

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

NEPR

Received:

Jun 15, 2023

8:28 PM

IN RE:
LUMA'S RESPONSE TO HURRICANE
FIONA

CASE NO. NEPR-MI-2022-0003

**SUBJECT: Motion Submitting Fifteenth Update on
Stabilization Plan and Request for Confidential
Treatment of Portions Thereof**

**MOTION SUBMITTING FIFTEENTH UPDATE ON STABILIZATION PLAN FOR
TEMPORARY EMERGENCY GENERATION CAPACITY AND REQUEST FOR
CONFIDENTIAL TREATMENT OF PORTIONS THEREOF**

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:

**I. Submission of Fifteenth Update on Stabilization Plan for Temporary
Emergency Generation Capacity**

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 "(i) 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."¹

¹ 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.

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 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”).

3. 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.

4. 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.

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

6. On October 31st, 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 15th, 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 1st, 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); March 1, 2023 (Eight Update); March 15th (Ninth Update); April 3rd (Tenth Update); April 17th (Eleventh Update); May 1, 2023 (Twelfth Update); May 15, 2023 (Thirteenth Update); and June 1st, 2023 (Fourteenth Update).

10. In compliance with the October 12th Order, LUMA hereby submits as *Exhibit I*, the Fifteenth Update on the Stabilization Plan (“Fifteenth Update”). The Fifteenth Update includes, among others, a detail of the recent climate conditions and temperature trends associated with an increased demand for power, a summary of the power grid system performance and data related to the recent load shedding events. The Fifteenth Update also includes a summary of the status of the Stabilization Plan with reference to the tasks performed in the past weeks in coordination with

USACE, FEMA and PREPA, an update on the activities at the Palo Seco site that include construction and commissioning, and the status of construction activities at the San Juan site. The Fifteenth Update also identifies the current scenario of generation availability and resource adequacy. Finally, the Fifteenth Update includes a summary of LUMA's contributions in support of the Generation Stabilization Plan.

11. LUMA redacted portions of *Exhibit 1* and respectfully requests that those portions be kept confidential by this honorable Energy Bureau pursuant to the Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009, issued on August 31, 2016, and partially amended on September 16, 2016 and in accordance with the confidential nature of the December 20th closed Technical Conference. In compliance with this policy, LUMA hereby submits its Memorandum of Law in support of its request for confidentiality setting forth the legal basis for which LUMA is entitled to file portions of Fifteenth Report under the seal of confidentiality. As explained below, the Energy Bureau should protect several pictures included in *Exhibit 1* from public disclosure as they contain CEII as defined in federal regulations and the Energy Bureau's Policy on Management of Confidential Information. *See* 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674; Energy Bureau's Policy on Management of Confidential Information.

II. Memorandum of Law in Support of request for Confidentiality

A. Applicable Laws and Regulations to Submit Information Confidentially Before the Energy Bureau.

The bedrock provision on the management of confidential information filed before this Energy Bureau is Section 6.15 of Act 57-2014, known as the "Puerto Rico Energy Transformation and Relief Act." It provides, in pertinent part, that: "[i]f any person who is required to submit information to the Energy Commission believes that the information to be submitted has any confidentiality privilege, such person may request the Commission to treat such information as

such” 22 LPRA § 1054n. If after appropriate evaluation the Energy Bureau determines that the information should be protected, “it shall grant such protection in a manner that least affects the public interest, transparency, and the rights of the parties involved in the administrative procedure in which the allegedly confidential document is submitted.” *Id.* § 1054n(a).

The confidential information shall be provided “only to the lawyers and external consultants involved in the administrative process after the execution of a confidentiality agreement.” *Id.* § 1054n(b). Finally, Act 57-2014 provides that this Energy Bureau “shall keep the documents submitted for its consideration out of public reach only in exceptional cases. In these cases, the information shall be duly safeguarded and delivered exclusively to the personnel of the [Energy Bureau] who needs to know such information under nondisclosure agreements. However, the [Energy Bureau] shall direct that a non-confidential copy be furnished for public review.” *Id.* § 1054n(c).

Relatedly, in connection with the duties of electric power service companies, Section 1.10(i) of Act 17-2019 provides that electric power service companies shall provide the information requested by customers, except for confidential information under the Rules of Evidence of Puerto Rico.

Moreover, the Energy Bureau’s Policy on Confidential Information details the procedures a party should follow to request that a document or portion thereof be afforded confidential treatment. In essence, the referenced Policy requires identifying confidential information and filing a memorandum of law explaining the legal basis and support for a request to file information confidentially. *See* CEPR-MI-2016-0009, Section A, as amended by the Resolution of September 20, 2016, CEPR-MI-2016-0009. The memorandum should also include a table that identifies the confidential information, a summary of the legal basis for the confidential designation, and why

each claim or designation conforms to the applicable legal basis of confidentiality. *Id.* at ¶ 3. The party who seeks confidential treatment of information filed with the Energy Bureau must also file both “redacted” or “public version” and an “unredacted” or “confidential” version of the document that contains confidential information. *Id.* at ¶ 6.

The Energy Bureau policy on CEII is regulated by Section D of the Resolution issued on August 31, 2016, in Case No. CEPR-MI-2016-0009. Section D establishes that CEII is Validated Confidential Information and only authorized representatives may review such information:

2. Critical Energy Infrastructure Information (“CEII”)

The information designated by the [Energy Bureau] as Validated Confidential Information on the grounds of being CEII may be accessed by the parties’ authorized representatives only after they have executed and delivered the Nondisclosure Agreement.

Those authorized representatives who have signed the Non-Disclosure Agreement may only review the documents validated as CEII at the [Energy Bureau] or the Producing Party’s offices. During the review, the authorized representatives may not copy or disseminate the reviewed information and may bring no recording device to the viewing room.

Id. at § D (on Access to Validated Confidential Information).

Further on, Energy Bureau Regulation No. 8543, includes a provision for filing confidential information in proceedings before this Energy Bureau. To wit, Section 1.15 provides that:

[A] person has the duty to disclose information to the [Energy Bureau] considered to be privileged pursuant to the Rules of Evidence, said person shall identify the allegedly privileged information, request the [Energy Bureau] the protection of said information, and provide supportive arguments, in writing, for a claim of information of privileged nature. The [Energy Bureau] shall evaluate the petition and, if it understands [that] the material merits protection, proceed accordingly to . . . Article 6.15 of Act No. 57-2015, as amended.

Regulation No. 8543, *Regulation on Adjudicative, Notice of Noncompliance, Rate Review, and Investigation Proceedings* § 1.15; *see also* Energy Bureau Regulation No. 9137 on *Performance*

Incentive Mechanisms § 1.13 (addressing disclosure before the Energy Bureau of Confidential Information and directing compliance with Resolution CEPR-MI-2016-0009).

B. Request for Confidentiality of the Pictures included in the Fifteenth Update

The Fifteenth Update contains pictures that identify or depict CEII that, under relevant federal law and regulations, is protected from public disclosure. LUMA stresses that the pictures which LUMA redacted from the public version of the Fifteenth Report warrant confidential treatment to protect the Puerto Rico Energy Transmission and Distribution System (“T&D System”) from threats that could undermine the system and negatively affect electric power services to the detriment of the interests of the public, customers, and citizens of Puerto Rico.

Generally, CEII or critical infrastructure information is exempted from public disclosure because it involves assets and information which pose public security, economic, health, and safety risks. Federal Regulations on CEII, particularly 18 C.F.R. § 388.113, states that:

Critical energy infrastructure information means specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that:

- (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
- (ii) Could be useful to a person in planning an attack on critical infrastructure;
- (iii) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and
- (iv) Does not simply give the general location of the critical infrastructure.

Id. at § 388.113(2).

Additionally, Section 388.113(3) defines critical electric infrastructure as a “system or asset of the bulk-power system, whether physical or virtual, the incapacity or destruction of which would negatively affect national security, economic security, public health or safety, or any combination of such matters.” *Id.* § 388.113(3). Finally, “[c]ritical infrastructure means existing

and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.” *Id.* § 388.113(4).

