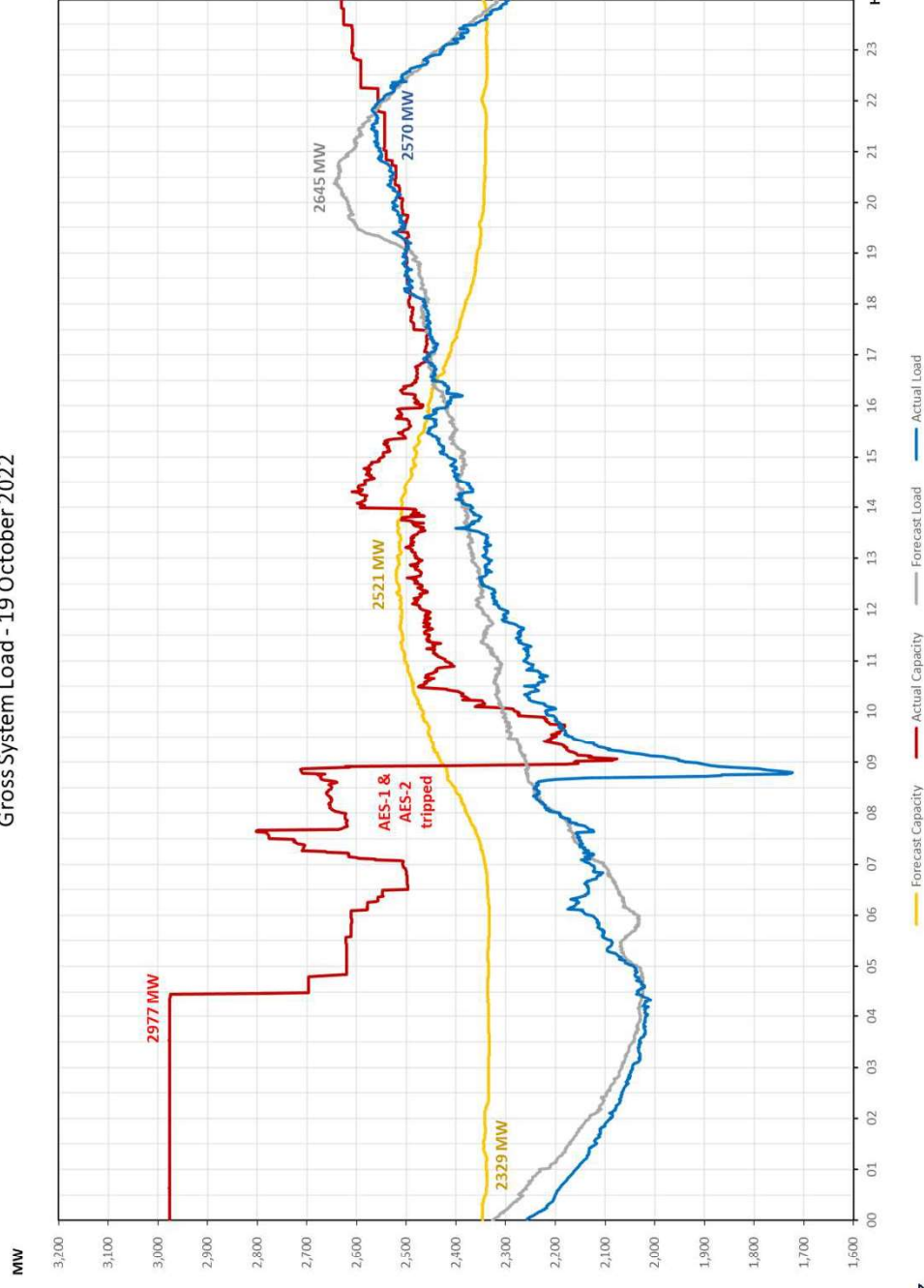
November 1, 2022  
NEPR-MI-2022-0003





# Hourly Activity During Load Shed Days – October 19, 2022

Gross System Load - 19 October 2022

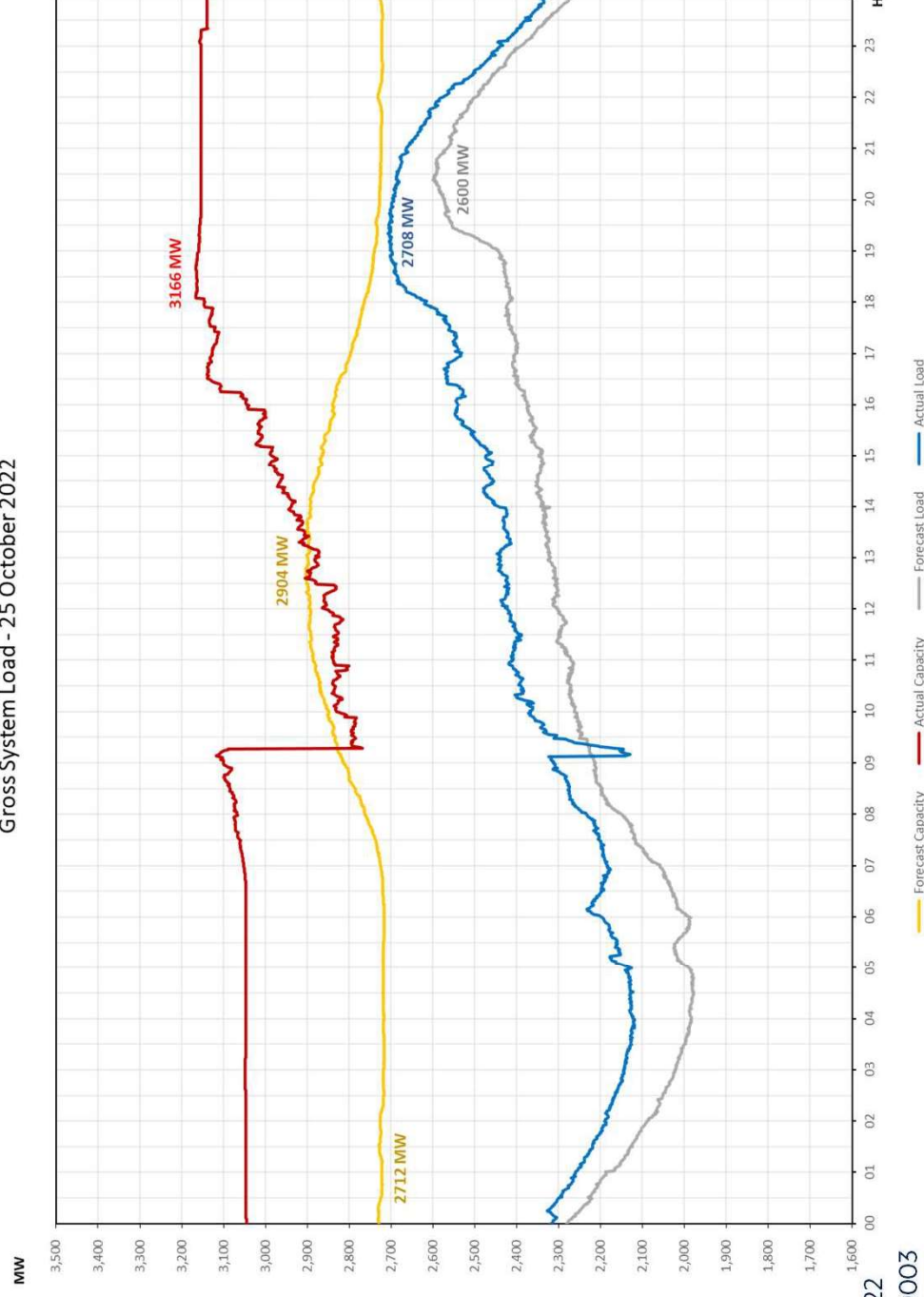


November 1, 2022  
NEPR-MI-2022-0003



# Hourly Activity During Load Shed Days – October 25, 2022

Gross System Load - 25 October 2022

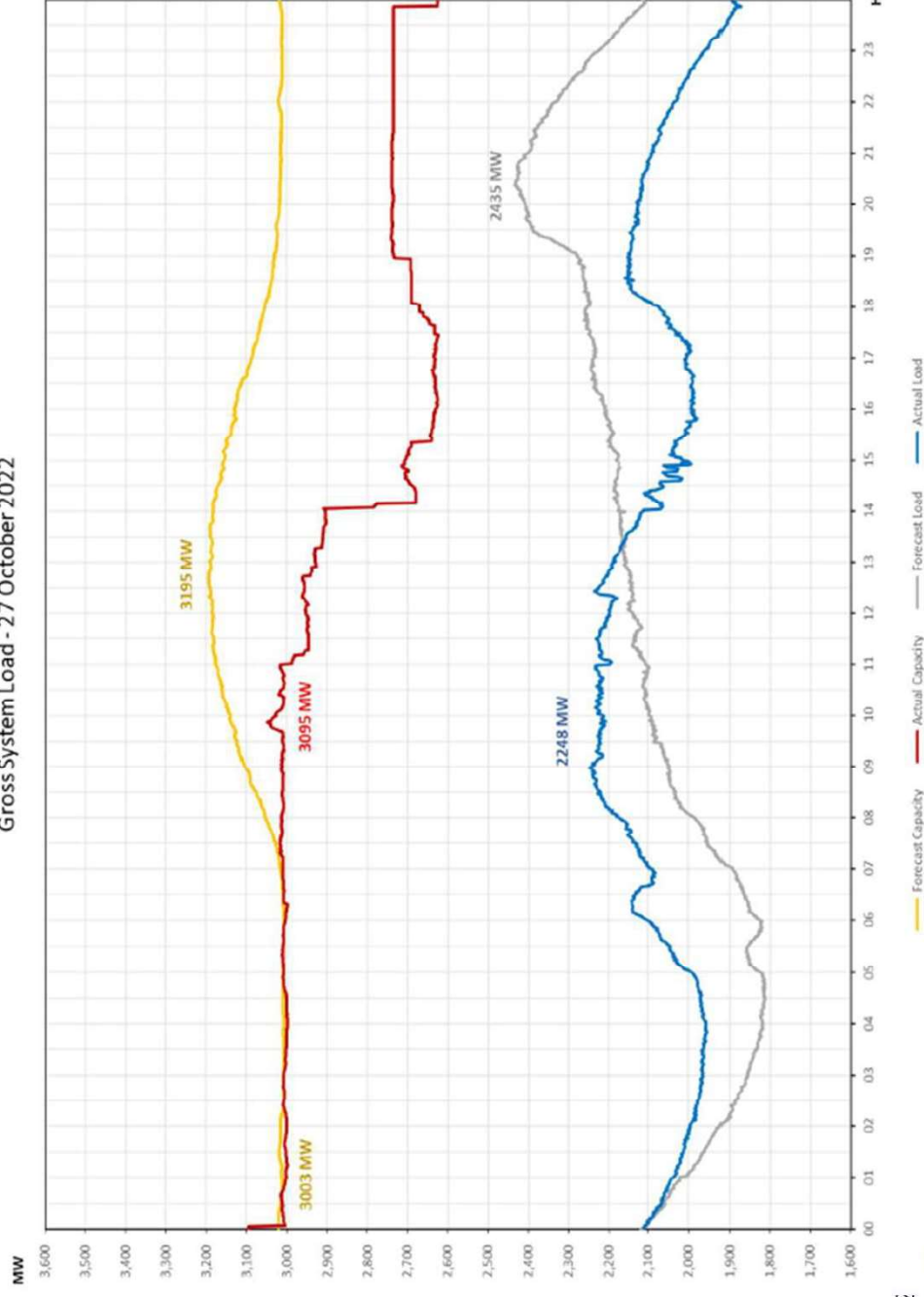


November 1, 2022  
NEPR-MI-2022-0003



# Hourly Activity During Load Shed Days – October 27, 2022

Gross System Load - 27 October 2022



November 1, 2022  
NEPR-MI-2022-0003



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

**NEPR**

**Received:**

**Jan 17, 2023**

**5:34 PM**

IN RE:  
LUMA'S RESPONSE TO HURRICANE  
FIONA

**CASE NO. NEPR-MI-2022-0003**

**SUBJECT: Fifth Update on Stabilization Plan**

**FIFTH UPDATE ON STABILIZATION PLAN FOR TEMPORARY EMERGENCY  
GENERATION CAPACITY**

**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 the following:

1. In a Resolution and Order of October 7, 2022 ("October 7<sup>th</sup> Order") with the subject "Baseload Generation Dispatch Status-Post Hurricane Fiona," this honorable Puerto Rico Energy Bureau ("Energy Bureau") convened a Technical Conference to discuss concerns raised by LUMA in a letter dated October 6, 2022, regarding Resource Adequacy and potential Generation resource deficiencies following Hurricane Fiona. Per the October 7<sup>th</sup> Order, the topics to be discussed at the Technical Conference were "Dispatch Status of the available Baseload Generation post-Hurricane Fiona and (ii) the identified temporary emergency mitigation measures thought to address the generation deficiencies arising from Hurricane Fiona."<sup>1</sup>

2. On October 12, 2022, the Energy Bureau entered a Resolution and Order whereby it ordered LUMA to develop a stabilization plan as a direct response to Hurricane Fiona, in coordination with the Federal Emergency Management Agency ("FEMA") and the Puerto Rico

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<sup>1</sup> The Technical Conference was held as scheduled on October 11, 2022. During the Technical Conference, the Energy Bureau and consultants for the Energy Bureau posed questions to LUMA's representatives.



Electric Power Authority (“PREPA”) “to address any baseload generation inadequacy or shortfall that affects the dispatch availability and has the potential to cause load shedding or a blackout event of the electric system (“Stabilization Plan”)” (“October 12<sup>th</sup> Order”).

3. Per the October 12<sup>th</sup> Order, LUMA was directed to submit the 1<sup>st</sup> and the 15<sup>th</sup> day of each month, from the notice of the Order, an updated report addressing the efforts conducted by LUMA to ensure the completion of the Stabilization Plan.

4. On October 27<sup>th</sup>, 2022, the Energy Bureau issued a Resolution and Order whereby it set a technical conference for November 1, 2022 (“October 27<sup>th</sup> Order”) in connection with the first update on the Stabilization Plan. The Energy Bureau stated that it is particularly interested in “learning about the (1) U.S. Army Corps of Engineers (“USACE”) Generation Assessment underway, (2) Emergency Temporary Generation under a potential FEMA Public Assistance Emergency assignment that can expeditiously mitigate the impact of Hurricane Fiona, and (3) Replacement of Emergency Temporary Generation that seeks to phase out the temporary generation with permanent capacity, noting that this permanent capacity is consistent with the approved Integrated Resource Plan (“IRP”).” *See* October 27<sup>th</sup> Order at page 1. As per the October 27<sup>th</sup> Order, the Technical Conference was held as scheduled on November 1<sup>st</sup>. LUMA representatives appeared to discuss the Stabilization Plan and answered questions by this Energy Bureau.

5. On October 31<sup>st</sup>, 2022, LUMA submitted the First Update on the Stabilization Plan.

6. On November 15, 2022, LUMA submitted a Second Update on the Stabilization Plan (“Second Update”). In addition, LUMA submitted supplemental information to the Second Update arising from a joint press conference of November 15<sup>th</sup>, 2022, where the Governor of Puerto Rico, the Hon. Pedro Pierluisi and the Federal Coordinator for the Federal Emergency

