

Testimony of Juan Saca

President and Chief Executive Officer at LUMA

before the

U.S. House of Representatives Committee on Natural Resources, Subcommittee on Indian and Insular Affairs

Hearing on Examining Puerto Rico's Electrical Grid and the Need for Reliable and Resilient Energy

September 26, 2024

I. INTRODUCTION

Subcommittee Chair Hageman, Ranking Member Fernandez, and members of the Subcommittee:

Thank you for the invitation to appear before you today to discuss our progress toward building a more reliable and resilient energy system for Puerto Rico, as well as the challenges LUMA continues to face due to decades of neglect by the utility operator that preceded LUMA, combined with damages from Hurricane Maria and frequent powerful storms due to the effects of more extreme weather.

As many of you know, LUMA took over as the transmission and distribution operator of Puerto Rico's electric grid in June 2021, only four years following the devastating impacts of Hurricane Maria – a storm that took the island's entire energy grid offline, and left customers in the dark for months.

Even before Hurricane Maria, Puerto Rico's electric grid was well below utility reliability standards. The entire system was also allowed to deteriorate due to financial mismanagement, eventually resulting in a 10-billion-dollar bankruptcy in 2017, which today remains unresolved in arbitration and remains a serious obstacle to achieving the widespread progress that is critical for Puerto Rico's energy future.

While the over 4,000 LUMA team members continue to make progress across multiple areas to build a better energy future for our 1.5 million customers, the impact of past failures, which pre-date LUMA, remain an enduring challenge to progress which we are working incredibly hard to overcome.

II. TROPICAL STORM ERNESTO RESPONSE AND DAILY EMERGENCY PREPAREDNESS

One of our most important responsibilities is emergency response, and I would like to first brief you on LUMA's response to Tropical Storm Ernesto just over a month ago.

On August 14, Ernesto brought more than 10 inches of rain and over 70 mile-per-hour winds, leading to flooding and widespread damage to the grid, primarily in the eastern and mountainous areas of the island, as well as the neighboring islands of Vieques and Culebra.

Thanks to the hard work and dedication of our entire LUMA team, including more than 1,700 trained field workers, in just 54 hours, power was restored to more than 90% of customers impacted by the storm.

With two months left in this hurricane season, emergency preparedness continues to be our top priority. Our team is taking actions to prepare our response to storm-related outages and has over \$282 million in on-hand materials to use in an emergency and over 1,100 field workers ready to respond quickly to any outage.

Both in our response to Tropical Storm Ernesto as well as Hurricane Fiona in 2022, our LUMA team has shown how determined we are to overcome the terrible legacy of Hurricane Maria.

III. RELIABILITY PROGRESS

Reflecting that determination to improve, our team works every day to replace aging and failing infrastructure with new, reliable equipment.

These are long-term reliability investments, not quick fixes, and making the necessary structural changes is a monumental and time-consuming task, but we are making significant progress.

To date, we have replaced over 17,850 utility poles with new poles able to withstand 160 mile-per-hour winds and installed over 9,000 automation devices to reduce the duration and impact of outages, which have already prevented over 140 million service interruption minutes.

The impact of this has been real – over the last year, more than 95% of customers had concurrent service more than 98% of the time when generation was available.

IV. FEMA-FUNDED CAPITAL PROJECT PROGRESS

In addition to our day-to-day improvement efforts, LUMA has also initiated 460 critical projects to FEMA representing \$12.3 billion in federal funding, with 171 approved and 87% of those, or 149 projects, already in construction or completed.

A significant achievement on its own, considering PREPA did not move one capital project to construction.

LUMA is utilizing all available federal programs to fund capital projects across Puerto Rico but securing effective FEMA funding takes time.

We will continue to work together with our partners at FEMA, DOE, COR3 and others who are committed to providing these critical resources for the Puerto Rico energy grid.

Thanks to their support, LUMA has recently launched two major federally-funded initiatives, which when complete, will significantly improve service for our customers.

