

**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 7th 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 7th 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 11th 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 12th Order”).

5. Per the October 12th Order, LUMA was directed to submit the 1st and the 15th 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 12th Order, therefore, the first of such reports is due on November 1, 2022.

6. On October 27th, 2022, the Energy Bureau issued a Resolution and Order whereby it set a technical conference for November 1, 2022 (“October 27th 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 27th Order at page 1.

7. In compliance with the October 12th 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 12th Order that requires submission of an update report on the Stabilization Plan.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 31st 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 and kbolanos@diazvaz.law.



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Exhibit 1



Update on Generation Stabilization Plan

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Agenda

Background

Generation Stabilization Plan Schedule

Current System Status

Ongoing Stakeholder Coordination

Risk Analysis

Next Steps

Background

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

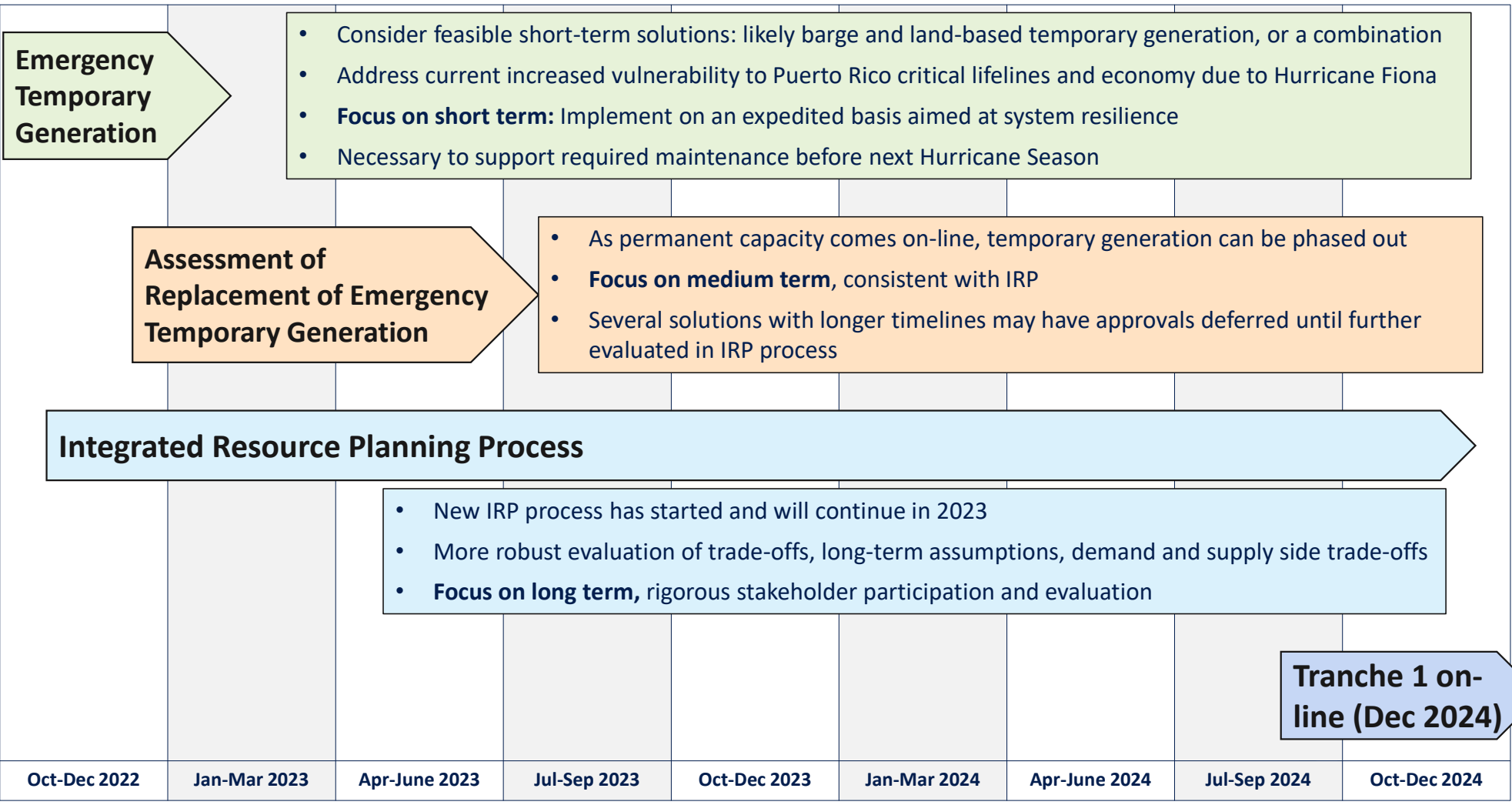
Objectives of Generation Stabilization Plan