Management Agency (“FEMA”), Nancy Casper, announced that FEMA’s power stabilization initiative aims to install between 600 to 700 MW of temporary emergency generation capacity through the mobilization of power generation maritime barges and temporary land-based generators. *See Supplemental Submission to Second Update on Stabilization Plan to Inform of Announcement by the Puerto Rico Government and FEMA on Temporary Emergency Generation Capacity*, filed on November 15, 2022.

7. On December 1<sup>st</sup>, 2022, LUMA submitted the Third Update on the Stabilization Plan.

8. On December 15<sup>th</sup>, 2022, LUMA submitted the Fourth Update on the Stabilization Plan. In addition, LUMA requested a release from the requirement to file an Update to the Stabilization Report on January 2, 2023, in consideration of the upcoming Christmas and New Year’s holidays observed in Puerto Rico.

9. On December 21, 2022, the Energy Bureau granted LUMA’s request to be released from the requirement to file an Update to the Stabilization Report on January 2<sup>nd</sup> and directed that LUMA shall file the Fifth Update on the Stabilization Plan by January 15, 2023. January 15<sup>th</sup> was a Sunday, and the 16<sup>th</sup> was a legal holiday, Martin Luther King Day. Per Section 1.09 of Regulation 8543 on Adjudicative, Notice of Non Compliance, Rate Review and Investigation Proceedings, the Fifth Update on the Stabilization Plan is due today, January 17, 2023.

10. In further compliance with the October 12th Order, LUMA hereby submits the Fifth Update on the Stabilization Plan (“Fifth Update”). *See Exhibit 1 (Update of January 17, 2023)*. The Fifth Update includes, among others, a summary of the status of the Stabilization Plan with reference to the tasks performed in the past month in coordination with FEMA and PREPA, as

well as a summary of LUMA's internal efforts. Furthermore, the Fifth Update identifies current operational issues and concerns and provides an update on LUMA's risk analyses.

**WHEREFORE**, LUMA respectfully requests that this Energy Bureau **take notice** of the aforementioned, **accept** the Fifth Update submitted as **Exhibit 1** to this Motion, **deem** that LUMA complied with that portion of the October 12th Order that requires submission of bi-monthly updated reports on the Stabilization Plan.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 17<sup>th</sup> day of January, 2023.

I hereby certify that this motion was filed using the electronic filing system of this Energy Bureau. I also certify that copy of this motion will be notified to the Puerto Rico Electric Power Authority, through its attorneys of record: [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law) and [kbolanos@diazvaz.law](mailto:kbolanos@diazvaz.law).



**DLA Piper (Puerto Rico) LLC**  
500 Calle de la Tanca, Suite 401  
San Juan, PR 00901-1969  
Tel. 787-945-9107  
Fax 939-697-6147

*/s/ Margarita Mercado Echegaray*  
Margarita Mercado Echegaray  
RUA NÚM. 16,266  
[margarita.mercado@us.dlapiper.com](mailto:margarita.mercado@us.dlapiper.com)

*Exhibit 1*  
*Fifth Update on Stabilization Report*





# Generation Stabilization Plan Discussion

January 15, 2022

# Agenda

- I. Executive Summary
- II. Past Two Weeks Area of Focus and Updates
- III. Evolving Team Structure and Organization
- IV. Generation Operational Issues and Concerns as of Report Date
- V. Risk Analysis Update

# Executive Summary

- **Positive momentum continues as the scope and scale of the Emergency Generation effort becomes better defined**
  - Regular and timely communications processes are underway and assigned Points of Contact between FEMA Task Force, LUMA and PREPA, and government agencies
  - Multiple site visits and technical assessments continuing
- **Current planning assumptions are that land-based, trailer-mounted generators should be available in early July**
  - FEMA indicates that barge generation may not be available
  - FEMA still reviewing all feasible sources of trailer mounted generation
- **Initial sites have been prioritized for which are best locations, team will continue to review prioritization as assessments are completed based on:**
  - Well recognized consensus locations in north part of island are preferred
  - Relative prioritization changes will continue as site are assessed, based upon injection capacity, transformer capacity, state of needed repairs