The first initiative is the historic multi-year, island-wide Vegetation Safety and Reliability Initiative, which will clear vegetation from over 16,000 miles of powerlines and reduce outages by up to 45% once complete.

Additionally, our vegetation management teams continue to remove hazardous vegetation as part of our daily operations, and to date, have cleared more than 5,000 miles of powerlines.

The second initiative is the Smart Meter Initiative to replace all 1.5 million electric meters across Puerto Rico with new technology that will help detect outages faster, enable a more timely response when they occur and improve customer service.

To keep our customers and stakeholders informed of these important initiatives, and more, we created a Progress for Puerto Rico Dashboard, a public website that provides monthly updates on our work to improve service, highlighting what real progress looks like and reflecting our determination to achieve this important goal - a goal we are determined to achieve for Puerto Rico.

V. BUILDING A CLEANER, MORE CUSTOMER-FOCUSED ENERGY GRID

To further advance the resilience of the grid and improve Puerto Rico's ability to generate renewable energy, LUMA has connected over 100,000 rooftop solar customers to the grid, representing 650 MW of clean energy, the most in Puerto Rico's history.

LUMA is also dedicated to building a customer-focused energy system that best serves the needs of our customers. We improved our response time to service requests by 36% in fiscal year 2024 over 2023, and reduced average call wait times by 40% to nearly one minute – the shortest wait time on record for Puerto Rico.

Throughout all our work, LUMA remains committed to transparency in our operations as we continue our mission to build an energy system founded on operational excellence for all our customers.

VI. CONCLUSION

Even as historic progress is being made by LUMA, we want to be very clear about the challenges that remain.

Enduring issues around generation persist for the island's energy producers, in large part because of a legacy of failures.

The infrastructure will take time to modernize – this is and will be a multi-year transformation that will require even greater cooperation with local and federal partners, including members of this subcommittee who we hope will work with us to address these legacy challenges and help advance critical FEMA funding.

However, the repeated attacks on LUMA personnel and leadership serve to thwart progress.

They not only ignore the lasting impacts of past failures, but also the efforts of our partners and the thousands of dedicated LUMA personnel who remain focused on building a reliable energy system that the previous operator failed to deliver.

In closing, LUMA is committed to Puerto Rico. Our team is committed to Puerto Rico. We will complete this transformation.

And working together with our partners, LUMA will build a more reliable, safer, resilient, and cleaner energy future for the island we are proud to call home.

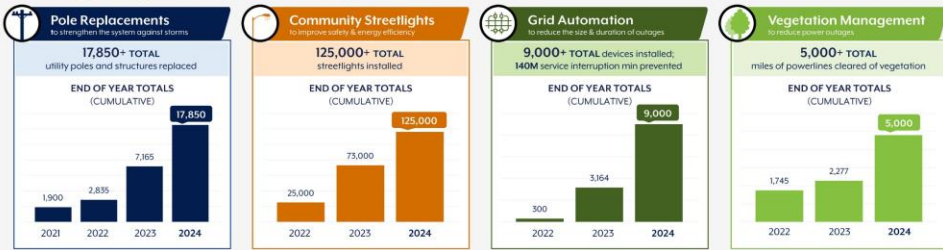
VII. LUMA'S PROGRESS UPDATE

C. Three-Year Progress

LUMA — Three-Year Progress Key Milestones



Increasing Safety, Reliability and Resiliency



Data as of September 15, 2024



LUMA — Three-Year Progress Key Milestones (cont.)

At LUMA, we are working every day to better serve our community and build the electric grid Puerto Rico deserves.

BETTER CUSTOMER SUPPORT

Helped connect customers to **\$145M+** in critical financial assistance

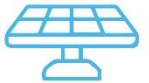
7.6M+ Calls answered with a nearly one-minute average call wait time, and **launched new SMS text update service**



EXPANDED RENEWABLES

100,000+ Solar customers connected to Net Metering, representing **650MW** of clean and renewable energy added to the grid

51,000+ free energy efficiency kits distributed to customers resulting in **19,800+ MWh** in savings



INCREASED RELIENCY

23 substation reconstruction or repair projects started or completed



IMPROVED WORKFORCE TRAINING

200,000+ hours of health, safety and on-the-job training completed



Data as of September 15, 2024



Overview of FEMA Projects

Initiated **\$12.3B** of projects to FEMA, including **460** initial scopes of work.