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

LUMA's Role

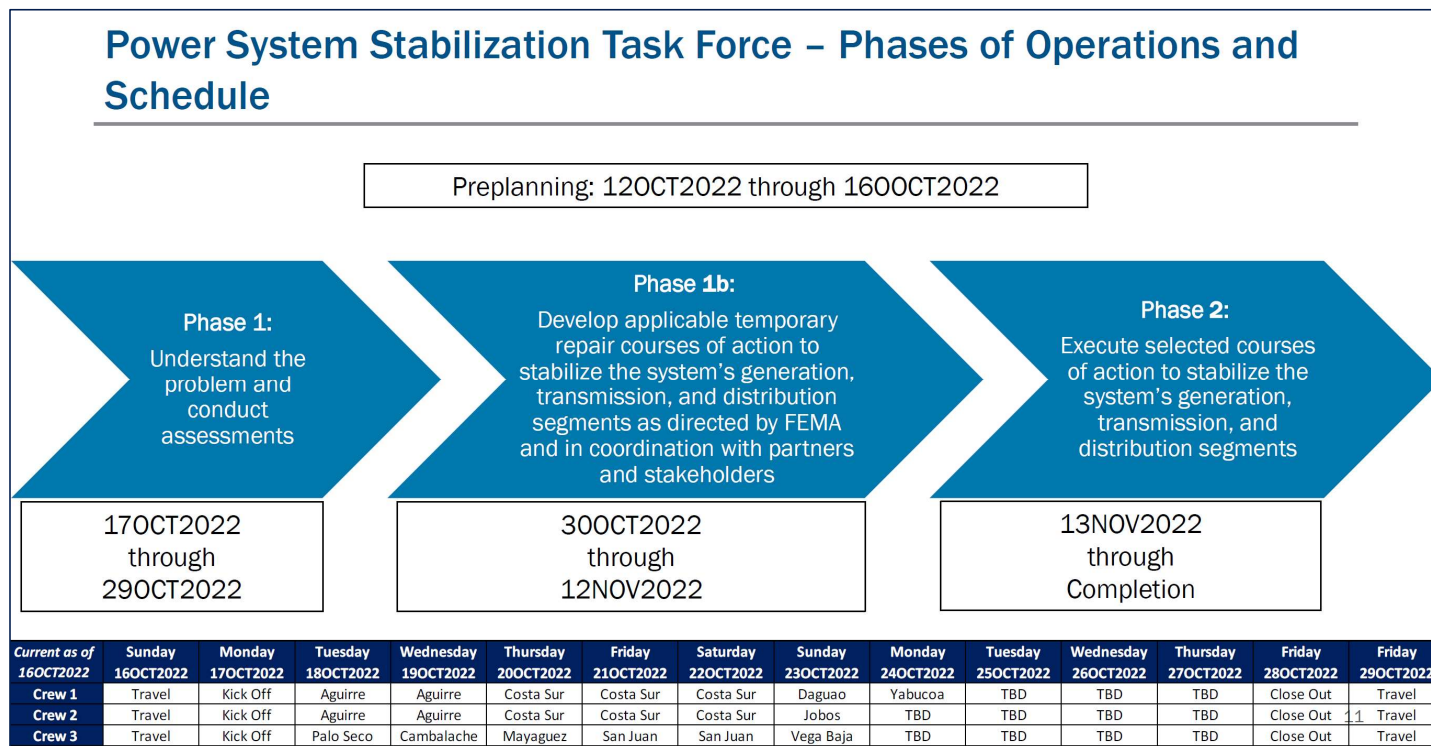
- LUMA does not own or operate generation;
- As System Operator and operator of Transmission and Distribution, LUMA will coordinate and cooperate with FEMA and Puerto Rico agencies to provide data and analysis on system needs and options for emergency power
- LUMA will provide electrical system and resource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

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



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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

PURPOSE

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.

SENIOR LEADER'S INTENT

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.