The Critical Infrastructure Information Act of 2002, 6 U.S.C. §§ 671-674, part of the Homeland Security Act of 2002, protects critical infrastructure information (“CII”).² CII is defined as “information not customarily in the public domain and related to the security of critical infrastructure or protected systems” 6 U.S.C. § 671(3).³

² Regarding the protection of voluntary disclosures of critical infrastructure information, 6 U.S.C. § 673, provides in pertinent part that CII:

- (A) shall be exempt from disclosure under the Freedom of Information Act;
- (B) shall not be subject to any agency rules or judicial doctrine regarding ex parte communications with a decision making official;
- (C) shall not, without the written consent of the person or entity submitting such information, be used directly by such agency, any other Federal, State, or local authority, or any third party, in any civil action arising under Federal or State law if such information is submitted in good faith;
- (D) shall not, without the written consent of the person or entity submitting such information, be used or disclosed by any officer or employee of the United States for purposes other than the purposes of this part, except—
 - (i) in furtherance of an investigation or the prosecution of a criminal act; or
 - (ii) when disclosure of the information would be--
 - (I) to either House of Congress, or to the extent of matter within its jurisdiction, any committee or subcommittee thereof, any joint committee thereof or subcommittee of any such joint committee; or
 - (II) to the Comptroller General, or any authorized representative of the Comptroller General, in the course of the performance of the duties of the Government Accountability Office
- (E) shall not, be provided to a State or local government or government agency; of information or records;
 - (i) be made available pursuant to any State or local law requiring disclosure of information or records;
 - (ii) otherwise be disclosed or distributed to any party by said State or local government or government agency without the written consent of the person or entity submitting such information; or
 - (iii) be used other than for the purpose of protecting critical Infrastructure or protected systems, or in furtherance of an investigation or the prosecution of a criminal act.
- (F) does not constitute a waiver of any applicable privilege or protection provided under law, such as trade secret protection.

³ CII includes the following types of information:

- (A) actual, potential, or threatened interference with, attack on, compromise of, or incapacitation of critical infrastructure or protected systems by either physical or computer-based attack or other similar conduct (including the misuse of or unauthorized access to all types of communications and data transmission systems) that violates Federal, State, or local law, harms interstate commerce of the United States, or threatens public health or safety;

As mentioned above, the Energy Bureau's Policy on Confidential Information provides for the management of CEII. In several proceedings, this Energy Bureau has considered and granted requests to submit CEII under seal of confidentiality.⁴ For example, in at least two proceedings on Data Security,⁵ and Physical Security,⁶ this Energy Bureau, *sua sponte*, conducted proceedings confidentially, recognizing the need to protect CEII from public disclosure.

Additionally, this Energy Bureau has granted requests by LUMA to protect CEII in connection with LUMA's System Operation Principles. *See* Resolution and Order of May 3, 2021, table 2 on page 4, Case No. NEPR-MI-2021-0001 (granting protection to CEII included in LUMA's Responses to Requests for Information). Similarly, this Energy Bureau granted confidential designation to several portions of LUMA's Initial Budgets and Responses to Requests for Information in the proceedings on LUMA's proposed Initial Budgets and System Remediation Plan.⁷

(B) the ability of any critical infrastructure or protected system to resist such interference, compromise, or incapacitation, including any planned or past assessment, projection, or estimate of the vulnerability of critical infrastructure or a protected system, including security testing, risk evaluation thereto, risk management planning, or risk audit; or

(C) any planned or past operational problem or solution regarding critical infrastructure or protected systems, including repair, recovery, construction, insurance, or continuity, to the extent it is related to such interference, compromise, or incapacitation.

⁴ *See e.g., In re Review of LUMA's System Operation Principles*, NEPR-MI-2021-0001 (Resolution and Order of May 3, 2021); *In re Review of the Puerto Rico Power Authority's System Remediation Plan*, NEPR-MI-2020-0019 (order of April 23, 2021); *In re Review of LUMA's Initial Budgets*, NEPR-MI-2021-0004 (order of April 21, 2021); *In re Implementation of Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan*, NEPR MI 2020-0012 (Resolution of January 7, 2021, granting partial confidential designation of information submitted by PREPA as CEII); *In re Optimization Proceeding of Minigrid Transmission and Distribution Investments*, NEPR-MI 2020-0016 (where PREPA filed documents under the seal of confidentiality invoking, among others, that a filing included confidential information and CEII); *In re Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, CEPR-AP-2018-0001 (Resolution and Order of July 3, 2019, granting confidential designation and PREPA's request that included trade secrets and CEII); *but see* Resolution and Order of February 12, 2021 (reversing in part, grant of confidential designation).

⁵ *In re Review of the Puerto Rico Electric Power Authority Data Security Plan*, NEPR-MI-2020-0017.

⁶ *In re Review of the Puerto Rico Electric Power Authority Physical Security Plan*, NEPR-MI-2020-0018.

⁷ *See* Resolution and Order of April 22, 2021, on Initial Budgets, table 2 on pages 3-4 and Resolution and Order of April 22, 2021, on Responses to Requests for Information, table 2 at pages 8-10, Case No. NEPR-MI-2021-

The Energy Bureau should protect the pictures in the Fifteenth Update because they depict the exact location, specifications and characteristics of the gensets and other large capacity equipment assembled and installed at Palo Seco, as well as pictures of the San Juan site. The pictures could be useful to a person planning an attack on the transmission and distribution facilities, as they enable a person to identify their location and provide clear depictions of the equipment which could compromise the electric power services in Puerto Rico.

LUMA respectfully submits that the pictures in the Fifteenth Update should be designated CEII. This designation is a reasonable and necessary measure to protect critical infrastructure and enable LUMA to leverage the information and assessment of critical infrastructures without external threats. Given the importance of ensuring the safe and efficient operation of the generation assets and the T&D System, LUMA respectfully submits that the pictures be maintained confidential to safeguard the facility's integrity and protect it from external threats.

C. Identification of Confidential Information.

In compliance with the Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009, below is a table summarizing the hallmarks of this request for confidential treatment.

0004; Resolution and Order of April 23, 2021, on Confidential Designation of Portions of LUMA's System Remediation Plan, table 2 on page 5, and Resolution and Order of May 6, 2021, on Confidential Designation of Portions of LUMA's Responses to Requests for Information on System Remediation Plan, table 2 at pages 7-9, Case No. NEPR-MI-2020-0019.

	Document or file	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
1	Generation Stabilization Plan dated June 15, 2023	Pictures on pages 13,15, and 16 of Exhibit 1.	Critical Energy Infrastructure Information 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 15, 2023

WHEREFORE, LUMA respectfully requests that this Energy Bureau **take notice** of the aforementioned, **accept** the Fifteenth 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, and **grant** the request for confidential treatment that is included in this Motion.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 15th day of June, 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.



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Exhibit 1
Fifteenth Update on Stabilization Report



Generation Stabilization Plan Discussion

June 15, 2023

Agenda

- I. Executive Summary
- II. June Heatwave Details & PR Grid System Performance
- III. Current Operations / Resource Adequacy
- IV. Construction Progress Brief
- V. Construction Picture Archive
- VI. LUMA's Contributions to the GSP

Executive Summary

The June Heatwave Stressed a Puerto Rico Bulk Power System (BPS) already short of necessary capacity:

- **The lack of adequate generation resources and an increased demand for power due to record high temperatures put the power grid in a critical state that caused multiple power outages for thousands of people**
 - Five high temperature records were met or exceeded by temperatures up to 95 deg. F during 6/4 - 6/11
 - There was a total of 12 generation load sheds during the first 11 days of June

Palo Seco Site (150 MW):

- **New generators (gensets) commissioned on 5/30 were put into service to support BPS on 6/7**
 - Palo Seco gensets Operator (Weston) was authorized by US Army Corps of Engineers (USACE) to operate and provide support for the power grid on 6/7. Gensets were operating within 12 hours; continued to operate as of 6/13
 - Beginning on 6/20 the Palo Seco gensets will go into a planned outage for 10 days to install pollution control equipment and perform other scheduled work. Expecting to return the gensets to service on 6/30.