Initiated **394** detailed scopes of work for FEMA review and approval representing **\$10.3B**

FEMA obligated (approved) **171** projects estimated at **\$2.3B+** as well as approved the procurement of long-lead material of \$656M and A&E of \$1.06B.

149 Projects are in construction or completed.

Total Funding: **\$17.5B**

ISOW to FEMA: **\$12.3B**

DSOW to FEMA: **\$10.3B**

FEMA Obligated: **\$2.3B**

In Construction: **\$1.12B**

Data as of September 15, 2024



Historical Overview of FEMA Projects

Since June 1, 2021, LUMA has advanced FEMA projects in Puerto Rico at an unprecedented pace.

	BEFORE LUMA	UNDER LUMA
Projects Initiated	37	460
FEMA Funds	\$1B	\$12.3B+
Projects Obligated	0	171
Projects In Construction or In Service	0	149

Data as of September 15, 2024



B. Reliability & Resiliency Projects

Reliability & Resiliency Projects

LUMA is advancing federally funded FEMA projects at a historic pace to build a more reliable and resilient electric system for Puerto Rico.

- To date, we've initiated **460 projects** to FEMA, representing **\$12.3+ billion** in federal funding, with **149 projects** completed or under construction, including:
 - Substation Modernization Initiative
 - Vegetation Safety and Reliability Initiative
 - Smart Meter Initiative
 - Community Streetlight Initiative
- In addition, our daily operations teams are focused on:
 - Grid Automation
 - Pole Replacements
 - Vegetation Management

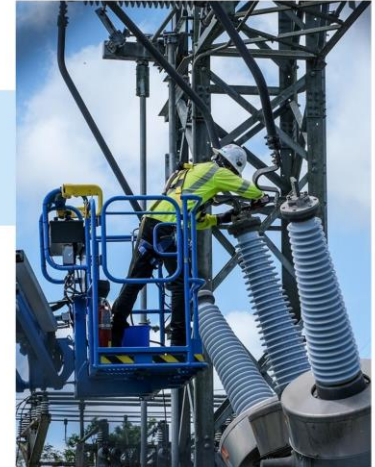


Data as of September 15, 2024 | LUMA

Reliability & Resiliency Projects I – Substations

LUMA's FEMA-funded Substation Modernization Initiative is increasing system reliability and overall grid resiliency by replacing and repairing critical grid infrastructure across Puerto Rico.

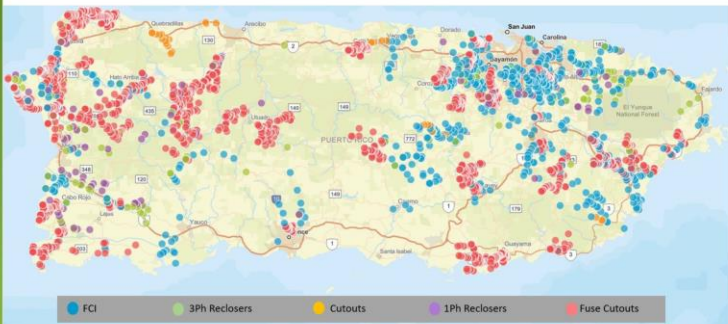
- **Reduced large-scale substation outages by more than 60%** through LUMA's Substation Modernization Initiative.
- To date, **23 substation reconstruction or repair projects** have been started or completed.
- Over the next three years, we plan to perform modernization **upgrades at 60 substations** and **begin construction on new substations** across Puerto Rico.



Data as of September 15, 2024 | LUMA

Reliability & Resiliency Projects II – Automation Devices

LUMA is installing grid automation devices on critical infrastructure across Puerto Rico to make outage impacts smaller and shorter.



To date, we've installed over **9,000 automation devices**.