# Area of Focus Past Two Weeks was Site Assessments

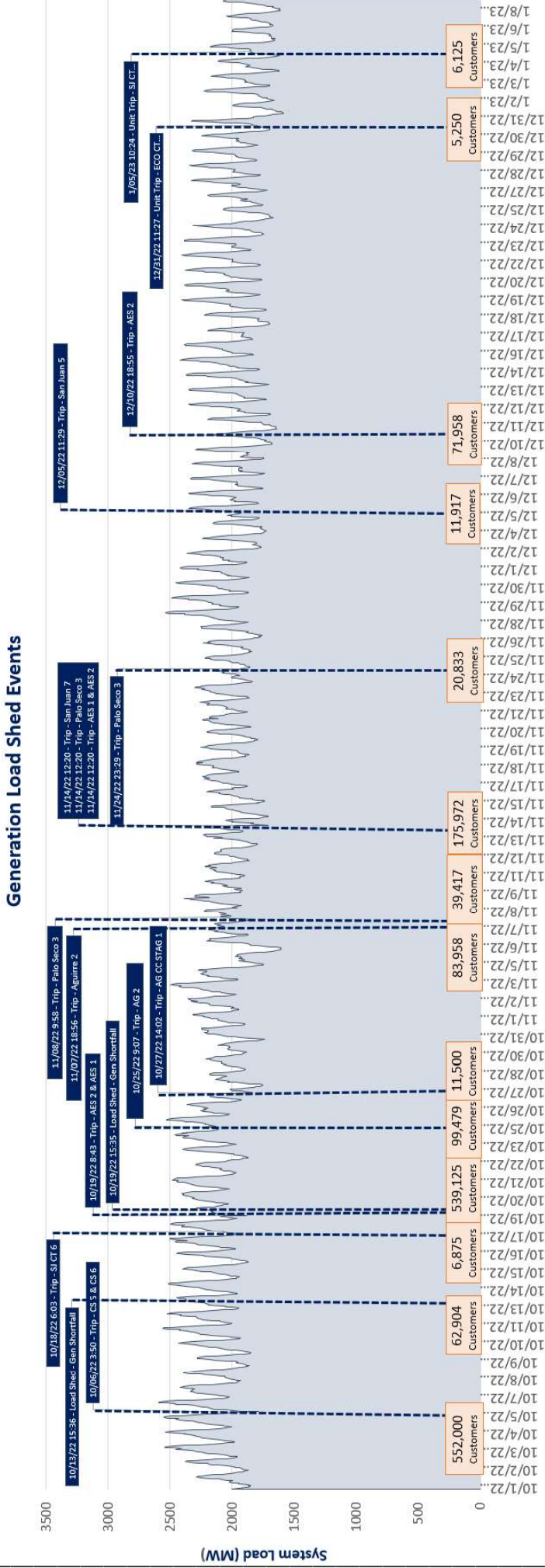
- Current plan is to prioritize three sites for installation of trailer mounted mobile generators
  1. San Juan Power Plant
  2. Palo Seco Power Plant
  3. Sabana Llana Transmission Center
- Current planning assumption is that these will be fueled by natural gas, delivered to the San Juan Power Plant and then trucked to sites in ISO-Tank Containers. Sites will also have newly installed temporary natural gas storage tanks
- Additional sites at Cambalache / Yabucoa / Aguirre / Jobos will also be assessed as backup sites as needed
- Repeated site visits are underway with joint teams from FEMA, LUMA, and PREPA to assess physical, logistical, Interconnection and other attributes of all feasible sites
  - LUMA has retained Black & Veatch to assist with data compilation and analysis to support required interconnection study
  - Detailed review of all ongoing capital and maintenance work at these locations is underway to coordinate scope
  - Documentation packages have been turned over to FEMA for approximately 19 project locations
- Permitting issues are still being assessed, but cautious optimism is emerging that the emergency generators can resolve any issues that could emerge



# Evolving Team Organization Structure

Organizational Group	Role
FEMA	<ul style="list-style-type: none"> <li>Overall direction of the Task Force reporting internally within Department of Homeland Security organization and coordinating the technical and support groups with LUMA and PREPA</li> </ul>
Task Force Leadership Team	<ul style="list-style-type: none"> <li>Government or operational groups represented that have a role in task force (Energy Bureau, P3A, Governor's office)</li> <li>FEMA-led as part of Task Force, periodic updates and written reports as appropriate</li> </ul>
Operational Coordination Team	<ul style="list-style-type: none"> <li>Representative from technical, operational, financial or government that are either leading, doing, or supporting ongoing activities</li> </ul>
Functional Teams and Subject Matter Experts	<ul style="list-style-type: none"> <li>Larger teams matrixed in from existing LUMA or PREPA organizations to address specific issue or analysis related to generation or T&amp;D functional areas</li> </ul>
Operations Support	<ul style="list-style-type: none"> <li>Specific project organizations for LUMA and PREPA with designated lead responsible project manager, senior oversight roles, steering committees and other Project Management Organization (PMO) functions created to support the Task Force</li> </ul>

# Fifteen Load Shed Events Have Occurred Since October 1, 2022

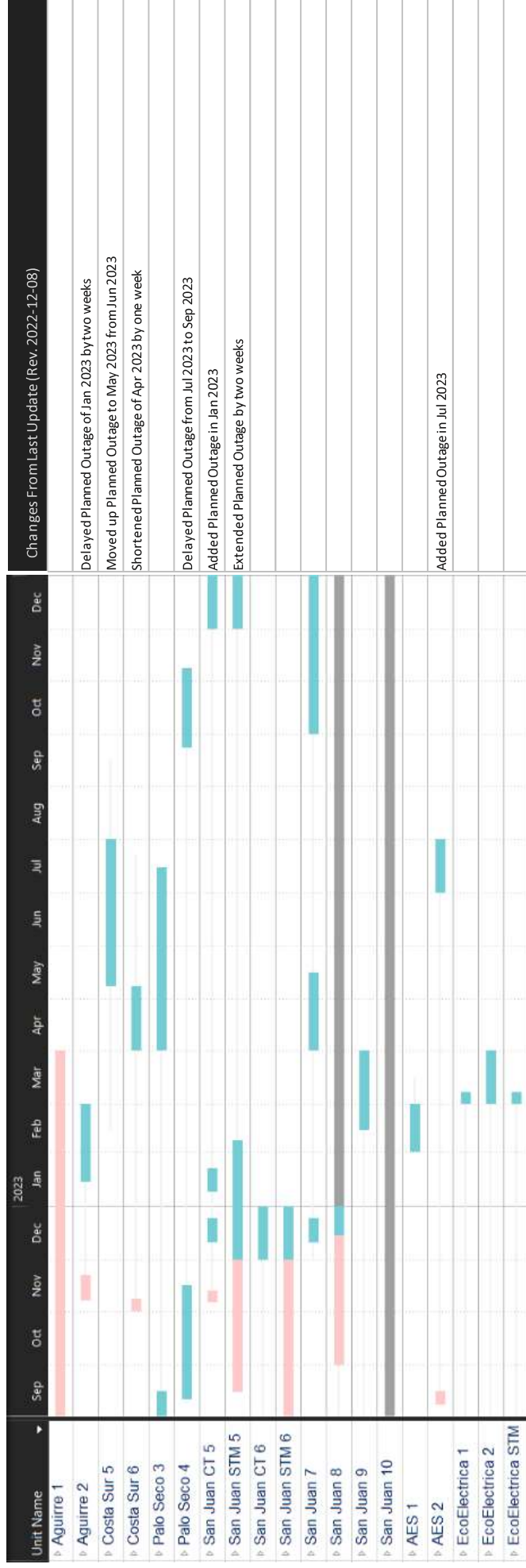


Updated until 1/8/2023



# Generation Planned Outages as of January 5, 2023

- PREPA's ability to successfully implement required planned outages on schedule remains the largest risk factor. Several PREPA plant outages have had to be rescheduled, raising concerns about whether adequate pre-planning and parts requisitions will have been done to complete the outages on schedule (industry practices and SOP requirements are that major outages should be scheduled with 18-month lead time)
- Several outages have been deferred and will now happen a few months later when generation reserves will be tight due to higher demand
- April is emerging as a key period of risk for adequate plant availability