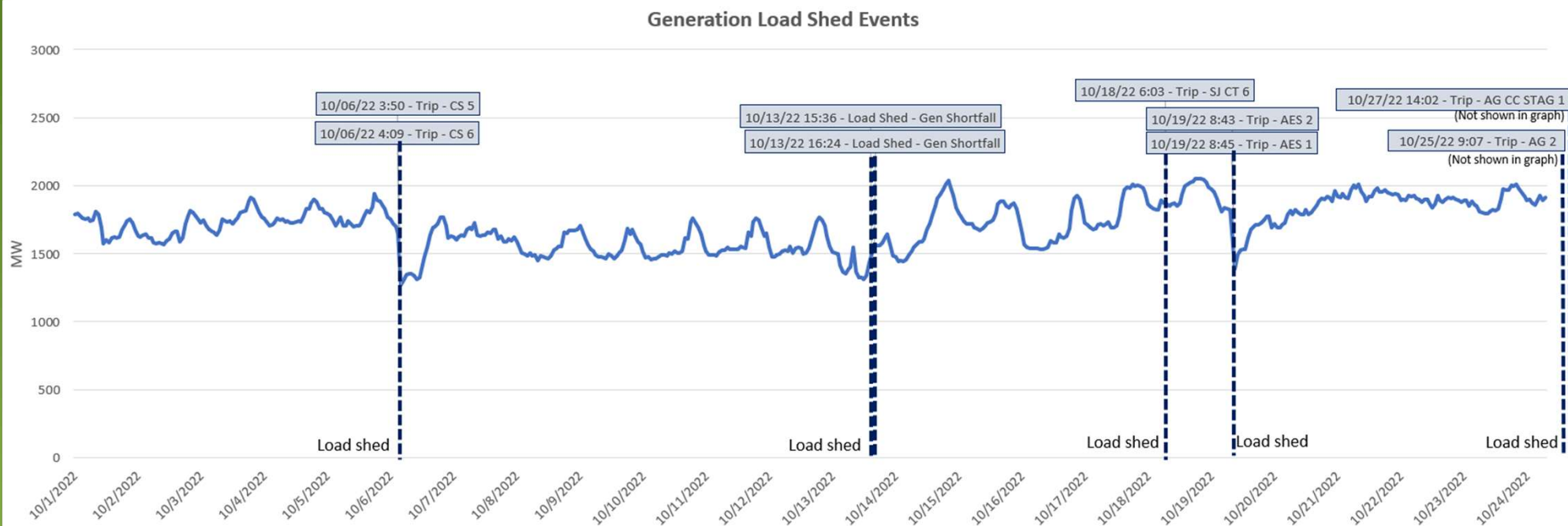
DESIRED END STATE

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



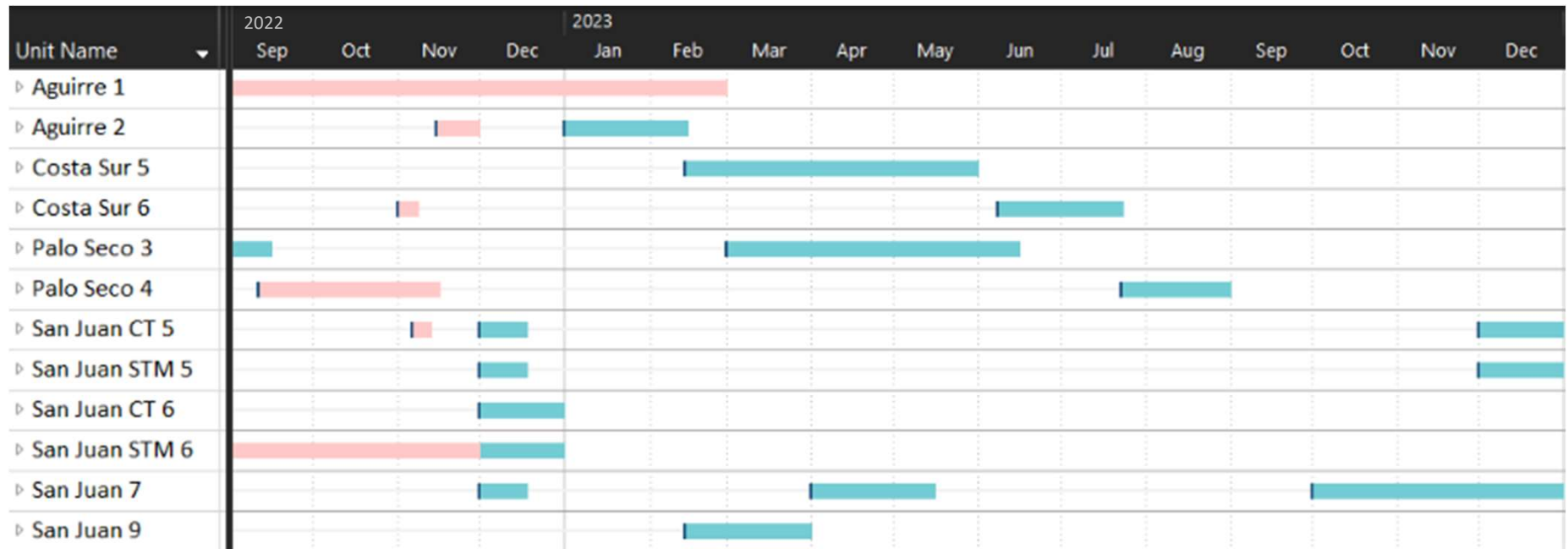
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*October 1, 2022 was date that 90% of Customers restored



Current Planned Outage Projections PREPA Baseload Units

Legend: Planned Outage Forced Outage



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



Stakeholder Coordination and Recent LUMA Activities

PREPA

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

FEMA

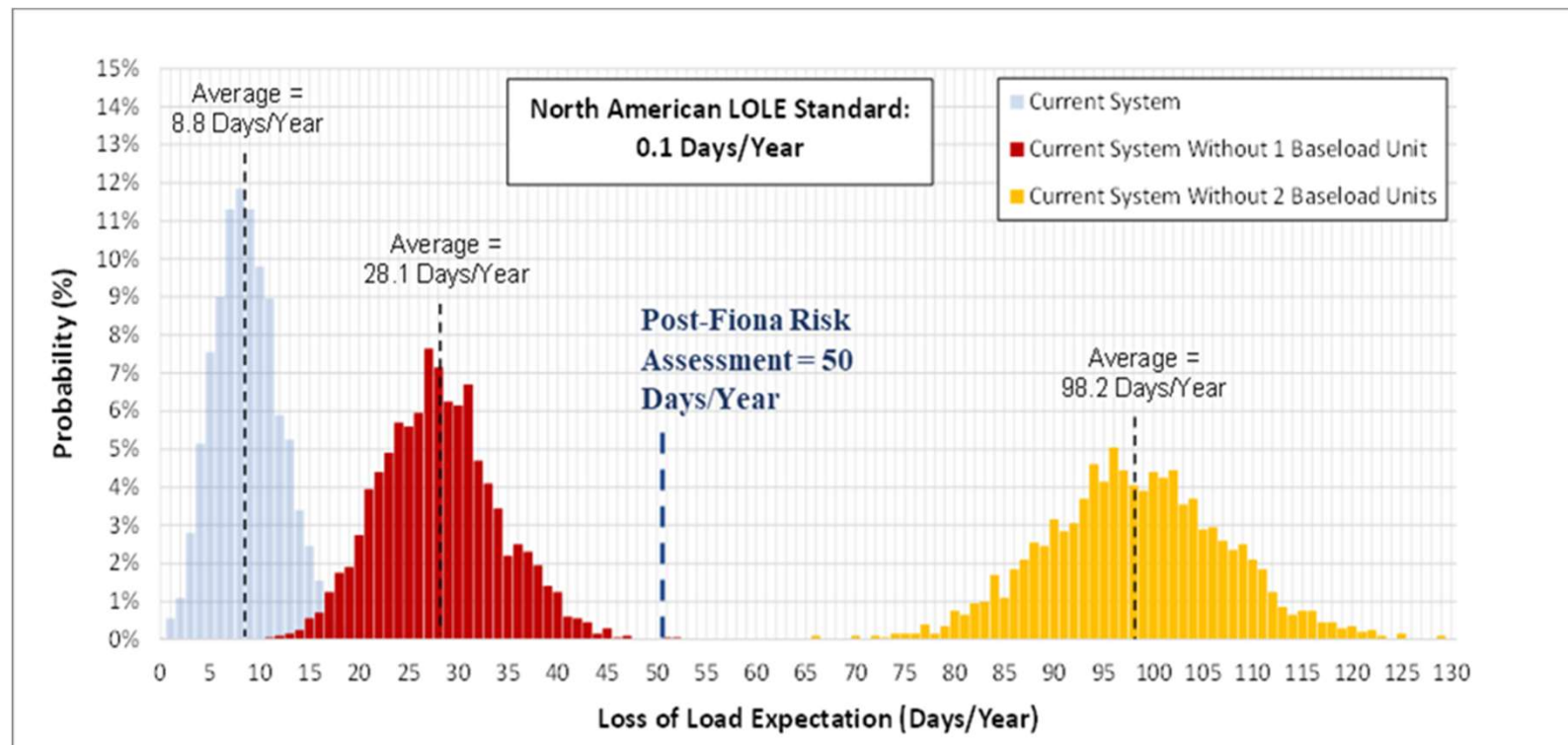
- FEMA kick-off meeting with LUMA, PREPA, and Puerto Rican and federal agencies conducted on Monday, October 17, 2022
- Providing data and analysis to FEMA Task Force