Since June 2023, there were **140 million** fewer service interruptions minutes thanks to these devices.

Data as of September 15, 2024 | LUMA

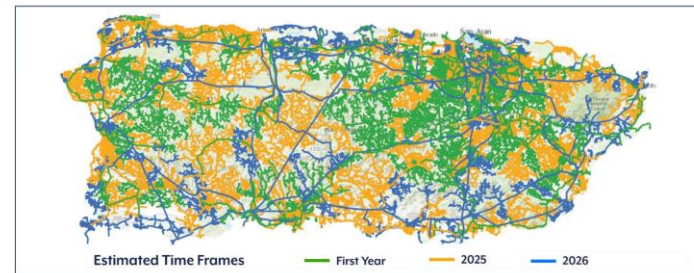
Reliability & Resiliency Projects III – Vegetation Safety & Reliability Initiative

Across Puerto Rico, vegetation is the leading cause of outages. LUMA launched a new, FEMA-funded initiative to clear hazardous vegetation near powerlines over the next three years.

\$1.2B in FEMA funding

16K miles of vegetation near powerlines cleared in the next three years

45% outage reduction once complete



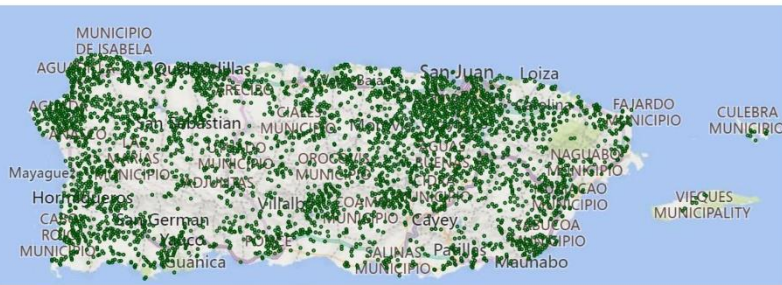
Vegetation clearing is currently underway in San Juan.

We've also cleared hazardous vegetation from over **5,000 miles** of powerlines through daily vegetation maintenance.

Data as of September 15, 2024 | LUMA

Reliability & Resiliency Projects IV – Pole Replacements

Across Puerto Rico, LUMA is hard at work replacing broken and failing utility poles and structures with new infrastructure able to withstand 160+ mph winds to strengthen and increase the resiliency of the system.



To date, we've replaced more than 17,850 utility poles and structures, with plans to replace a total of 100,000 utility poles over the next five years.

Data as of September 15, 2024



Reliability & Resiliency Projects V – Streetlights

LUMA's \$1 billion FEMA-funded Community Streetlight Initiative is improving community safety and energy efficiency across the island.



To date, we've installed more than 125,000 streetlights, with plans to replace over 300,000 streetlights in all 78 municipalities over the next three years.

Data as of September 15, 2024



Reliability & Resiliency Projects VI – Smart Meter Initiative

LUMA recently launched a FEMA funded Smart Meter Initiative to install 1.5 million smart meters across Puerto Rico over the next three years.



Smart meters will improve customers' service by:

- Enabling **faster response and restoration** when there is a service interruption.
- Supporting the **growth of renewable energy**.
- Providing more detailed information about monthly energy usage to **help customers save money and energy**.

Data as of September 15, 2024



D. Clean Energy & Emergency Preparedness

Clean Energy Progress

No one has done more to accelerate renewables in Puerto Rico than LUMA. To date, LUMA has:

- Helped connect **100,000+** customers to rooftop solar, representing **650 MW** of clean, renewable energy for Puerto Rico, ranked fifth out of all U.S. States and territories.
- Launched the Customer Battery Energy Sharing (CBES) initiative to help improve reliability during generation shortfalls.
- Shipped **51,000** free home energy efficiency kits to help customers save energy and money; expanding efficient appliance rebate program.

We're actively working to:

- Interconnect **780 MW** of utility-scale solar and **350 MW** of battery storage projects.
- Deploy a networked microgrid project in Vieques and Culebra to support additional renewable generation.
- Support Puerto Rico's electric vehicle adoption plan and launch an EV Time-of-Use (TOU) pilot program.