San Juan Site (200 MW):

- **Construction is progressing as 9 of 10 gensets are being assembled and civil work begins at the site**
 - Gensets have been assembled, leveled and beginning fine alignment and testing steps
 - Piles in place so foundation forms and rebar work can begin with concrete placement to follow
 - Completed construction and commissioning is currently targeted for mid-to-late August



June Heatwave Details

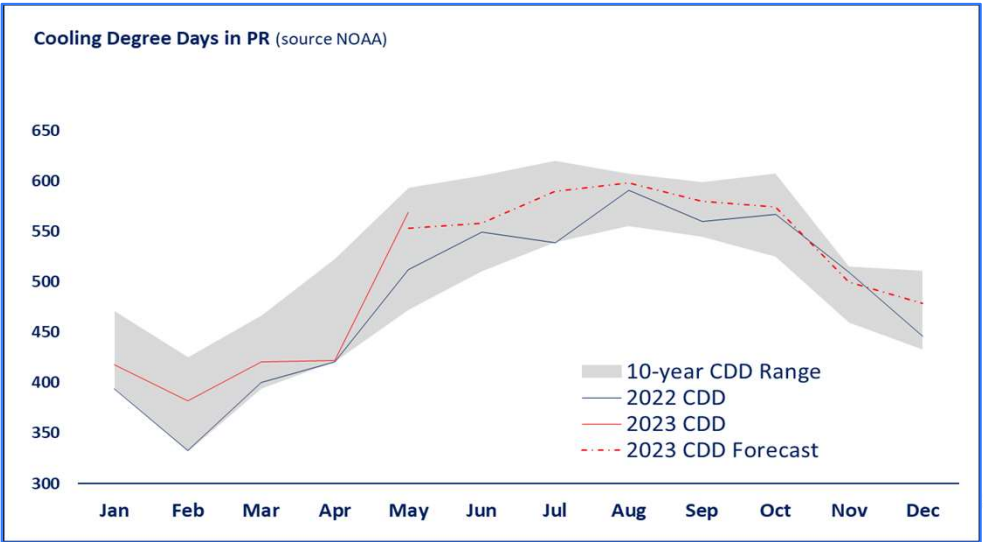
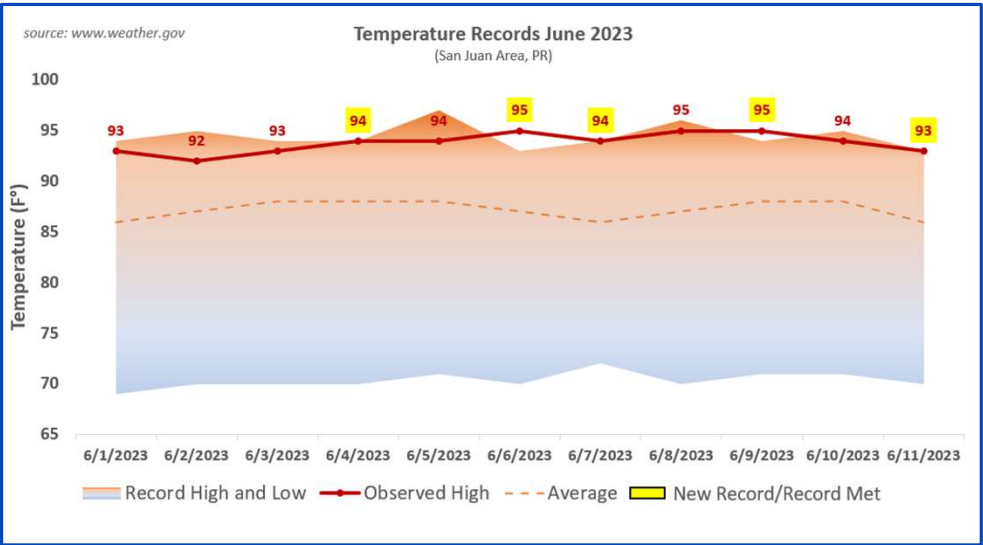
Upper Graph: Daily temperatures in PR, 6/1 – 6/11

- Daily average and peak temperatures
- Five days set a record or met an existing record high temperature on 6/4, 6/6, 6/7, 6/9 and 6/11

Lower Graph: Cooling Degree Days (CDDs) History & Forecast

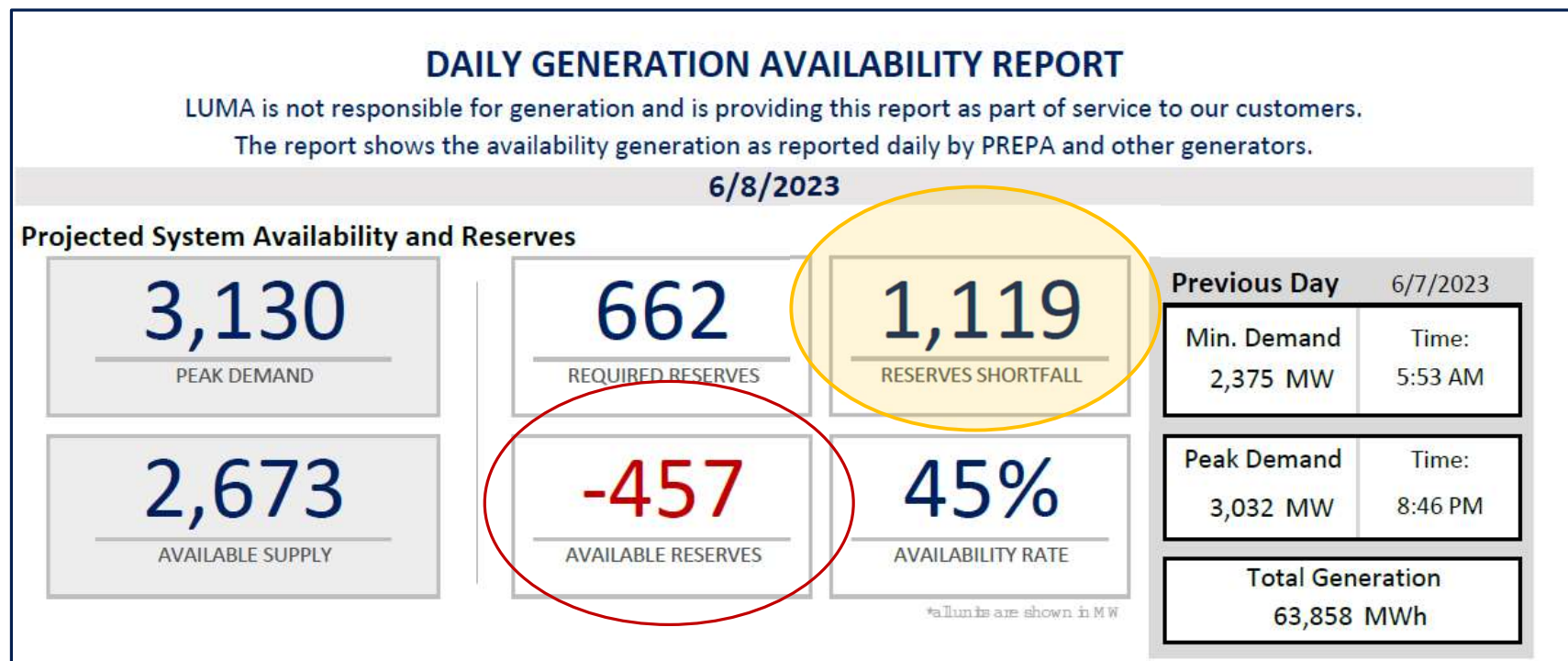
- CCDs is a metric of daily temperature (> CDD = > temps)
- The actual 2023 CDDs to date are higher than 2022 and the 2023 forecast is higher than 2022 for the rest of the summer months
- The gray area is the 10-year range of CDDs

Puerto Rico CDDs, i.e., temperatures, have been warmer this year than last year and are expected to continue trending higher throughout the summer months and into hurricane season, according to NOAA.