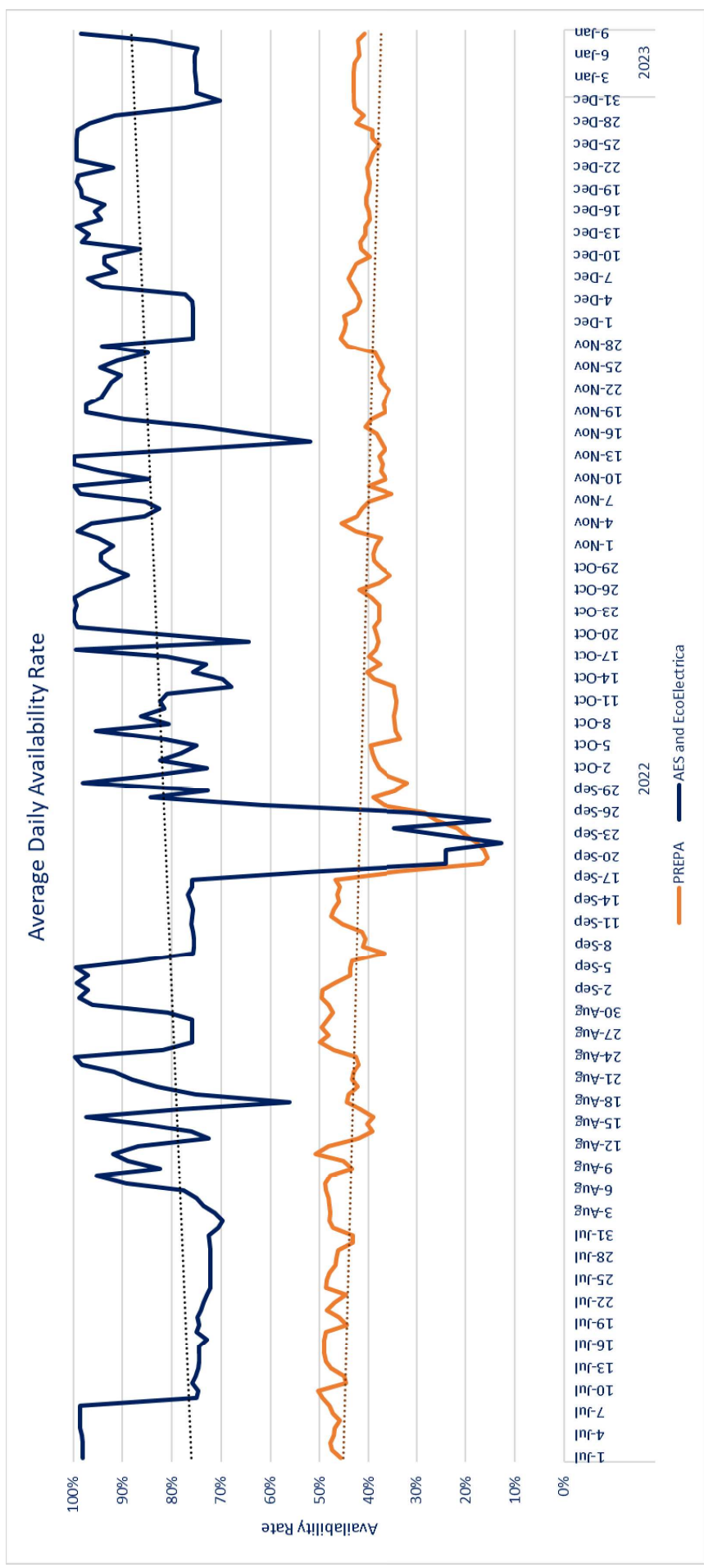
Forced Outages

Planned Outages

Out of Service



# Average Daily Availability Rate Since July 1, 2022





# Risk Analysis – Observations to date

- Resource adequacy concerns and risks of load shed expressed in LUMA letter to PREB on October 6<sup>th</sup> continue to exist
- PREPA operating plants are experiencing higher than historical Forced Outage Rates.
- PREPA performance on Planned Outage schedules remains a concern, especially considering their historic overrun of approximately 50% on outage durations. If this historic trend is repeated, it will increase risks:
  - Return to Service dates for Aguirre 1 and Aguirre 2 at end of February are key milestones
  - San Juan plant availability is being closely monitored
  - Discussions underway to defer AES maintenance outage from July to October
  - Weather-related demand and potential storms could have a significant impact to reserves and reliability
- Timing of FEMA emergency generation continues to evolve as information is assessed. Current planning assumption is capacity will be available in July which will help with summer reserve shortfall, but does not help achieve spring outage schedules
- Outlook for January through March load shed risk currently appears low. This is primarily due to reduced system demand rather than generation availability.



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

**NEPR**

**Received:**

**Mar 15, 2023**

**10:56 PM**

IN RE:  
LUMA'S RESPONSE TO HURRICANE  
FIONA

**CASE NO. NEPR-MI-2022-0003**

**SUBJECT: Motion Submitting Ninth Update on  
Stabilization Plan**

**MOTION SUBMITTING NINTH UPDATE ON STABILIZATION PLAN FOR  
TEMPORARY EMERGENCY GENERATION CAPACITY**

**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 the following:

1. In a Resolution and Order of October 7, 2022 ("October 7<sup>th</sup> Order") with the subject "Baseload Generation Dispatch Status-Post Hurricane Fiona," this honorable Puerto Rico Energy Bureau ("Energy Bureau") convened a Technical Conference to discuss concerns raised by LUMA in a letter dated October 6, 2022, regarding Resource Adequacy and potential Generation resource deficiencies following Hurricane Fiona. Per the October 7<sup>th</sup> Order, the topics to be discussed at the Technical Conference were "Dispatch Status of the available Baseload Generation post Hurricane Fiona and (ii) the identified temporary emergency mitigation measures thought to address the generation deficiencies arising from Hurricane Fiona."<sup>1</sup>

2. On October 12, 2022, the Energy Bureau entered a Resolution and Order whereby it ordered LUMA to develop a stabilization plan as a direct response to Hurricane Fiona, in coordination with the Federal Emergency Management Agency ("FEMA") and the Puerto Rico

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<sup>1</sup> The Technical Conference was held as scheduled on October 11, 2022. During the Technical Conference, the Energy Bureau and consultants for the Energy Bureau posed questions to LUMA's representatives.

Electric Power Authority (“PREPA”) “to address any baseload generation inadequacy or shortfall that affects the dispatch availability and has the potential to cause load shedding or a blackout event of the electric system (“Stabilization Plan”)” (“October 12<sup>th</sup> Order”).

3. Per the October 12<sup>th</sup> Order, LUMA was directed to submit the 1<sup>st</sup> and the 15<sup>th</sup> day of each month from the notice of the Order, an updated report addressing the efforts conducted by LUMA to assure the completion of the Stabilization Plan.

4. On October 27<sup>th</sup>, 2022, the Energy Bureau issued a Resolution and Order whereby it set a technical conference for November 1, 2022 (“October 27<sup>th</sup> Order”) in connection with the first update on the Stabilization Plan. The Energy Bureau stated that it is particularly interested in “learning about the (1) U.S. Army Corps of Engineers (“USACE”) Generation Assessment underway, (2) Emergency Temporary Generation under a potential FEMA Public Assistance Emergency assignment that can expeditiously mitigate the impact of Hurricane Fiona, and (3) Replacement of Emergency Temporary Generation that seeks to phase out the temporary generation with permanent capacity, noting that this permanent capacity is consistent with the approved Integrated Resource Plan (“IRP”).” *See* October 27<sup>th</sup> Order at page 1.

5. As per the October 27<sup>th</sup> Order, the Technical Conference was held as scheduled on November 1<sup>st</sup>. LUMA representatives appeared to discuss the Stabilization Plan and answered questions by this Energy Bureau.

6. On October 31<sup>st</sup>, 2022, LUMA submitted the First Update on the Stabilization Plan.

7. On November 15, 2022, LUMA submitted a Second Update on the Stabilization Plan (“Second Update”). In addition, LUMA submitted supplemental information to the Second Update arising from a joint press conference of November 15<sup>th</sup>, 2022, where the Governor of Puerto Rico, the Hon. Pedro Pierluisi and the Federal Coordinator for the Federal Emergency

Management Agency (“FEMA”), Nancy Casper, announced that FEMA’s power stabilization initiative aims to install between 600 to 700 MW of temporary emergency generation capacity through the mobilization of power generation maritime barges and temporary land-based generators. *See Supplemental Submission to Second Update on Stabilization Plan to Inform of Announcement by the Puerto Rico Government and FEMA on Temporary Emergency Generation Capacity*, filed on November 15, 2022.

8. On December 1<sup>st</sup>, 2022, LUMA submitted the Third Update on the Stabilization Plan.

9. The most recent updates to the Stabilization Plan were filed on January 17, 2023 (Fifth Update); January 31, 2023 (Sixth Update); February 14, 2023 (Seventh Update); and March 1, 2023 (Eight Update).

10. In compliance with the October 12<sup>th</sup> Order, LUMA hereby submits as *Exhibit 1*, the Ninth Update on the Stabilization Plan (“Ninth Update”). The Ninth Update includes, among others, a summary of the status of Stabilization Plan with reference to the tasks performed in the past weeks in coordination with USACE, FEMA and PREPA, as well as a summary of LUMA’s internal efforts. As slides 4 and 7 of *Exhibit 1* show, construction has commenced with progress at Palo Seco and Emergency Gensets, and other equipment are expected at Palo Seco by March 24<sup>th</sup>. Finally, the Ninth Update identifies current operational issues and concerns and provides an update on LUMA’s risk analyses, 90 days after Hurricane Fiona.

**WHEREFORE**, LUMA respectfully requests that this Energy Bureau **take notice** of the aforementioned, **accept** the Ninth Update submitted as **Exhibit 1** to this Motion, and **deem** that LUMA complied with that portion of the October 12<sup>th</sup> Order that requires submission of bi-monthly updated reports on the Stabilization Plan.



**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 15<sup>th</sup> day of March, 2023

I hereby certify that this motion was filed using the electronic filing system of this Energy Bureau. I also certify that copy of this motion will be notified to the Puerto Rico Electric Power Authority, through its attorney of record: [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law).



**DLA Piper (Puerto Rico) LLC**  
500 Calle de la Tanca, Suite 401  
San Juan, PR 00901-1969  
Tel. 787-945-9107  
Fax 939-697-6147

/s/ Margarita Mercado Echegaray  
Margarita Mercado Echegaray  
RUA NÚM. 16,266  
[margarita.mercado@us.dlapiper.com](mailto:margarita.mercado@us.dlapiper.com)

*Exhibit 1*  
*Ninth Update on Stabilization Report*



# Generation Stabilization Plan Discussion

March 15, 2023

# Agenda

- I. Executive Summary
- II. Construction Activities
- III. Current Operations
- IV. Resource Adequacy Risk Analysis Summary



# Executive Summary

- **Construction has commenced and making progress at Palo Seco**
  - US Army Corps of Engineers (USACE) awarded generation installation contract to Weston Solutions, Inc. for generation installation and New Fortress Energy for fuel delivery
  - Site mobilization, required demolition and construction have begun

- **Emergency Gensets and other equipment are expected at Palo Seco by March 24**

- Six primary gensets plus one spare genset and associated balance of plant equipment are being sourced from Arizona and Texas and currently enroute to Puerto Rico
  - LNG re-gasification equipment and a holding tank are being shipped from Nicaragua

- **Working to address transformer and underground pipe-cable concerns at San Juan**

- PREPA's new, unused, transformer stored at San Juan is being evaluated and may solve the transformer issue problem
  - Examination is being done on the 115 kV buried cable to identify the root cause of the testing failure and establish a repair plan