LUMA

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

Risk Analysis – Initial Assessment Fiona Impacts

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

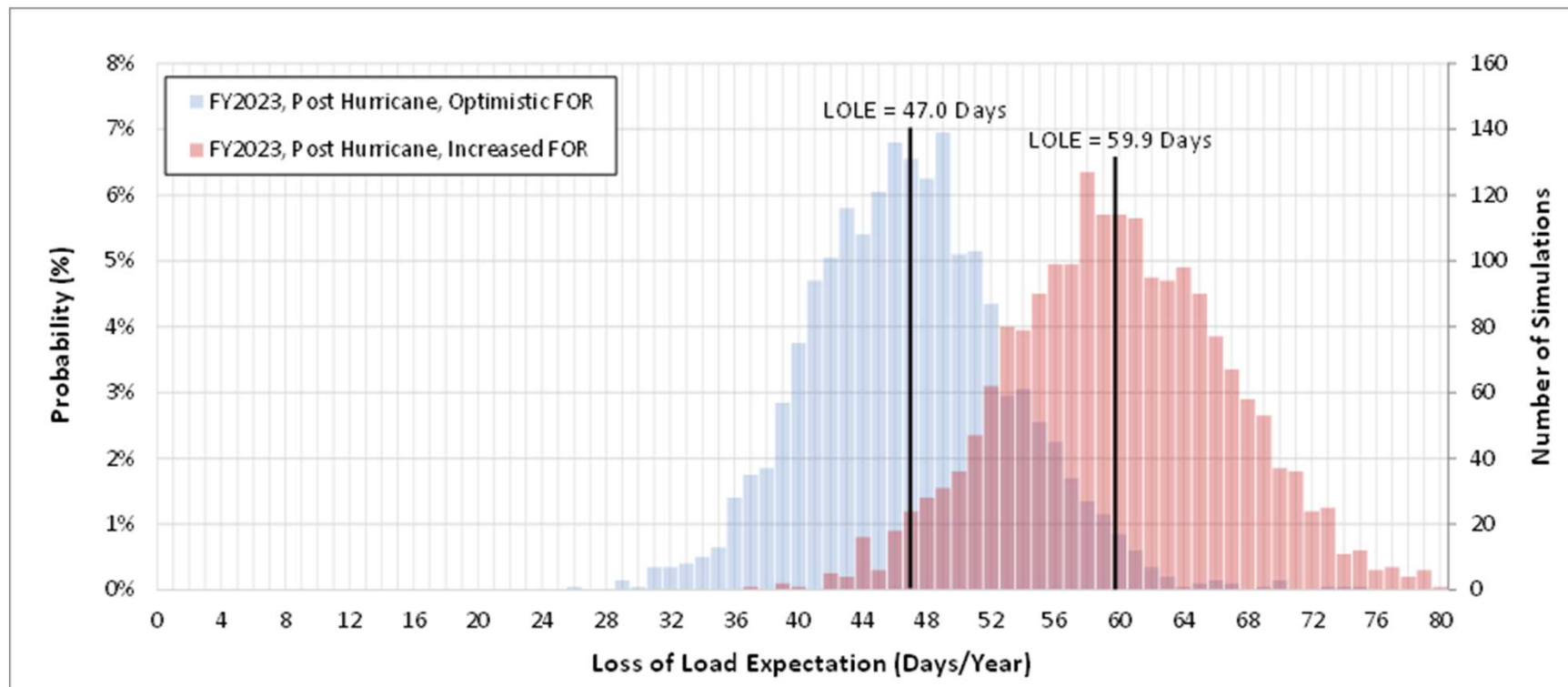


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Risk Analysis – Range of potential generation damage