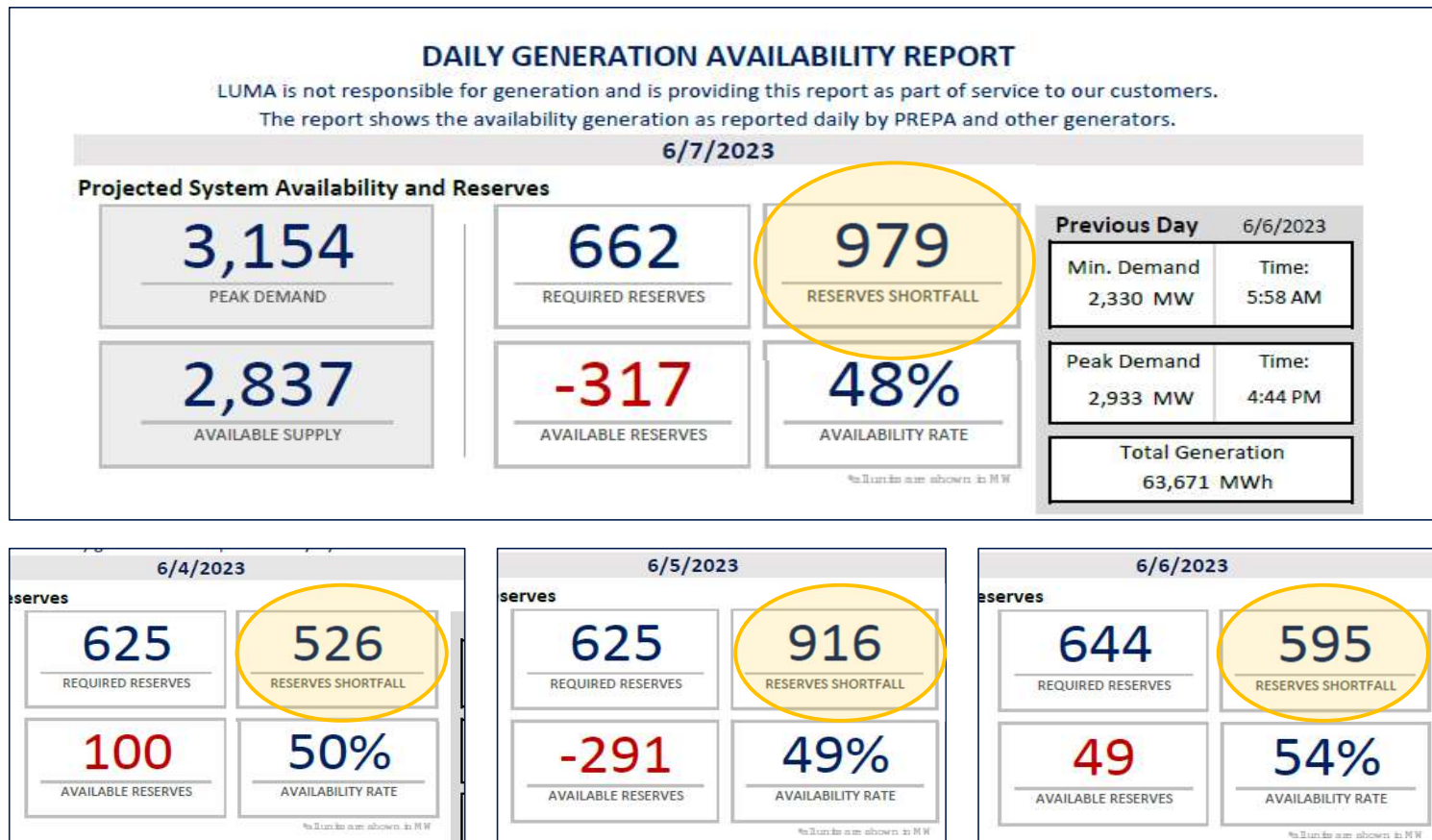


PR Power Grid System Performance

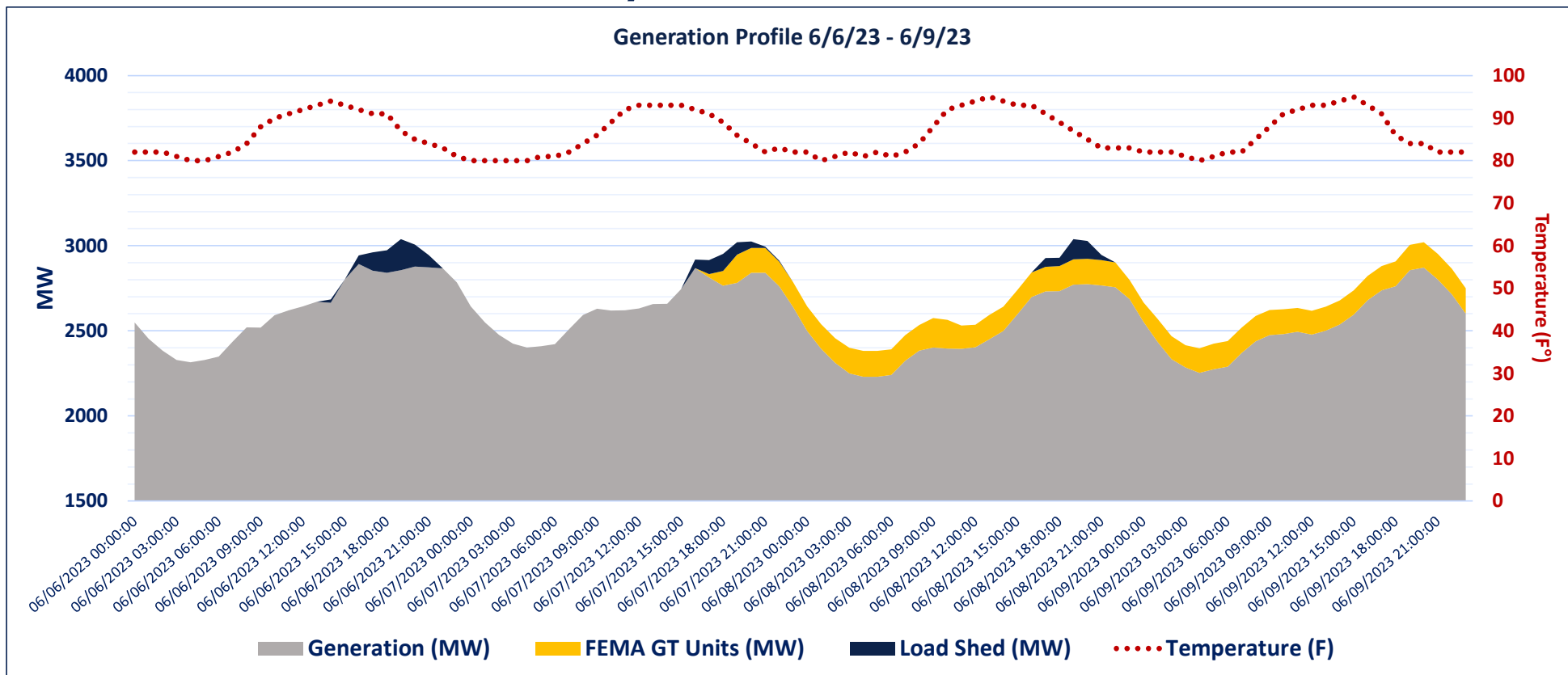
On 6/8/23 the Daily Generation Availability Report indicated negative Available Reserves and a Reserve Shortfall estimated to be over 1,000 MW



4 straight days of load shedding due to Inadequate Generation Capacity affecting >100,000 customers