- **US Environmental Protection Agency specified the generation emissions must meet New Source Performance Standards (NSPS) for NO<sub>x</sub> compliance (25 ppm)**

- Several NO<sub>x</sub> control strategies are being evaluated by the USACE Project Delivery Team (PDT)



*Gensets ready to leave Yuma, AZ headed to Jacksonville, FL to be shipped to Palo Seco*



*Old pipe-cable insulating oil system tanks at San Juan*



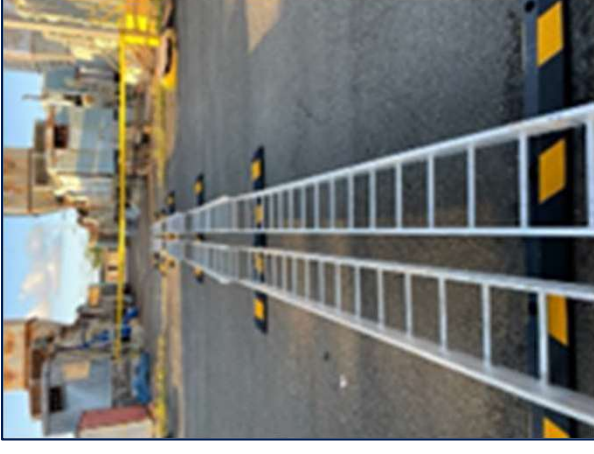
# Active work at both primary sites

## Palo Seco – Making progress on construction

- Current mobilization and daily USACE Project Delivery Team meetings
- Demolishing buildings, tanks, and disposal of rubble to clear for generation equipment
- Off-site fabrication of piping
- Installation of cable tray supports and cable for Power Systems Safety Protection
- Foundation design for Liquefied Natural Gas area and 90,000 gallon tank is complete.
  - Pile driving is scheduled to begin on 3/16
  - Scale of pile driving for tank is an installation schedule risk

## San Juan – Working to address risks from old, damaged equipment

- Leaks at existing #10 transformer and damage of 115 kV underground pipe cable pose significant risk to installation
- LUMA and PREPA have been engaged in doing further testing and evaluation in order to resolve these risks



*New cable trays being staged for assembly and installation at Palo Seco*

# Construction Coordination and Communication Activities

Organizational Groups
<ul style="list-style-type: none"> <li>FEMA</li> <li>Task Force Leadership Team</li> <li>Operational Coordination Team</li> <li>Functional Teams and Subject Matter Experts</li> <li>Operations Support</li> </ul>

- Contract awarded to Weston Solutions and construction activities have significantly increased
- USACE is leading the Integrated Project Delivery Team (PDT) meetings, seven days a week
- Besides USACE staff, the PDT meetings include others from FEMA, Weston Solutions, New Fortress Energy, PREPA and LUMA
- Many other ad hoc and scheduled meetings occur each week to deal with technical issues, e.g., electrical protection, equipment testing and electrical tie-in coordination.



# Construction Management

## Submittal Tacker

PROJECT SUBMITTAL STATUS: 4/30/23			
Number	Description	PREP	UWAP
001	APP - Site Verification	27-Feb-23	N/A
002	Work Plan	27-Feb-23	N/A
003	Accident Prevention Plan	28-Feb-23	N/A
004	Quality Control Plan	27-Feb-23	N/A
005	Security Plan	27-Feb-23	N/A
006	Transportation Plan (Include Subm 191)	28-Feb-23	N/A
007	Emergency Response Plan (L&D, Direct Issues)	28-Feb-23	N/A
008-01	Permitting (Site, Access, E-Plan)	28-Feb-23	N/A
009-01	PAID Verification - Disposal	28-Feb-23	N/A
010-01	PAID Verification - L&D	28-Feb-23	N/A
010-02	Land Based Triage Plan (see 006)	28-Feb-23	N/A
011	Emergency Action Plan	28-Feb-23	N/A
012	Power connection plan - Medium & Low Voltage Single Line	28-Mar-23	N/A
012-1	Power connection plan - MV Cable Layout	28-Mar-23	N/A
013	Grounding Integration plan	28-Mar-23	N/A
014	Protective Relay Study	28-Mar-23	N/A
015	Emergency Evacuation Plan	28-Feb-23	N/A
016	Site Preparation Plan	28-Feb-23	N/A
017	Commissioning Plan	28-Feb-23	N/A
018	HAZOP Energy Control Plan	28-Feb-23	N/A
019	HAZOP Energy Control Plan	28-Feb-23	N/A
020	GridSet Synchronization	28-Feb-23	N/A
021	Final Report	28-Feb-23	N/A
022	Post-Operation Analytical Sampling Summary	28-Feb-23	N/A
023	Post-Operation Analytical Sampling Summary	28-Feb-23	N/A
024	As-Built Data	28-Feb-23	N/A
025	Topographic Survey	28-Feb-23	N/A
026	Land Testing Report	28-Feb-23	N/A
027	Final Report	28-Feb-23	N/A
028	Final Report	28-Feb-23	N/A
029	Final Report	28-Feb-23	N/A
030	Final Report	28-Feb-23	N/A
031	Final Report	28-Feb-23	N/A
032	Final Report	28-Feb-23	N/A
033	Final Report	28-Feb-23	N/A
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045	Final Report	28-Feb-23	N/A
046	Final Report	28-Feb-23	N/A
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097	Final Report	28-Feb-23	N/A
098	Final Report	28-Feb-23	N/A
099	Final Report	28-Feb-23	N/A
100	Final Report	28-Feb-23	N/A

## Transport Schedule

Gen 8 Movement as of 8 March 2023											
GT01											
Load#	Description	Trailer#	Trailer	Day 1 Start Location	Day 1 End Location	Miles Driven	Miles to Destination	ETA to Jax			
9052310	Generator Trailer	80348	TOWABLE	Sooner, TX	Orange, TX	445	779	8 AM			
9053312	Control Trailer	80348	TOWABLE	Sooner, TX	Orange, TX	445	779	8 AM			
MILESTONES											
EMERGENCY SERVICE TRANSFORMER SC 3/4											
GH SIDE											
INSPIRATION											
SERVICE TRANSFORMER SJ 7											
7/8											
ANCE TEST											
TEST											
CTION HS											
HS CABLE											
REPORT DELIVER FOR THE OWNER											
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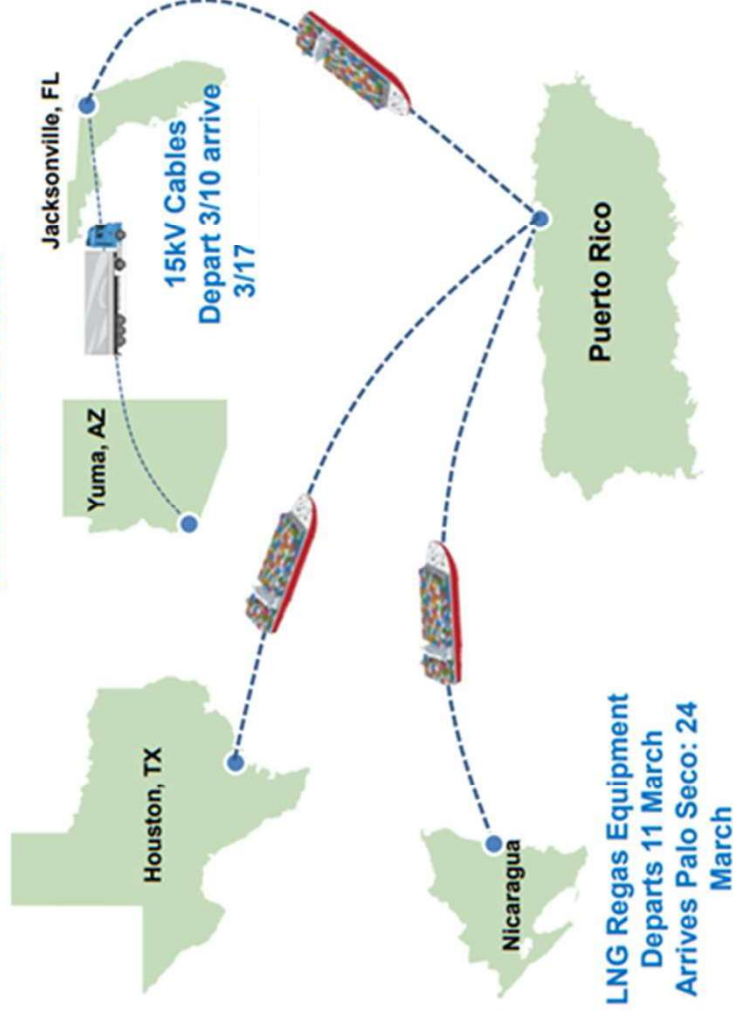


# Logistics Activities

## Gen Sets

Balance of Plant (1)  
Departs 10 March  
arrive 20 March

3 Gen Set 8's Depart Yuma 4  
March arrive 20 March  
2 Gen 4 & 1 Gen 6 Depart Yuma  
10 March arrive 24 March



3/15/2023

## Delivery of Major Equipment

Generation equipment is being sourced from various locations and on its way

### Palo Seco:

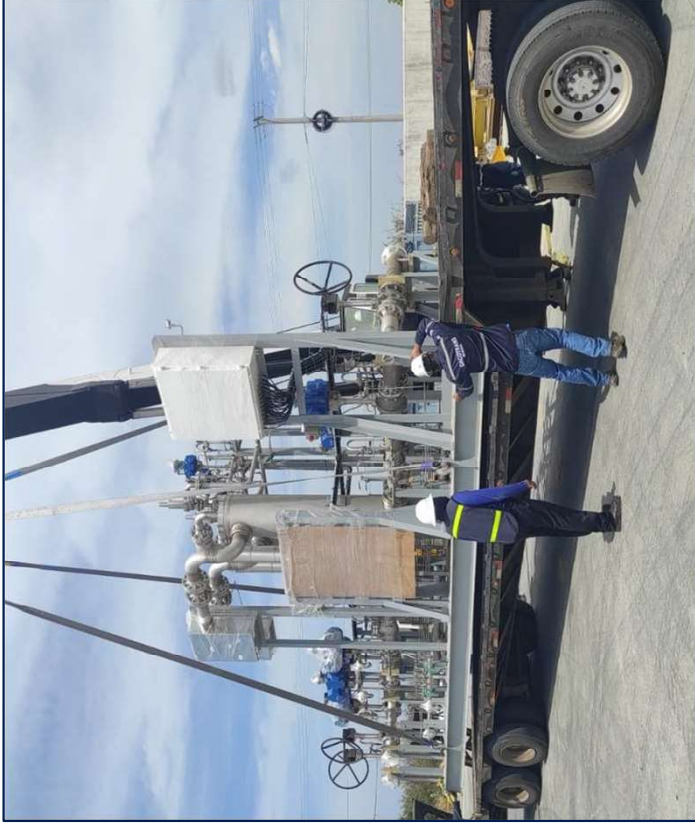
- Six- primary GE TM 2500 GenSets
- One - spare GE TM 2500 GenSet
- Balance of Plant equipment
- 15kV Cables
- LNG Re-gas Equipment