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

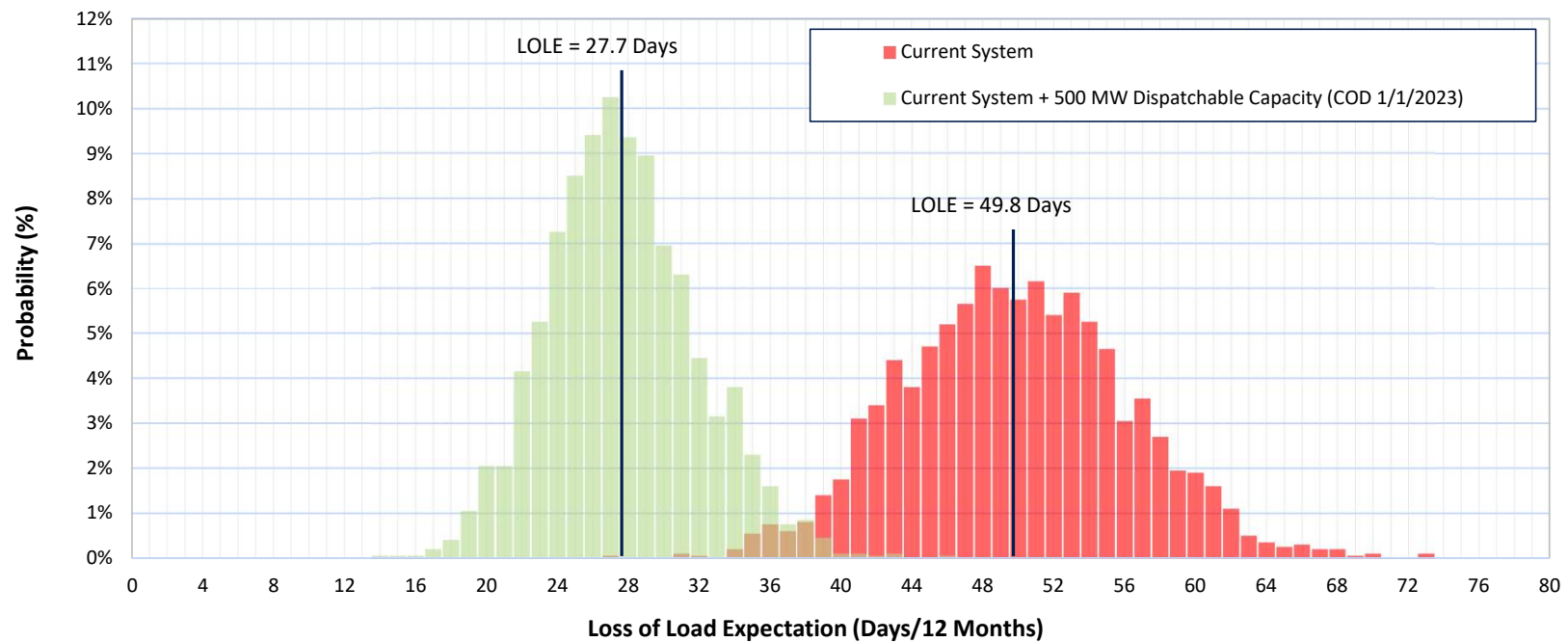


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Risk Analysis – Impact of 500 MW of Emergency Generation

Emergency generation could significantly reduce risk of multiple load sheds

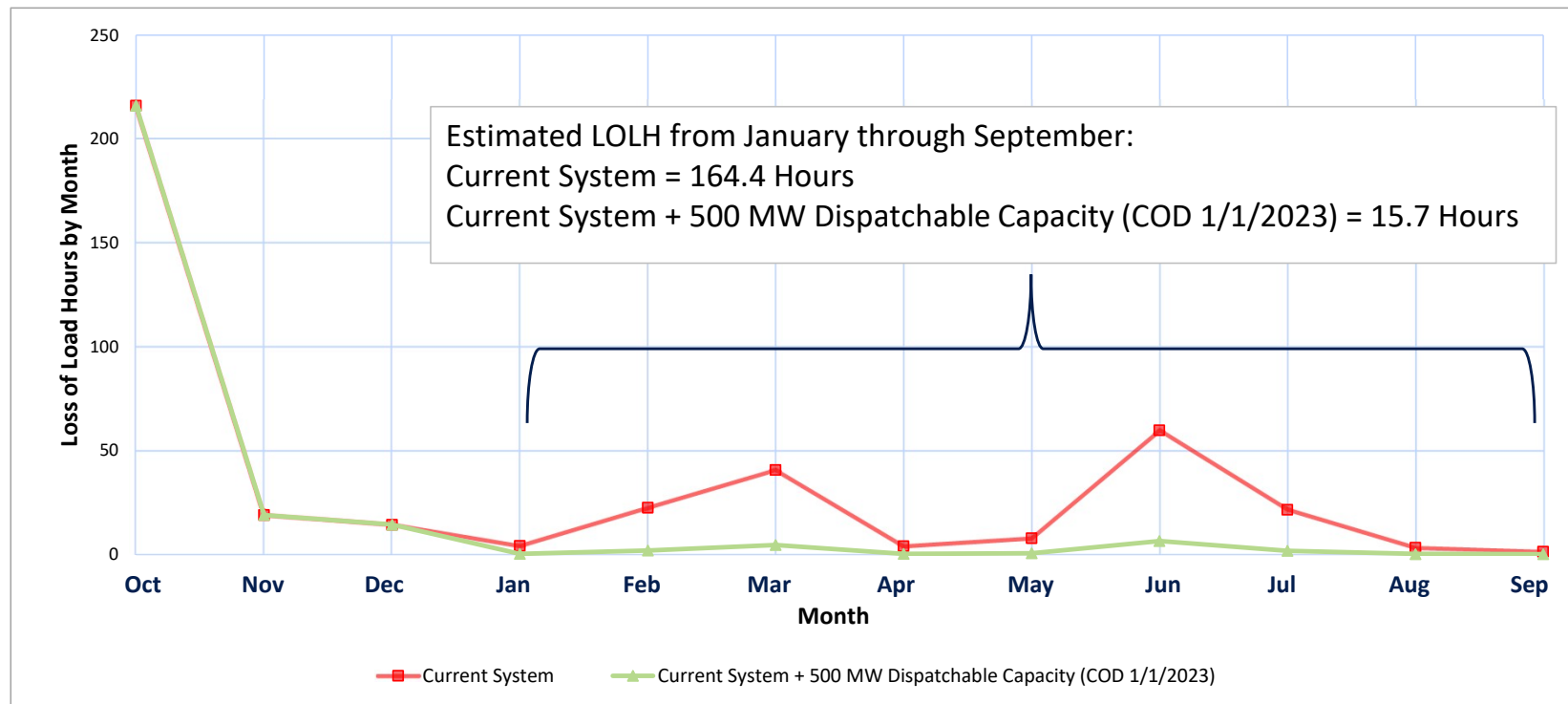


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Risk Analysis – Risk Exposure Varies by Month