Puerto Rico Power Grid System Performance

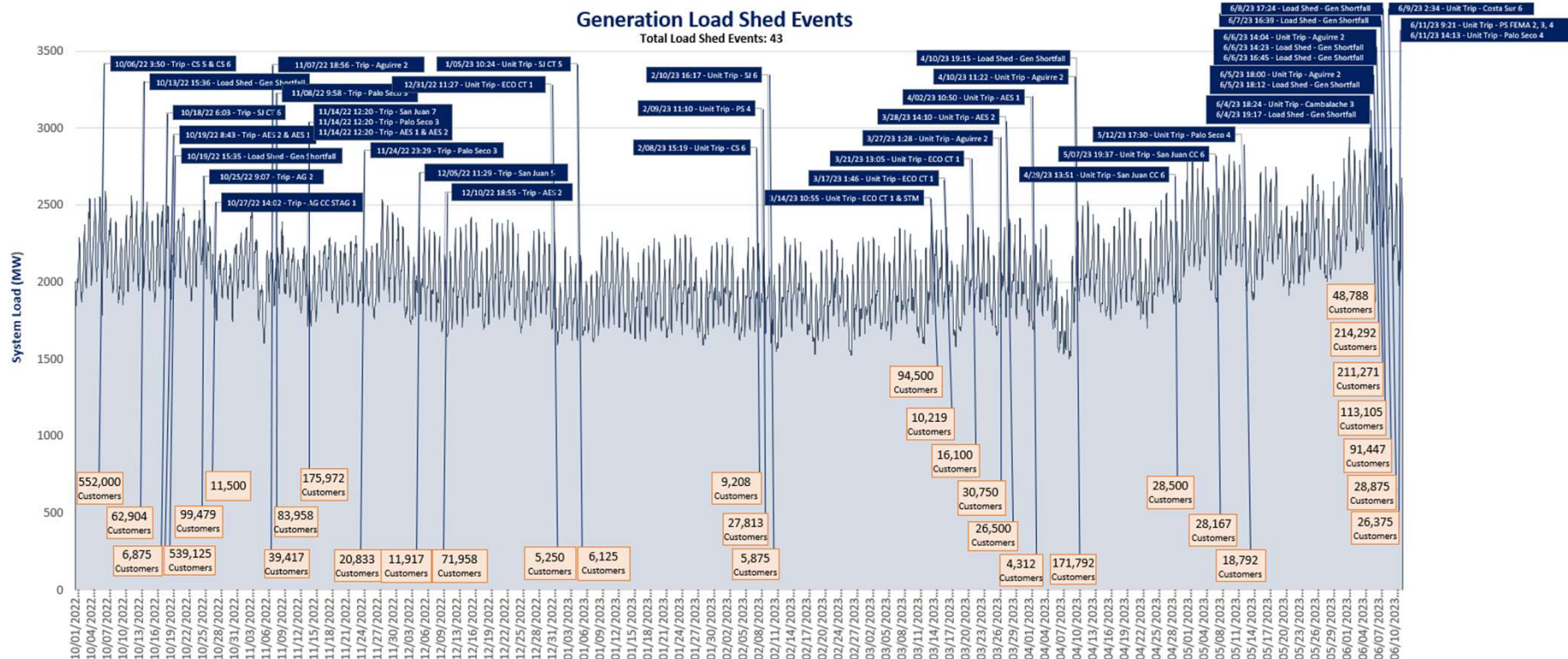


- This graph displays the power grid system profile (MW) during the heatwave period
- Black areas are periods of system load sheds
- Yellow area is the MW contributions from the FEMA gensets



Generation Load Shed Events: 43 load shed events since 10/1/2022

Updated until 6/11/2023

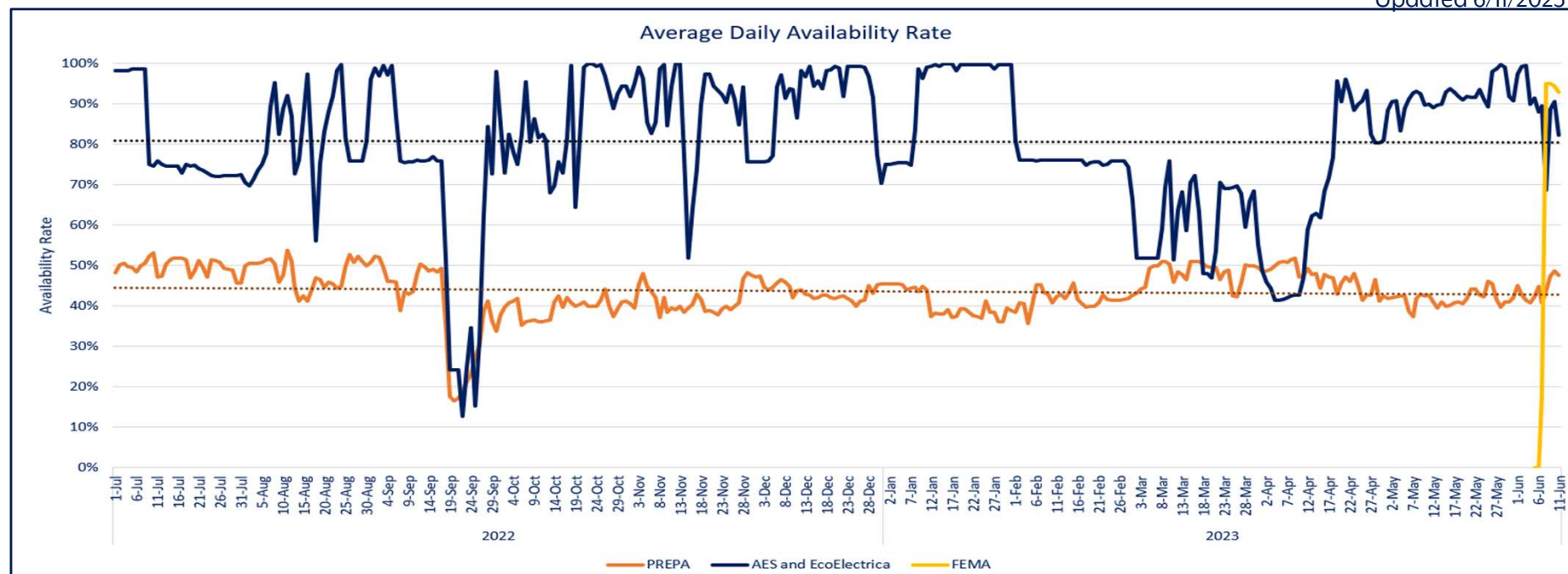


- There have been 12 generation load sheds in June as of 6/11/23
- 6 of the 12 load sheds were manual load sheds due to generation shortfall
- The other 6 were automatic load sheds due to generation unit trips:
- Cambalache 3, Aguirre 2, Costa Sur 6, Palo Seco FEMA GTs (2, 3, 4, 5, 6, 7), and Palo Seco 4



Average Daily Availability of Generation – PREPA fleet remains low

Updated 6/11/2023



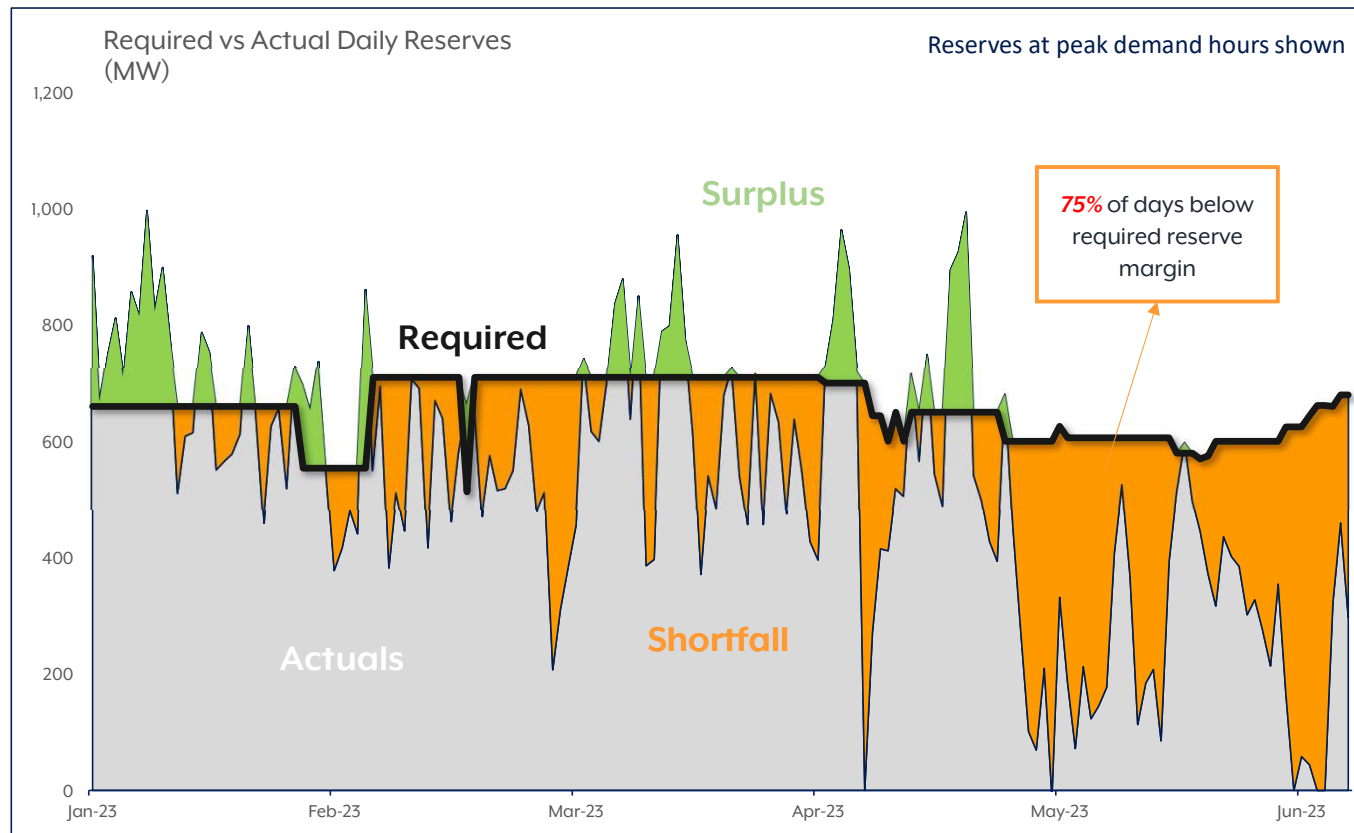
Note: The linear trendline smooths-out fluctuations in data to show a pattern or trend more clearly. It uses the average value as a single point in the trendline.