All on schedule and expected to be delivered to Palo Seco by 3/24

### San Juan:

Expect generators on site: 4/28

# LNG Equipment shipped from Nicaragua



- LNG skid and large volume (90k-gallon) tank to be placed at Palo Seco.
- Foundation requires 118, 60 foot concrete piles
- Equipment will be transported by truck seven miles from the Puerto Rico port to the construction site

3/15/2023

# Overview of Palo Seco site and area for new generation



*Dashed yellow outline shows the area where the generation units will be installed*

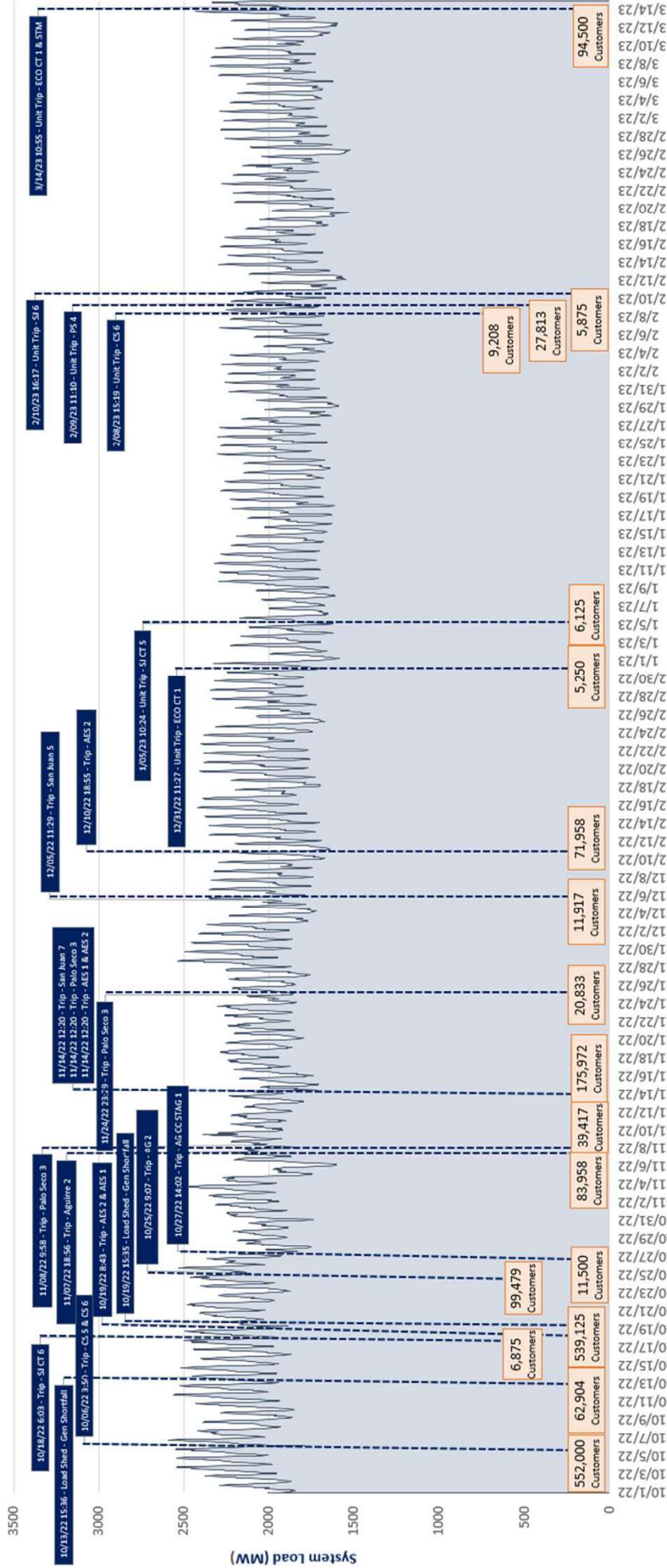
3/15/2023



# Current Generation Operations – Load Shed Events

Updated until 3/14/2023

Generation Load Shed Events



- Nineteen Load-Shed Events Have Occurred Since October 1, 2022
- One load shed event has occurred in the past two weeks.





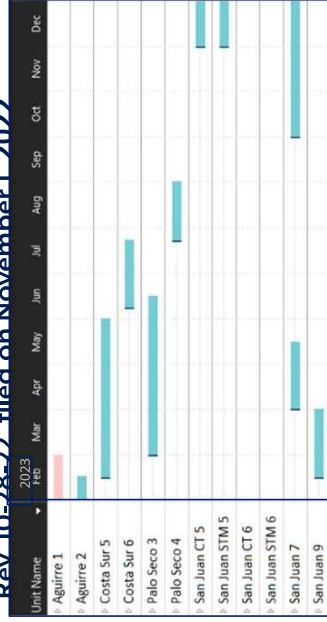
# Repeated changes to maintenance schedule limit effective planning of outage scheduling

Planned Outage  
(PO) Schedule  
Changes for  
PREPA Units

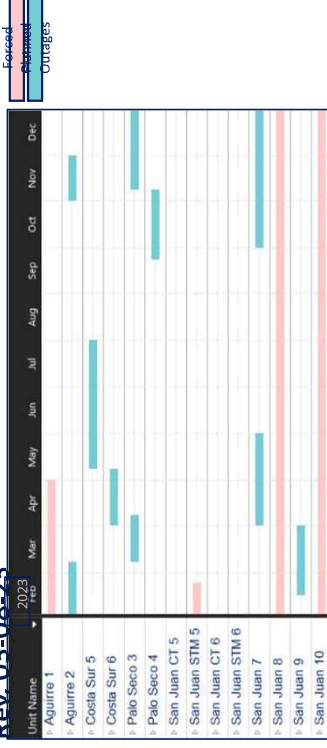
- Twenty-nine (29)  
Planned Outage  
schedules have  
been extended  
or delayed since  
October 2022

Schedule Revisions	Aguirre 1	Aguirre 2	Costa Sur 5	Costa Sur 6	Palo Seco 3	Palo Seco 4	San Juan CT 5	San Juan CT 6	San Juan STM 5	San Juan STM 6	San Juan 7	San Juan 8	San Juan 9	San Juan 10
Baseline Rev. 10-26-22														
Rev. 10-28-22									Extend PO			Add OOS through 2023		Add OOS through 2023
Rev. 12-08-22	Extend FO duration	Move up FO start	Delay PO start	Move up PO start	Delay PO start	Extend PO	Delay PO start		Extend PO duration		Delay PO start			
Rev. 01-05-23		Delay PO start	Move up PO start	Shorten PO duration		Delay PO Start	Add PO in Dec 2023		Extend PO duration					
Rev. 01-17-23		Add PO in Nov 2023									Extend PO duration			
Rev. 02-06-23											Extend PO duration	Change OOS to FO		Change OOS to FO
Rev. 02-24-23	Extend FO duration to end of Apr 2023.				Move up PO start date from Apr 2023 to Mar 2023 and shorten duration. Add PO in Nov 2023.		Add PO in Mar 2023. Delay PO start from Dec 2023 to May 2024.	Add PO in 2024	Change PO in Feb to FO and extend duration. Delay PO start from Dec 2023 to May 2024.	Add PO in 2024				
Rev. 03-08-23		Extend PO duration												

