

**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).



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*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



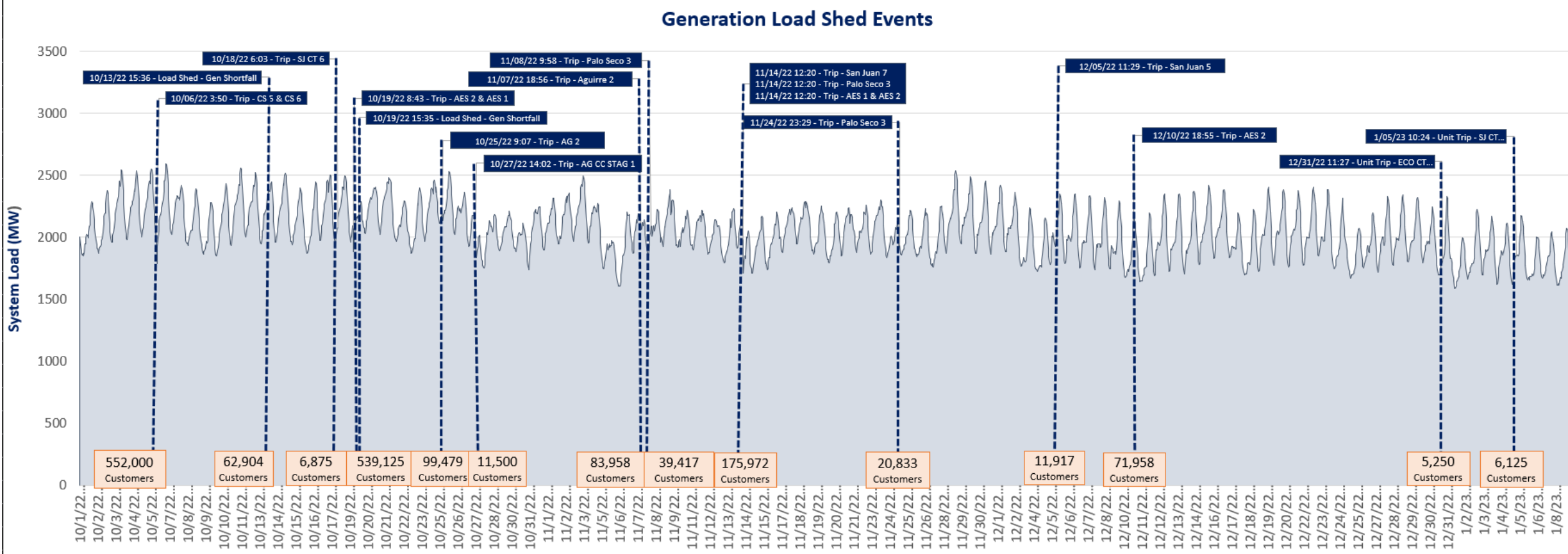
# Area of Focus Past Two Weeks was Site Assessments

- 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
<b>FEMA</b>	<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>
<b>Task Force Leadership Team</b>	<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>
<b>Operational Coordination Team</b>	<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>
<b>Functional Teams and Subject Matter Experts</b>	<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>
<b>Operations Support</b>	<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

Unit Name	2023																Changes From Last Update (Rev. 2022-12-08)
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
▸ Aguirre 1																	
▸ Aguirre 2																	Delayed Planned Outage of Jan 2023 by two weeks
▸ Costa Sur 5																	Moved up Planned Outage to May 2023 from Jun 2023
▸ Costa Sur 6																	Shortened Planned Outage of Apr 2023 by one week
▸ Palo Seco 3																	
▸ Palo Seco 4																	Delayed Planned Outage from Jul 2023 to Sep 2023
▸ San Juan CT 5																	Added Planned Outage in Jan 2023
▸ San Juan STM 5																	Extended Planned Outage by two weeks
▸ San Juan CT 6																	
▸ San Juan STM 6																	
▸ San Juan 7																	
▸ San Juan 8																	
▸ San Juan 9																	
▸ San Juan 10																	
▸ AES 1																	
▸ AES 2																	Added Planned Outage in Jul 2023
▸ EcoElectrica 1																	
▸ EcoElectrica 2																	
▸ EcoElectrica STM																	