Data as of September 15, 2024 | **LUMA**

Emergency Preparedness Efforts

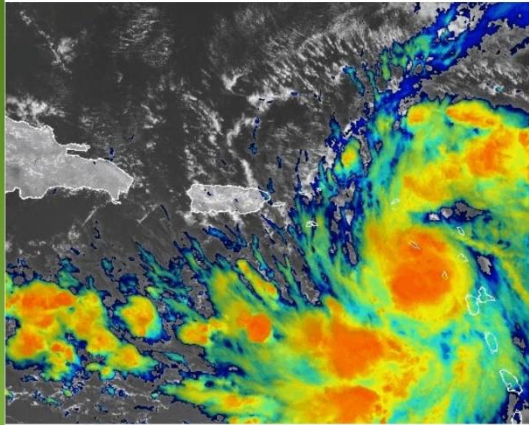
At LUMA, our team prepares year-round for hurricanes and other emergency events. Our preparations include:

- **Following and improving our rigorous Emergency Response Plan** deploying industry best practices for emergency response and uses the National Incident Management System as established by FEMA.
- **Conducting mock emergency exercises** to practice response coordination with external partners, including PREMB, FEMA, PREPA and COR3.
- **Maintaining regular outreach to hospitals and critical facilities** and contacting lifeline customers directly and proactively during emergencies.
- **Acquiring more than \$282 million in on-hand transmission and distribution materials.**
- **Completing over 44,000 employee hours of FEMA training with over 1,100 field workers** who are trained and prepared to respond and restore power to customers as quickly and safely as possible.
- **Coordinating with LUMA's parent companies, Quanta Services and ATCO, in the event of an emergency**, including the deployment of additional utility field workers and other resources to support restoration efforts, as needed.
- **Establishing mutual aid agreements for cooperative response support to critical events** if additional resources are needed to assist with our response and restoration efforts.

Data as of September 15, 2024 | **LUMA**

E. Tropical Storm Ernesto Response

Tropical Storm Ernesto Overview



Tropical Storm

10+ inches of rain

70 mph winds

Later developed into a Category 1 Hurricane
Heavy Rain and Winds Damaged Electric Infrastructure in East and Mountainous Areas



Response Summary

Tropical Storm Ernesto caused widespread flooding and damaged electric infrastructure in the East and mountainous areas. LUMA took key actions to respond quickly and restore power to the company's customers, including:

DAMAGE ASSESSMENTS

- 5,200+** Damage assessments completed
- 42%** of Distribution feeders damaged
- 17%** Transmission lines damaged
- 90** Substations impacted

RESTORATION EFFORTS

- OVER 90%** Customers restored in **less than three days**
- 1,700+** Field workers deployed
- 2,800+** Vehicles mobilized
- 2** Helicopters utilized
- \$255 Million** In on-hand inventory leveraged
- 1 Primary & 7 Regional** Operations centers activated

PUBLIC INFORMATION

- 735+** Direct interactions with mayors, representatives, and regional meetings
- 1,233** Calls made to critical customers, like hospitals
- 164** Social media updates
- 10** Press releases shared with media outlets
- 5** media briefings with the governor and emergency partners

Restoration Progress

LUMA made historic progress in restoring customers affected by the highly-impactful tropical storm. In just 54 hours, over 90% of customers had their power restored.

ALL REGIONS



Restoring Critical Customers

In response to emergency events, LUMA follows its Emergency Response Plan (ERP) filed with the PREB that prioritizes restoration to critical customers such as hospitals and water facilities.

Prioritized Critical Infrastructure

- 66** Hospitals
- 173** Schools
- 90** Critical PRASA facilities

Communication with Critical Customers

1,233 direct calls, including to hospitals and PRASA facilities



F. Outage Response to Recent Events

Overview of Response to Recent Outage Events

When outages occur, LUMA prioritizes responding and restoring service as quickly and safely as possible. In response to the recent outage events, LUMA took action to restore power by activating our emergency response protocols, mobilizing additional crews, coordinating with municipal leaders and local agencies, and working closely with generation operators.