Rev. 10-28-22 filed on November 1 2022

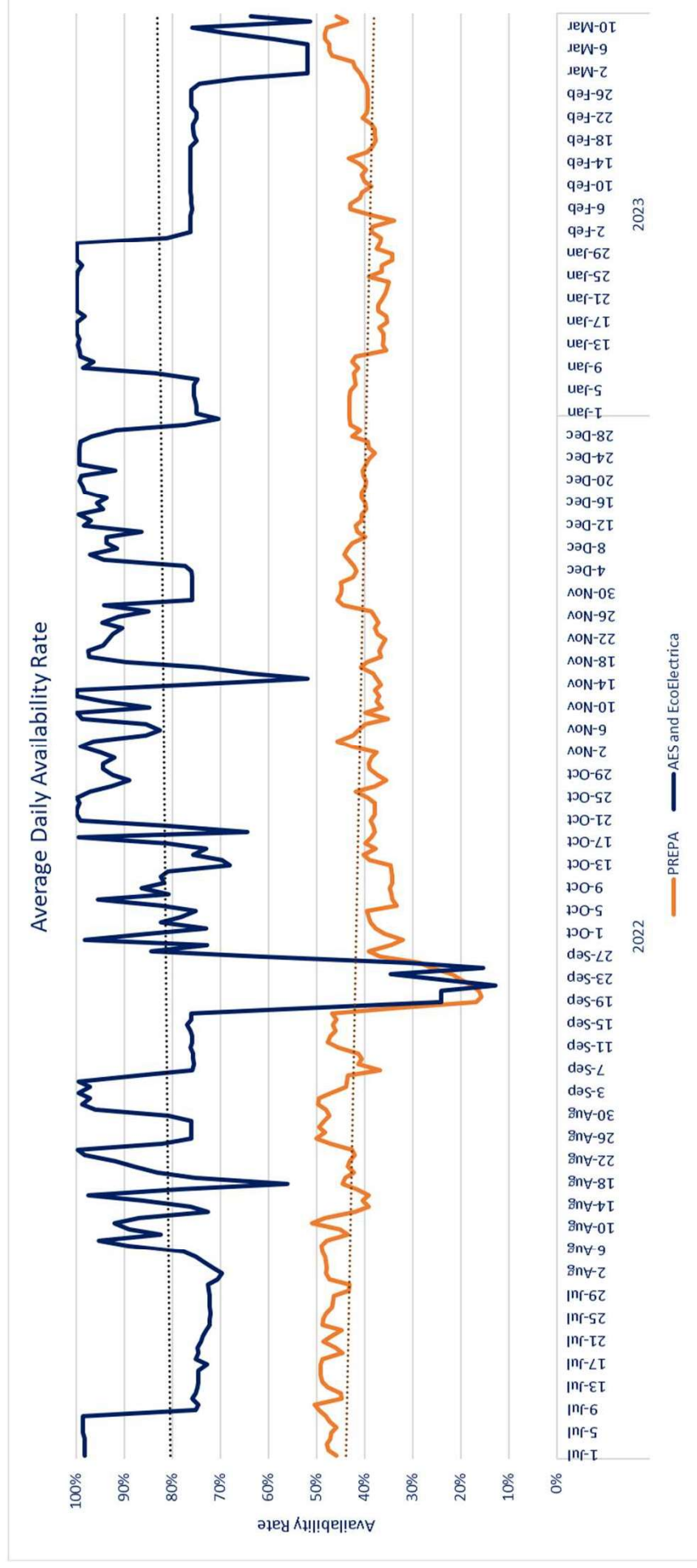


Rev. 03-08-23



# Availability of PREPA units trending lower

As of 3/12/2023



- Since July of 2022, trend of availability of PREPA units decreased to below 40%, compared to its stated goal of 65%



## **Resource Adequacy: continued risk with expected decrease when emergency generation is available**

- Resource adequacy analysis suggest load shed risks will increase in coming months as demand grows due to rising temperatures
- Increased risk of load sheds in March to April time period
  - Failure to complete scope of maintenance work during planned duration
  - Increasing forced outage rates
  - Crowded outage schedule in March through May period
- Risks have been somewhat mitigated by lower-than-expected customer demand (on averaging 7% less than forecast) due to cooler than normal temperatures and customer shift to rooftop solar and net metering policy
- Near term arrival and interconnection of first 180 MW of FEMA emergency generation in April will reduce load shed risks considerably



# 350 MW of Emergency Generation reduces risk to Pre-Fiona Levels

Loss of Load Expectation is currently (LOLE) 37.2 for the period October 2023 – October 2024

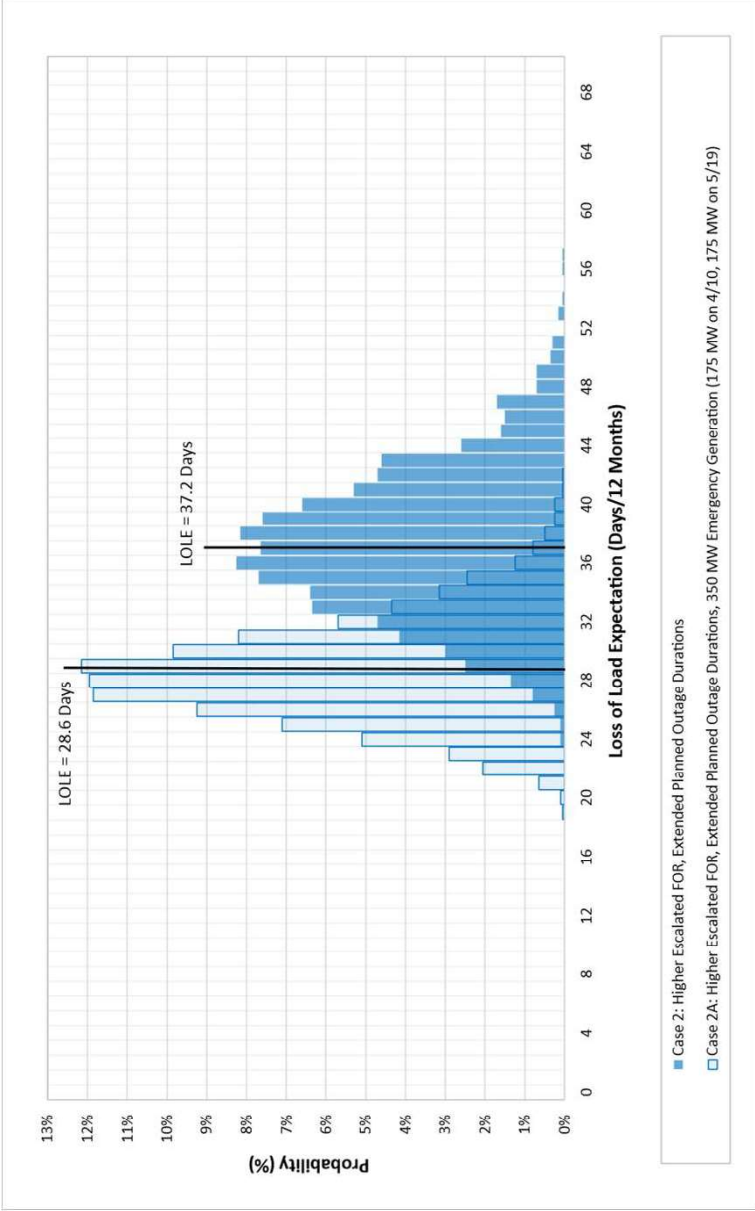
- Several adjustments to outage schedules in October 2022 reduced outage events immediately after Fiona
- Reduced customer demand from original forecast has the effect of increasing reserves and reducing LOLE

The addition of 350 MW of emergency generation is calculated to reduce the LOLE down to 28.6

- Assumes half the emergency generation is connected in April and the other half connected in May

The addition of 350 MW of emergency generation restores the portfolio approximately to pre-Fiona risk levels

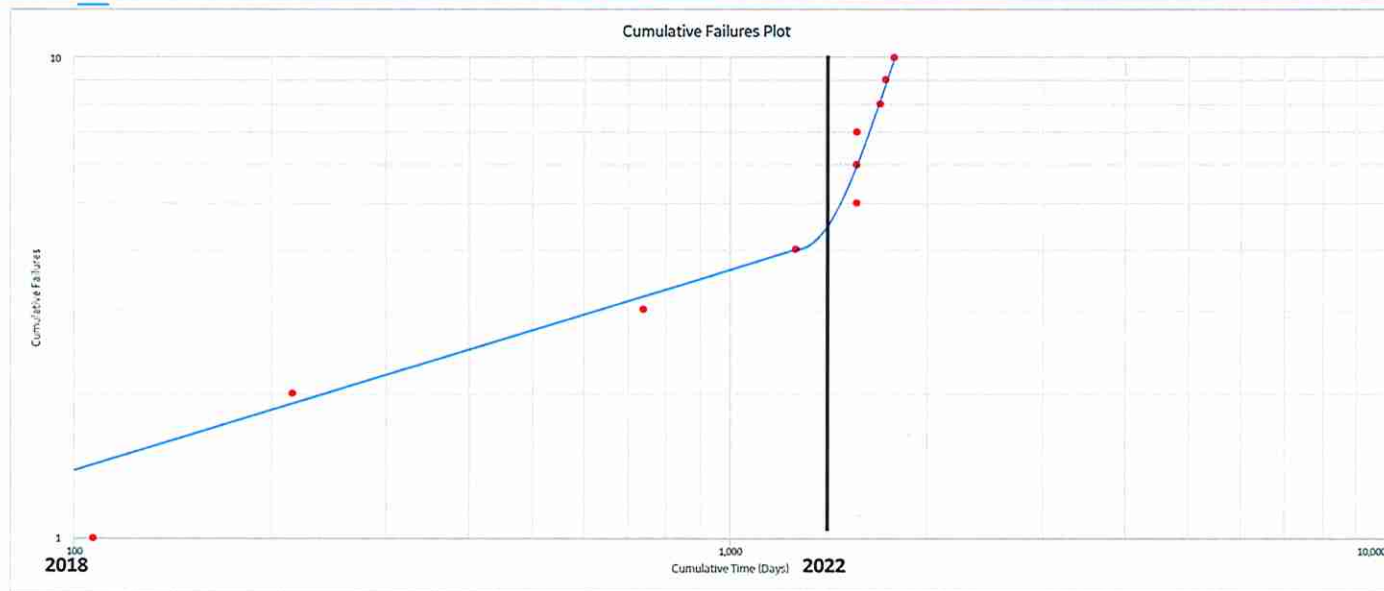
- LOLE pre-Fiona using historic availability data was approximately 28.1