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



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

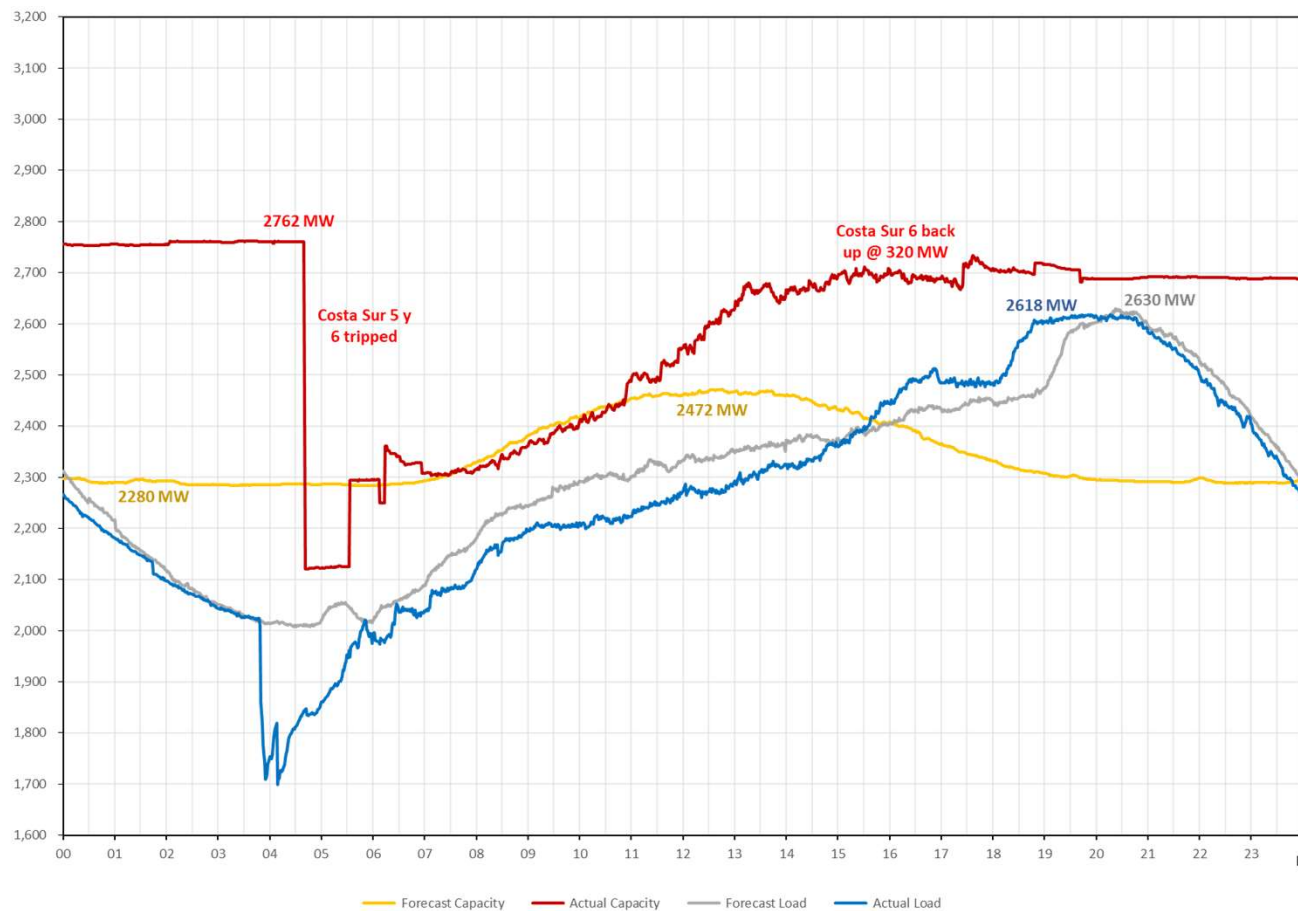
Appendix

Hourly Activity During Load Shed Days

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Hourly Activity During Load Shed Days – October 6, 2022