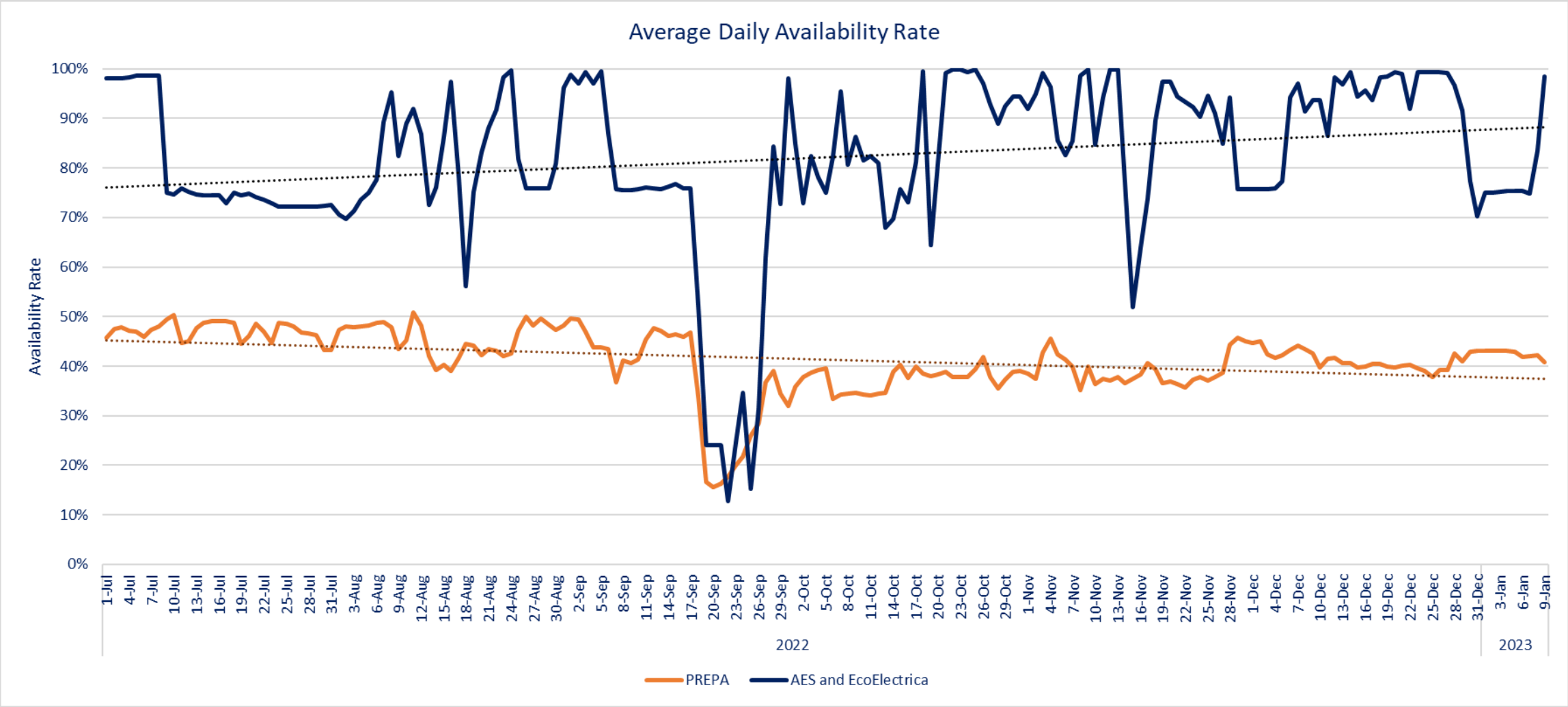
Forced Outages

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.