	SANTA ISABEL OUTAGE (JUNE 2-9)	SAN JUAN/CAGUAS OUTAGE (JUNE 12-13)
OUTAGE EVENT OVERVIEW	<ul style="list-style-type: none"> ▪ Cause: Broken transformer at the Santa Isabel substation, leading to a cascade outage in Santa Isabel, Coamo and Aibonito ▪ Restoration: One day, but it was unstable, and load-shedding was required; Approx. eight days to stabilize service ▪ Additional note: Increased capacity of transmission line and installed temporary generators to restore service 	<ul style="list-style-type: none"> ▪ Cause: Vegetation caused two lines to trip, leading to a cascade outage impacting customers in San Juan, Caguas and northeastern portions of the island ▪ Restoration: Approx. five hours
NEXT STEPS	<ul style="list-style-type: none"> ▪ Installing a new, larger capacity transformer at the Santa Isabel substation 	<ul style="list-style-type: none"> ▪ Conducting investigation and implementing improvements

Data as of September 15, 2024



Actions To Improve Overall Reliability

Some of the actions underway to strengthen the present and future reliability of electric system include:

- **Transporting and installing new transformers** to improve system stability and resiliency at:
 - The Santa Isabel substation
 - The Bayamon substation next month
 - Monacillos and Maunabo substations
- Continuing to **install distribution automation devices** to help reduce the size and duration of outages.
- **Rebuilding critical transmission lines** from Ponce to Jobos.
- **Submitting designs for eight new substations to FEMA** for evaluation which will improve system resiliency.
- **Replacing utility poles** with stronger poles able to withstand 160+ mph winds to strengthen reliability and system resiliency in severe weather.
- Starting or completing **149 FEMA-funded projects** across Puerto Rico, including **installing new streetlights** in over 60 municipalities as part of our Community Streetlight Initiative.
- And, to address the largest cause of outages, **beginning to clear vegetation from 16,000 miles of powerlines** across Puerto Rico as part of the proposed, multi-year, FEMA-funded Vegetation Safety and Reliability Initiative.

Data as of September 15, 2024



G. Looking Ahead

Looking Ahead

In addition to our continued focus on improving reliability for our customers, upcoming priorities and milestones include:

- Preparing for and responding to any potential hurricanes or storms this season.
- Carrying out longer-term solutions to address the outdated design of Puerto Rico's electric grid and improve reliability.
- Ramping up efforts to strategically clear vegetation through our Vegetation Safety and Reliability Initiative.
- Starting installations through our Smart Meter Initiative.



Data as of September 15, 2024



H. Appendix

LUMA's Three-Year Progress

LUMA continues to improve service reliability, rebuild communities and enhance customer service all across Puerto Rico.

Progress to Date

FEMA Projects to rebuild and modernize the electric system	460 projects submitted representing \$12.3 billion in federal funding
Pole Replacements to strengthen the system against storms	17,850+ utility poles and structures replaced
Vegetation Clearing to minimize downed poles and reduce power outages	5,000+ miles of powerlines cleared of vegetation
Grid Automation Devices to reduce the size and duration of outages	9,000+ devices installed; 140 million service interruption minutes prevented (since July 2023)
Substation Modernization to mitigate large-scale outages	23 substation reconstruction or repair projects started or completed
Community Streetlights to improve safety and energy efficiency	125,000+ streetlights installed
Renewable Energy to advance the clean energy transformation	100,000+ customers LUMA helped connect to rooftop solar representing more than 650 MW of clean energy
Energy Efficiency to help customers save energy and money	51,000 free energy efficiency kits distributed to customers resulting in more than 19,800 megawatt hours (MWh) of energy savings
Customer Support to help our customers in need	\$145M+ in supported critical financial assistance
Workforce Training to safely maintain the system and respond to emergencies	200,000+ hours of health, safety and on-the-job training completed

Data as of September 15, 2024