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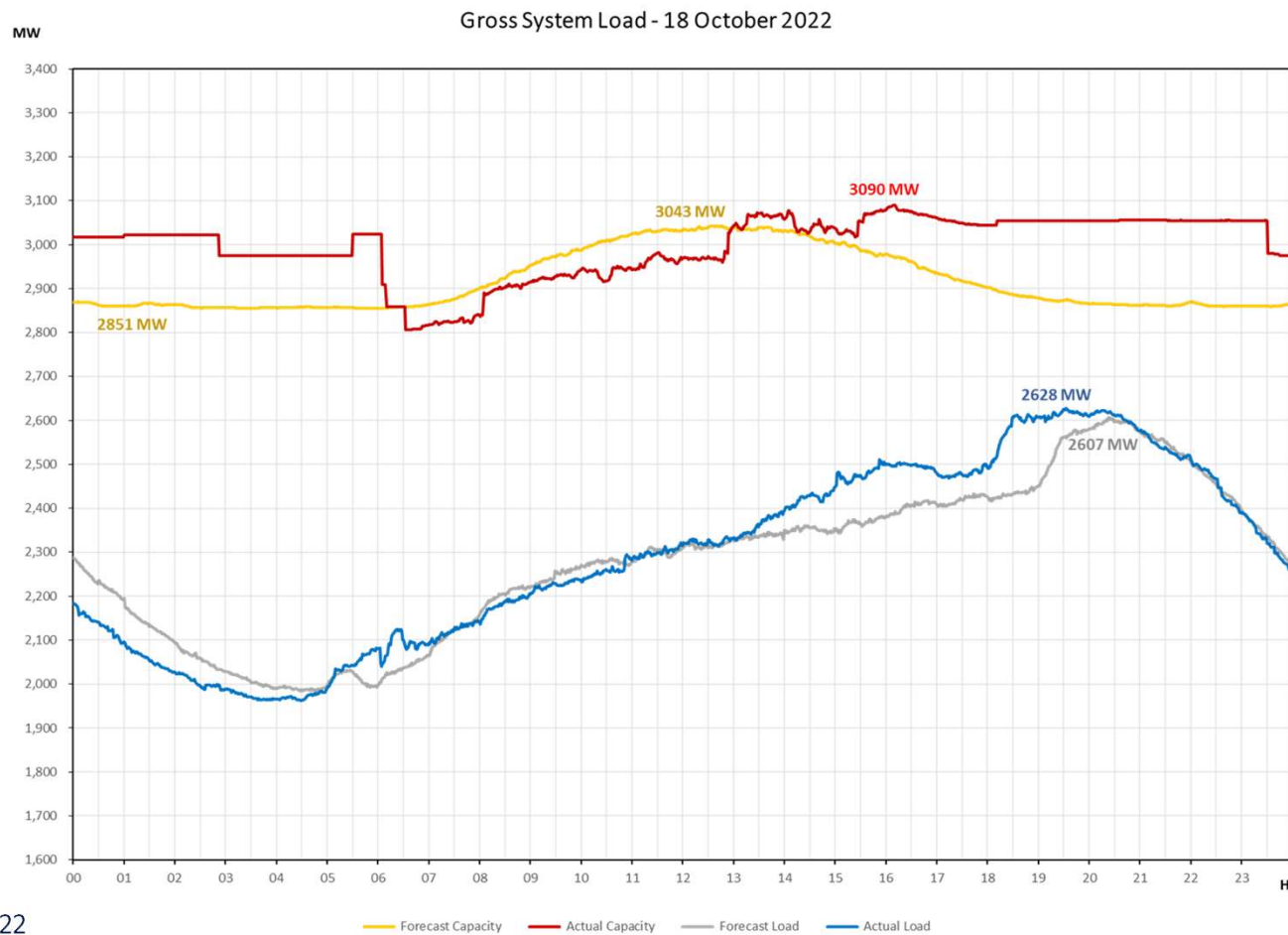


Hourly Activity During Load Shed Days – October 13, 2022



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Hourly Activity During Load Shed Days – October 18, 2022



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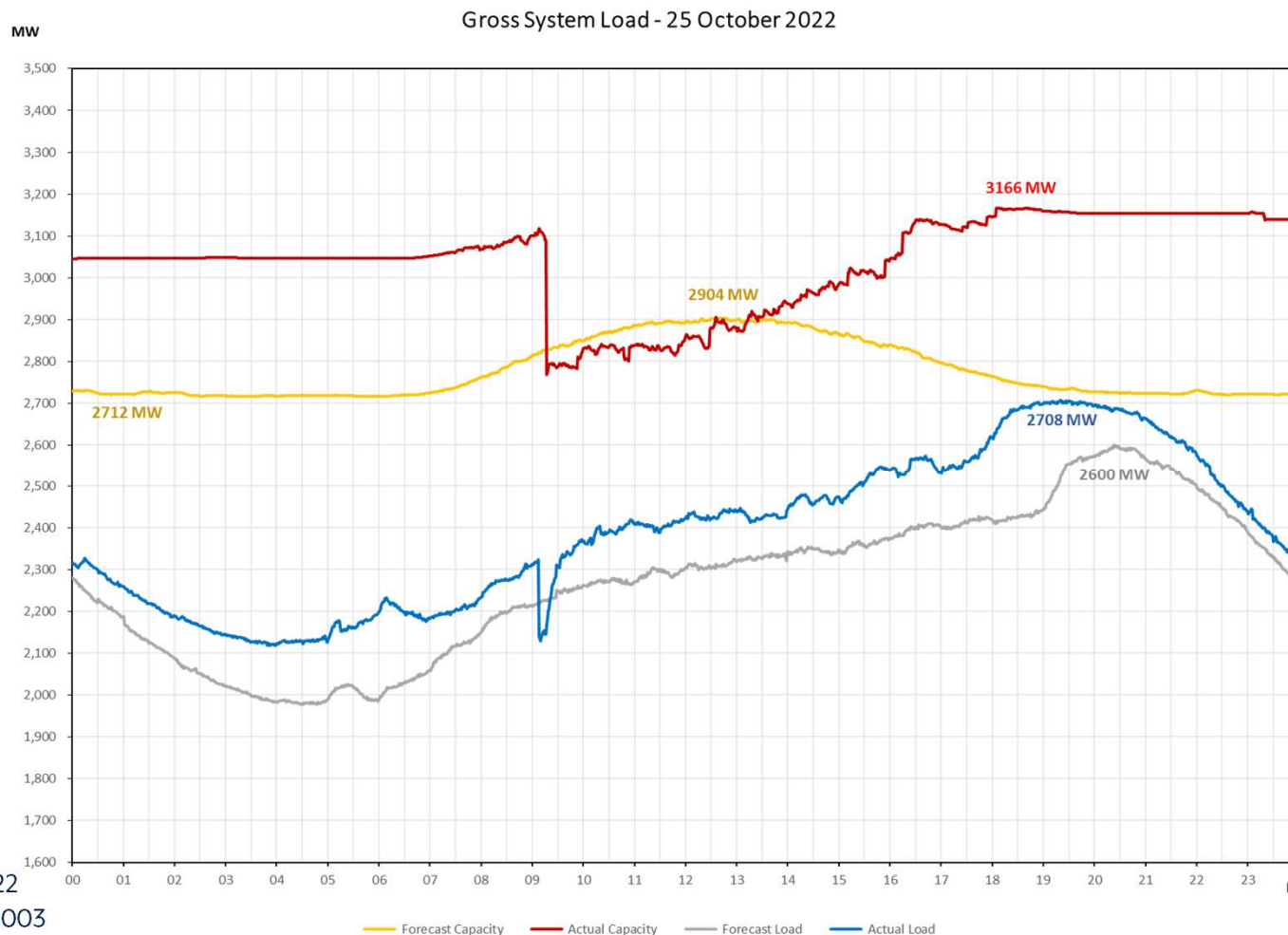