**Average Daily Availability Rate
During the period of 7/1/22 –
6/11/23**

***FEMA Units synchronized to the system on 6/7/23**

	Average Last Report 5/28/23	Average as of 6/11/23
PREPA	44%	↔ 44%
AES	71%	↔ 71%
EcoEléctrica	89%	↔ 89%
FEMA GT Units*	N/A	90%
AES/EcoEléctrica	80%	↔ 80%

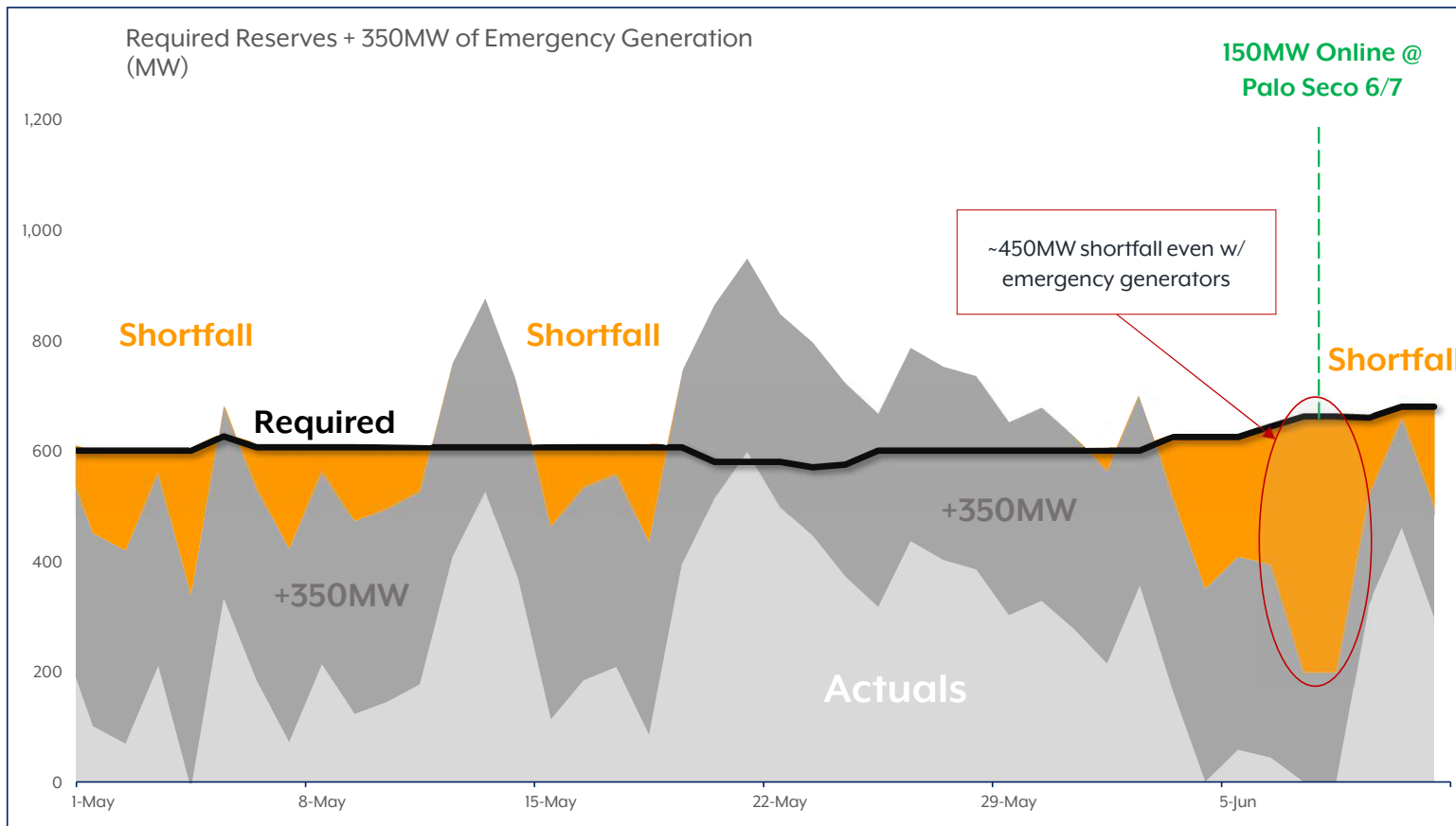
To date in 2023, most days have had operational reserves below SOP requirements, indicating a lack of resource adequacy in Puerto Rico



- Root cause of poor reserve margin is lack of available capacity (MW) typically due to plant outages or inadequate generation assets.
- Having poor reserve levels increases risk exposure to loss of load events
- LUMA SOP requires a reserve margin of 300MW of controlled reserves plus ~450MW of spinning reserves (OR the largest generating unit operating at any time).



The period of May 1- June 10 shows that even with the added 350 MW the system would not have adequately met required reserve levels

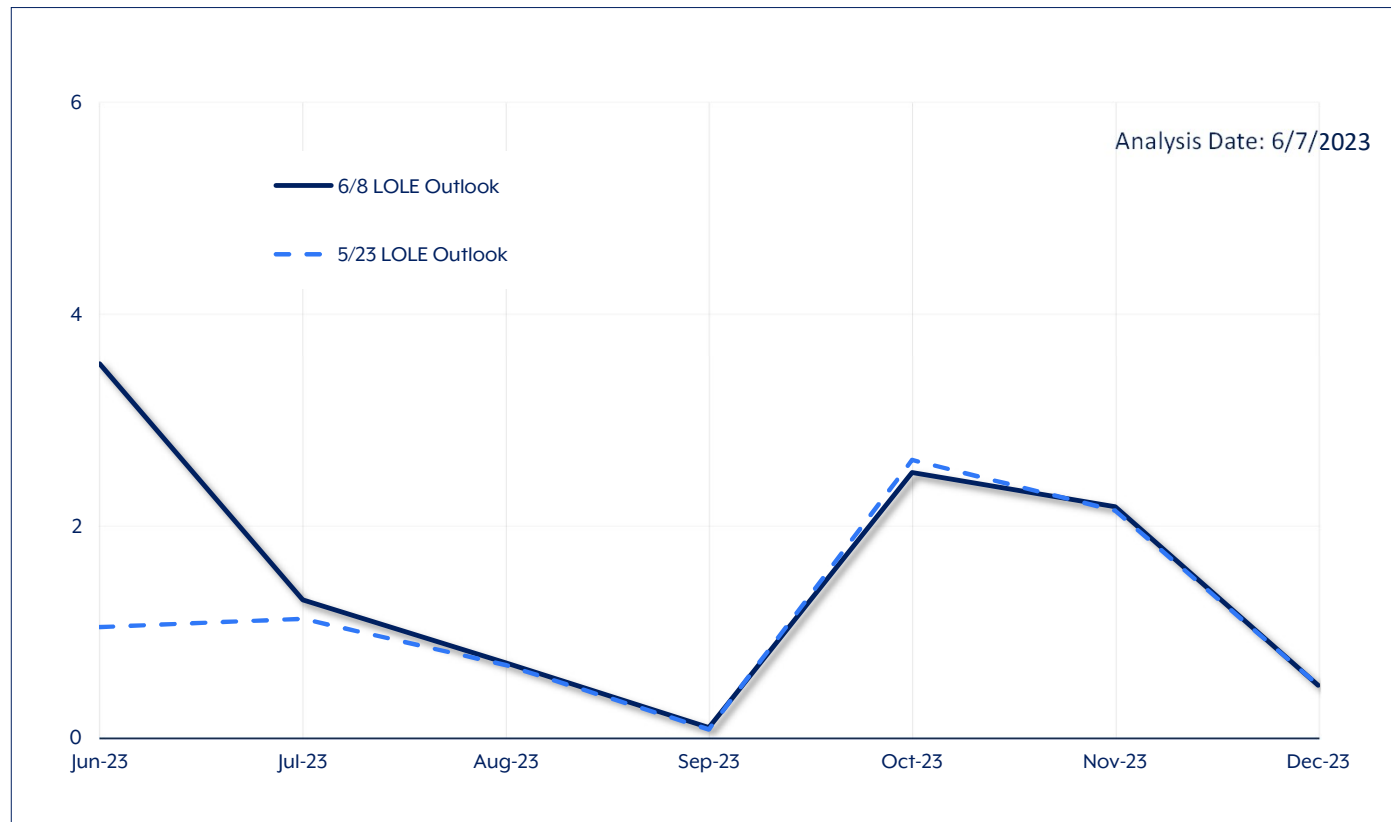


- Some days in the first few weeks of May would have required an additional 250 MW in addition to the 350 MW from the FEMA generators to comply with required reserve levels.
- If no additional capacity is added or more assets are in outages, reserve shortfall will not only continue, but will likely increase with higher electric demand in hot summer months.