# Análisis de confiabilidad Sistema Eléctrico

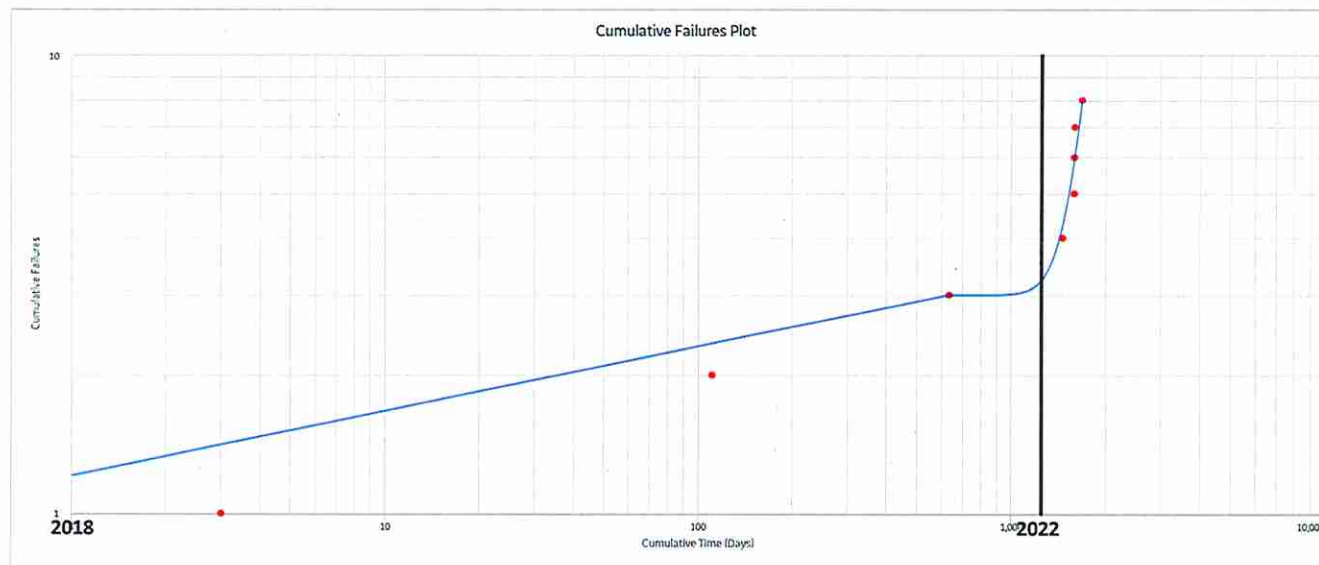
## Unidad 1



- Desde el año 2018 la unidad 1 ha tenido 10 disparos por eventos relacionados a eventos con el Sistema de transmisión.
- De esos 10 eventos 6 han sido en el año 2022.
- Para el periodo de análisis que comprende desde 6/1/2021 a 11/14/2022 obtenemos los siguientes datos:
  - Beta = 2.03 (La confiabilidad del sistema esta en deterioro)
  - Mean time between Failures = 42.65 Days
  - Next expected event day = 12/25/2022

# Análisis de confiabilidad Sistema Eléctrico

## Unidad 2



- Desde el año 2018 la unidad 2 ha tenido 8 disparos por eventos relacionados a eventos con el Sistema de transmisión.
- De esos 8 eventos 5 han sido en el año 2022.
- Para el periodo de análisis que comprende desde 6/1/2021 a 11/14/2022 obtenemos los siguientes datos:
  - Beta= 2.68 (La confiabilidad del sistema esta en deterioro)
  - Mean time between Failures = 39.62 Days
  - Next expected event day =12/21/2022



**Autoridad de Energía Eléctrica** ✓

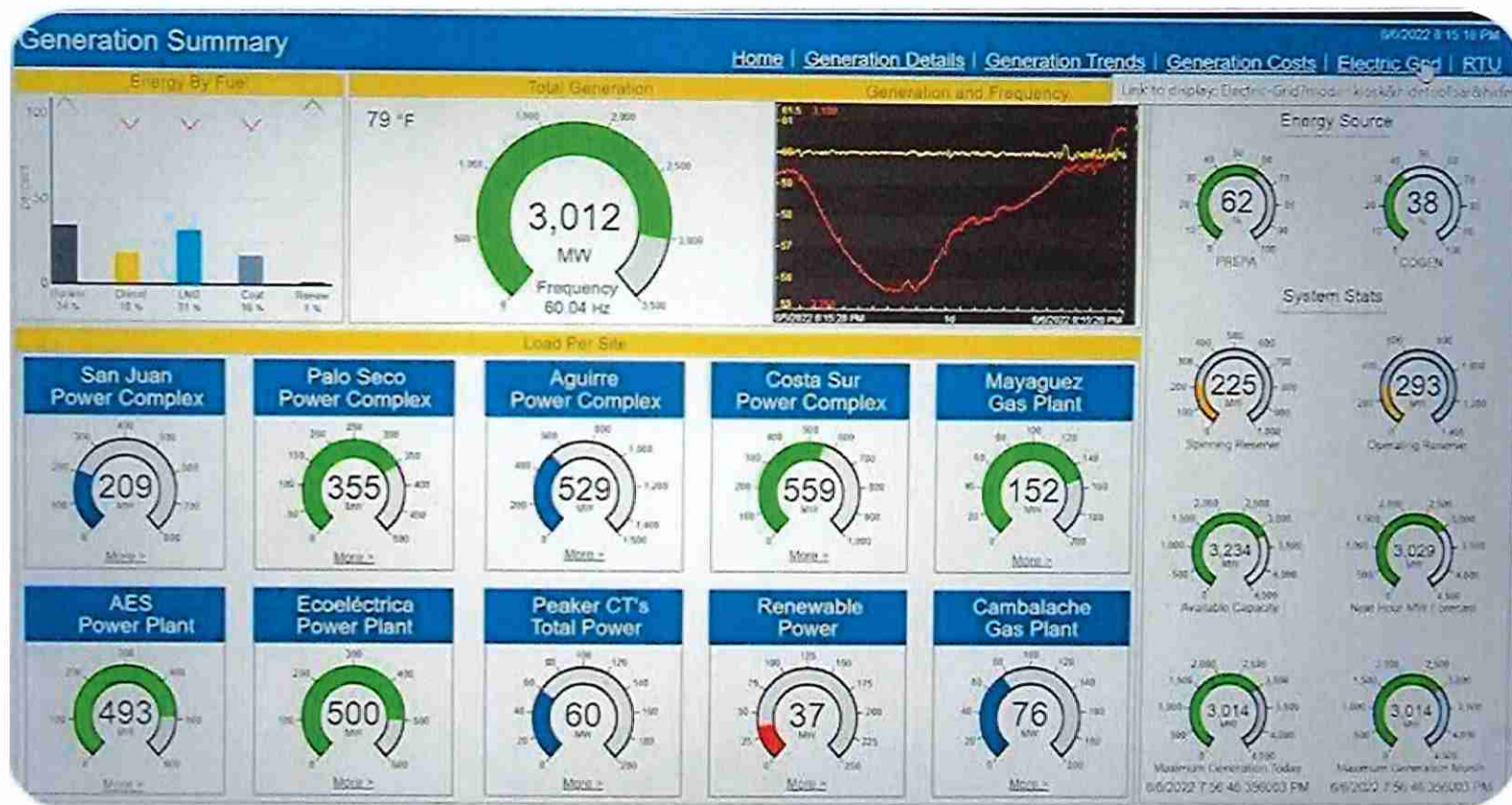
@AEEONLINE

...

AHORA | Compartimos la gráfica de producción de energía por estación generatriz. Al presente 8:15pm, estamos atendiendo el 100% de la demanda de energía de 3,012mw que superó el pronóstico de demanda para hoy.

¡Continuamos trabajando por Puerto Rico!

@GovPierluisi @fortalezapr



8:22 PM · Jun 6, 2022



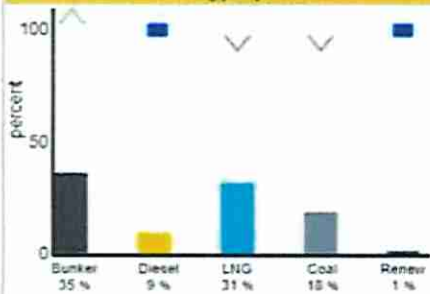
# Generation Summary

Puerto Rico Energy System

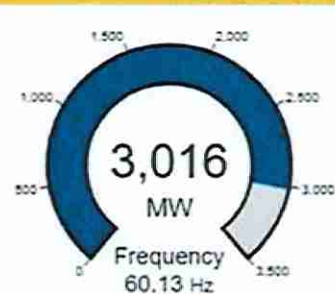
6/6/2022 8:16:29 PM

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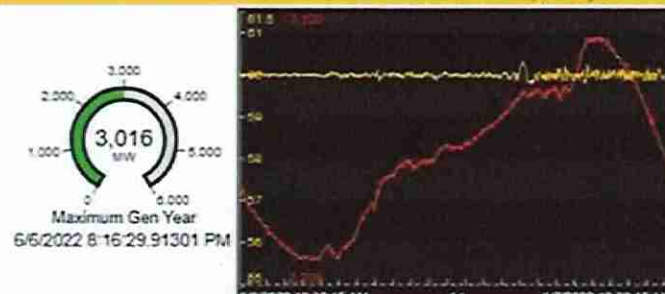
## Energy By Fuel



## Total Generation



## Generation and Frequency

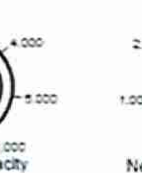


## Metrics

### Energy Source



### System Stats



## Load Per Site

### San Juan Power Complex



### Palo Seco Power Plant



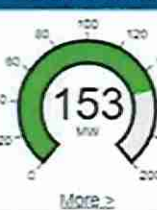
### Aguirre Power Complex



### Costa Sur Power Complex



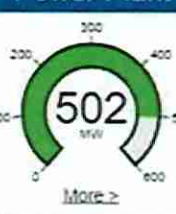
### Mayaguez Gas Plant



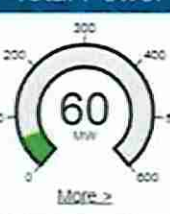
### AES Power Plant



### Ecoeléctrica Power Plant



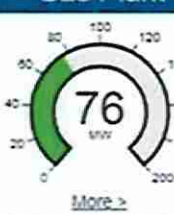
### Peaker CT's Total Power



### Renewable Power



### Cambalache Gas Plant





# Generation Summary

Puerto Rico Energy System

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