Hourly Activity During Load Shed Days – October 19, 2022



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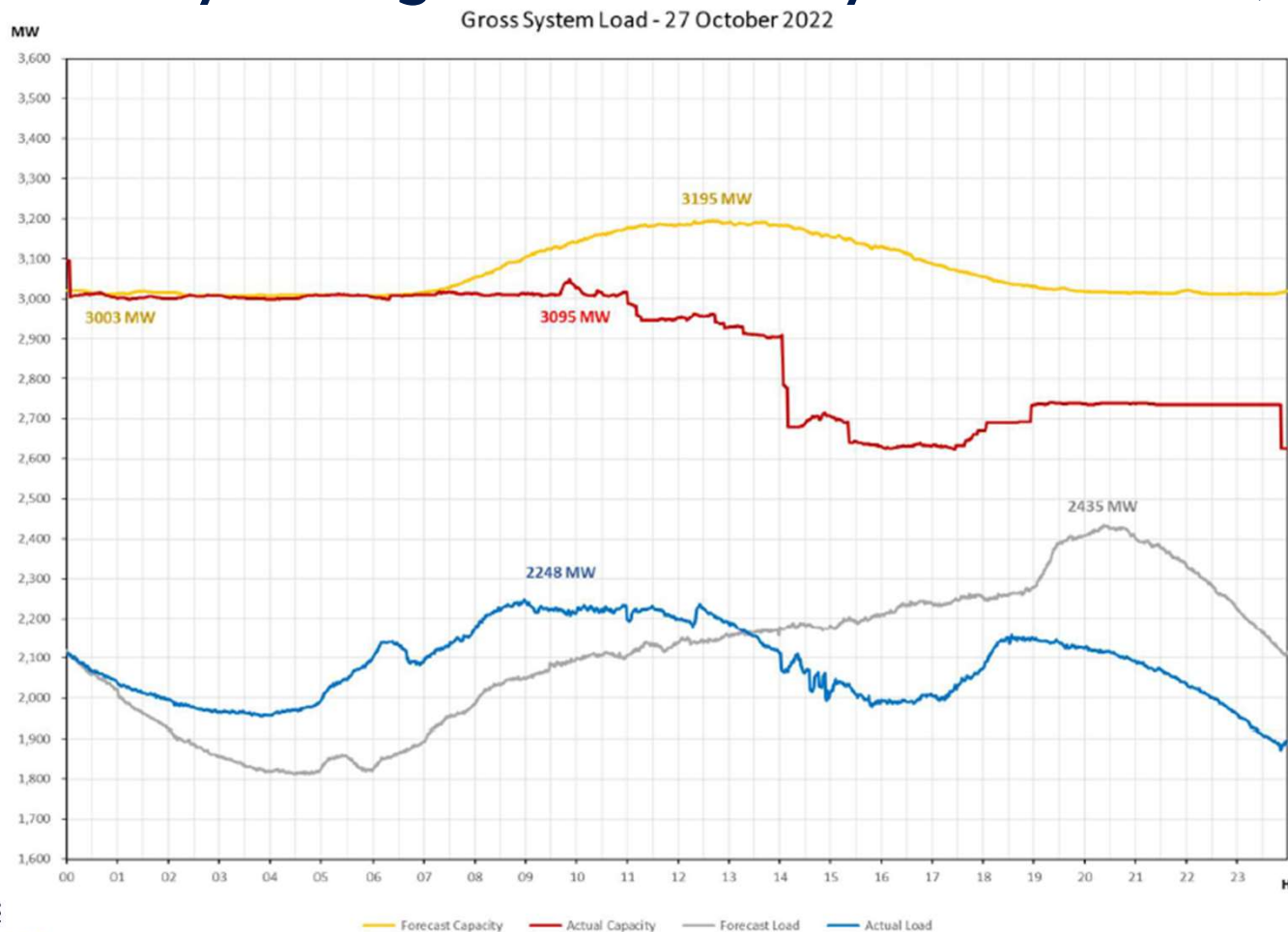
Hourly Activity During Load Shed Days – October 25, 2022



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Hourly Activity During Load Shed Days – October 27, 2022



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