Loss of Load Expectation (LOLE) Outlook Comparison to Past Week

LOLE Outlook by Month Compared to Last Week



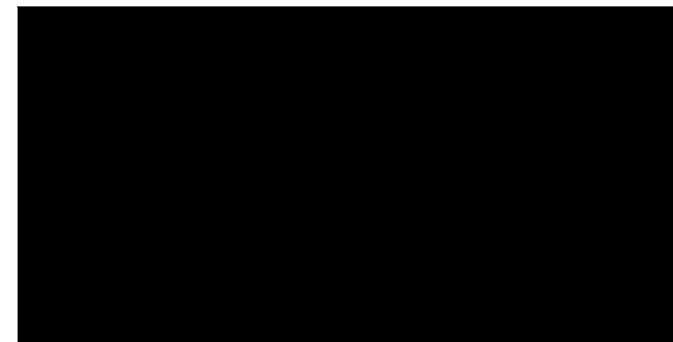
- Analysis is made weekly as small changes in operations can have impacts on the LOLE outlook results
- June's LOLE increased ~3 days due to a multi-day extension of a current plant outage
- In October and November Units scheduled for concurrent outages increase LOLE outlook days.



Construction Progress Brief

Palo Seco – Finalizing construction and working through punch list items

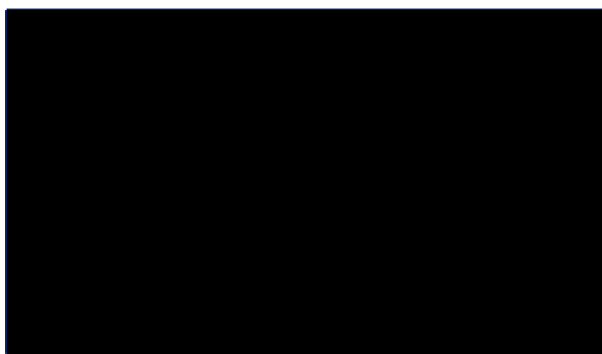
- Demineralized water system for NOx control has equipment arriving and targeting commissioning completion on 6/30 which will accommodate commissioning and water quality testing to prove-out the units.
- Finishing remaining concrete work, piping and cabling details
- Genset control room operating with redundant staff - 24/7



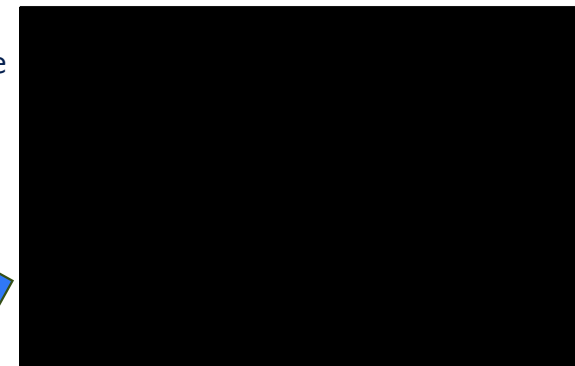
^ Demineralized water system area showing Tank, Reverse Osmosis, Multi Material Filter and Pump Skids– 6/9/23

San Juan – Effort shifting from project planning to construction

- Four more gensets arrived, making total of 9 on site; 10th genset expected 3rd week of June
- Diesel fuel piping and cable trays that were being fabricated off-site are now arriving on site for installation with gensets, diesel pump skids, and electric cabinets
- Weston and LUMA collaborate to support 115kV transmission line design and Luma is providing poles, cable and hardware if available in inventory



< Aerial view of San Juan site (wharf) on 5/9/23



^ Aerial view of San Juan site (wharf) on 6/2/23

Construction Progress Brief

Palo Seco Genset assembly and commissioning progress (update 6/9/23)

Unit	Set/Align Trailers	Unit Stacking	Fine Align	Cable Interconnections	Instrument Testing	Electrical Testing	Black Start Diesel Power	Ground to Grid	IWP/PWP (ready for first fire)	CWP
GT07	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GT06	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GT05	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GT04	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GT03	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GT02	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GT01	100%	100%	100%	100%	90%	90%	100%	100%	90%	0%

- Palo Seco is nearing completion on last genset (spare), which will be exchanged with another genset creating a few additional available MWs
- GT #1 target date for completing commissioning is 6/30

San Juan Genset assembly and commissioning progress (update 6/9/23)

	Set Up/Level	Unit Stacking	Fine Align	Cable Interconnections	Instrumentation Testing	Electrical Testing	Black Start Diesel Power	Grounding to Grid	IWP/ CWP
GT10	100%	100%	100%	95%					43%
GT09	100%	100%	100%	95%					43%
GT08	100%	100%	75%	95%					40%
GT07	100%	100%	5%	95%					32%
GT06	90%	100%	5%	95%					30%
GT05									
GT04	50%	100%							19%
GT03	50%	100%							19%
GT02	50%	100%							19%
GT01	50%	100%							19%

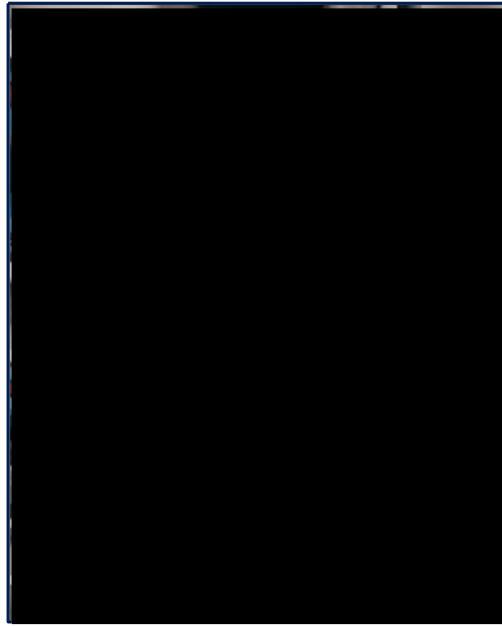
- San Juan site began later than Palo Seco and faced other delay issues, but now that the gensets are on site, progress is rapidly being made.
- Target date for completing commissioning is mid-to-late August



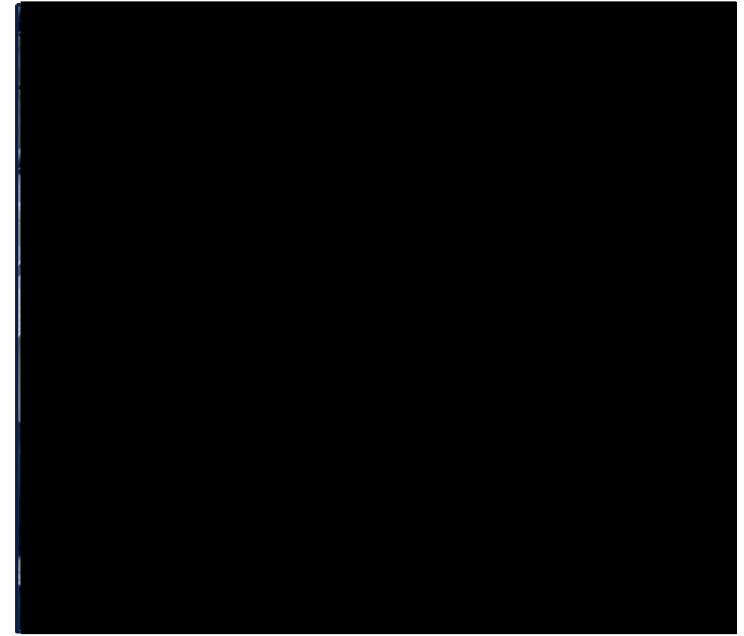
Picture Archive Palo Seco site



^ LNG area - 6/5/23

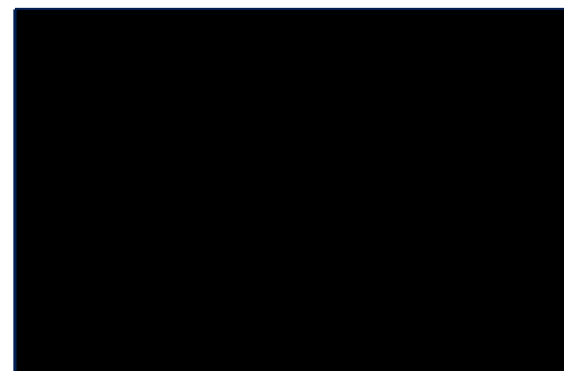
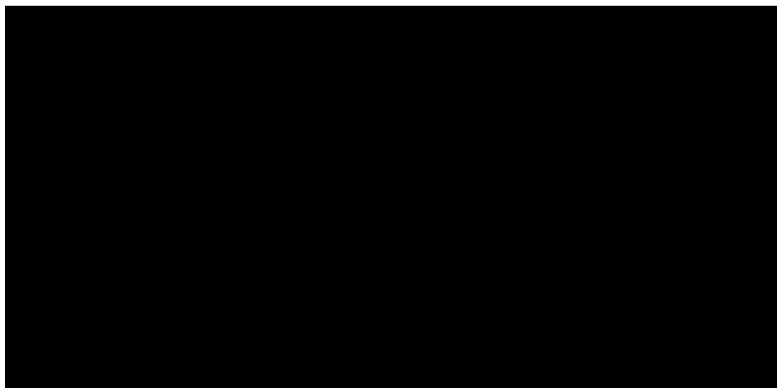


*^ Looking inside a demineralization Reverse
Osmosis vessel - 6/6/23*



*^ Demineralized water distribution piping
being installed to gensets - 6/5/23*

*> LNG gas and
diesel fuel piping
being connected
to the last genset -
6/7/23*



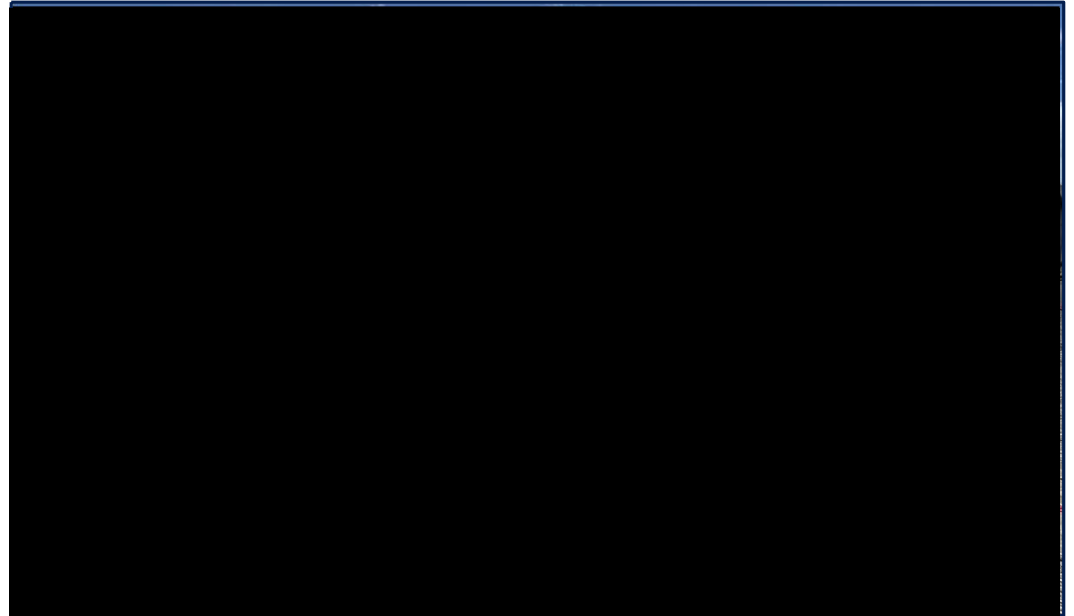
*< Control Room
with the control
screens for three
gensets - 6/8/23*

6/15/2023

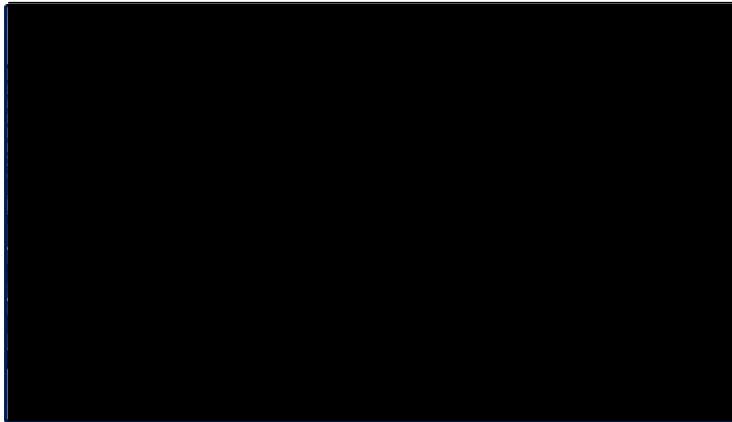
Picture Archive San Juan site



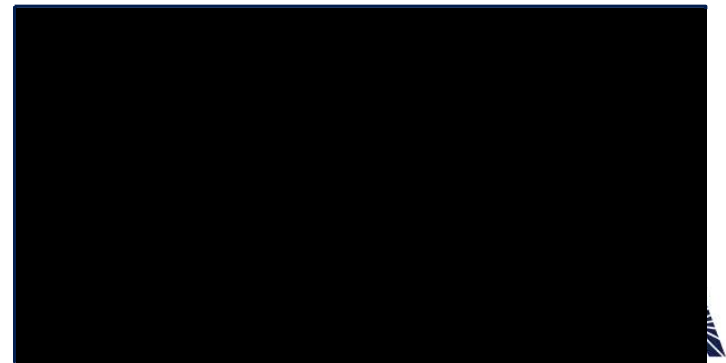
< Ready to drive
pilings - 6/5/23



^ 36 piles completed and ready to be trimmed before forming the piles
concrete cap - 6/9/23



> Natural gas regulators
ready for installation -
6/5/23



^ Crew pulling grounding cable - 6/9/23

6/15/2023

LUMA's Contribution to the Generation Stabilization Plan

5 things LUMA has done to support the GSP

- 1) Since the Puerto Rico Generation Resource Adequacy Analysis was presented in August of 2022, LUMA has continued to analyze and report on the Puerto Rico electric grid Resource Adequacy status.
- 2) Original LUMA analyses indicated the need for 750 MW which was initially approved, but later reduced by FEMA to 350 MW based on expectations of repairing existing generation assets and increasing overall generation availability to 65%.
 - Those expectations have not been achieved and regular episodes of inadequate capacity reserves suggest additional capacity is necessary to reach the Generation Stabilization Project (GSP) mission goals.
- 3) **A sizeable GSP project, supported by LUMA's technical work, was launched when FEMA approved the construction of 350 MW.**
 - 350 MW were split between the Palo Seco and San Juan sites after significant evaluation to prove location suitability, including technical evaluations of electrical impacts.
 - Nearly 300 construction workers at the Palo Seco site were working 24 hrs per day in split shifts seven days a week to keep on schedule.
 - 150 MW at Palo Seco were fully commissioned in ~4 months after the Notice to Proceed date.
 - The other 200 MW at the San Juan site was delayed, but construction is now well underway with commissioning targeted for late summer.
 - LUMA has successfully interconnected Palo Seco gensets and expects do so with San Juan gensets.
- 4) **An opportunity to call into service the new generation on the LUMA-operated power grid during the recent heatwave**
 - Palo Seco gensets were authorized by the USACE to operate allowing 150 MW of new generation to be used to support grid stability during the critical period.
 - Operation of Palo Seco gensets significantly decreased customer minutes of interruption on the system due to inadequate supply, reducing overall impact on Puerto Ricans.
- 5) **Critical information and analysis in the GSP is supported by LUMA analysts, engineers and project managers.**
 - The required communication provides data, documentation, tracks project progress to inform executive staff and provide a bi-weekly report as ordered by the **Puerto Rico Energy Bureau (PREB)** to assure progress was always being made and reliable information is available to stakeholders.