



December 8, 2022

The Honorable Raul M. Grijalva
Chairman
Committee on Natural Resources
US. House of Representatives

The Honorable Bruce Westerman
Ranking Member
Committee on Natural Resources
US. House of Representatives

Dear Chairman Grijalva and Ranking Member Westerman:

I. Introduction

This letter is in response to your questions for the record dated December 1, 2022 (the “Letter” or “QFRs”) in relation to our testimony at the hearing on “Puerto Rico’s Post-Disaster Reconstruction & Power Grid Development” held by the Natural Resources Committee on November 17, 2022.

All of us at LUMA, the over 3,000 men and women, were grateful for the invitation to testify before the committee on the profound challenges we inherited as we work hard every day to build a more reliable, resilient, and cleaner energy future for the 1.5 million customers we are fortunate to serve.

Throughout this response letter, we will provide the members of this committee with key facts and information regarding the status of reconstruction projects that have been submitted to FEMA; hurricane preparedness and emergency response planning; as well as key information on the power outages that stem from the fragile state of the system LUMA inherited and is working hard to improve.

II. Responses to the Natural Resources Committee’s Questions

A. Questions for the Record from Chairman Raul M. Grijalva (D-AZ)

1. There are ongoing concerns that LUMA may not have enough line workers in the field to efficiently repair and update the grid. In March 2021—Less than 3 months before taking over operation of Puerto Rico’s electricity transmission and distribution grid, LUMA CEO Wayne Stensby testified to the Puerto Rico House of Representatives that LUMA would need about 800 line workers to effectively manage the grid. According to workforce documents provided to the committee by LUMA, LUMA employed 541 line workers in September of this year, just before Hurricane Fiona.

Please provide evidence that a shortage of line workers is not the reason for significant improvements in the frequency of outages and declines in the duration of outages.

Response:

After reviewing previous testimonies by Mr. Stensby to the Puerto Rico Legislature, our team was unable to locate the instance in which he testified to needing 800 line workers to effectively manage the grid. According to data provided to the Committee recently, as of September 1, 2022, there were more than 1,300

field workers as part of LUMA's total workforce. LUMA's "field team" includes not only line workers, but also system operators, protection engineers, mechanics, substation technicians, and repair crew dispatch operators. In addition, LUMA has more than 500 workers contracted that focus on vegetation management, an important aspect of improving reliability in Puerto Rico. LUMA is constantly evaluating these and other resources to best fit the needs of the system.

In spite of the significant challenges inherited due to the operational and maintenance failures of the previous operator, our utility team have made progress across the system, including in the area of outages. For example, the System Average Interruption Frequency Index (SAIFI), or the number of outages that an average customer experiences in a year, has been reduced by 30% (improvement from a PREPA baseline of 10.6 to 7.6). In other words, instead of an average customer experiencing 10.6 outages in a year, they're experiencing 7.6. Additionally, we recorded 15% fewer substation events when compared to those occurred during PREPA's last year operating the T&D system.

We have also restored and re-energized two transmission lines that were out since Hurricane Maria, and two additional lines that were out since before Hurricane Maria, representing 43 miles of transmission lines. Furthermore, we restored and re-energized 5 substations that had been out since Hurricane Maria as well as restoring and re-energizing 496 pieces of equipment, including in substations and on the transmission and distribution systems.

All of this progress is possible thanks to our field team members, who are well prepared, trained, and have the resources needed to complete the job at hand. LUMA has adequately staffed and prepared its field team workforce, which has resulted in a decrease in the frequency of outages and completion of critical repair work.

As part of LUMA's commitment to build the next generation of highly trained utility crews, LUMA and its owners have also invested over \$10 million in workforce development in Puerto Rico, opened the LUMA Technical College, that is training and preparing LUMA workers and others so that Puerto Rico has the workforce to rebuild and modernize the grid. LUMA Technical College has the first journeyman line worker program in Puerto Rico certified by the U.S. Labor Department, where this week [15] new journeyman line workers received accreditation.

2. The written testimony of Dr. Bahramirad cited that the frequency of outages was down 30% compared to PREPA's operation—from 10.6 outages per year to 7.6 under LUMA. However, performance data LUMA provided to the committee shows that PREPA's rolling 12-month SAIFI for its last year of operation (June 2020 through May 2021) was 8.07. Using this calculation, LUMA's improvement is much smaller—less than 6%.

How did LUMA calculate PREPA's 10.6 SAIFI? Why did LUMA choose to compare its annual SAIFI to this 10.6 calculation instead of the 8.07 SAIFI representing final year of PREPA's operation? Is it not more appropriate to compare LUMA's annual performance to PREPA's final year of operation?

Response:

We would like to clarify that PREPA's 10.6 SAIFI is a figure established in accordance with the Puerto Rico Energy Bureau's ("PREB") Resolution and Order of May 21, 2021.¹ Through its Resolution and Order, the PREB

¹ See, Resolution and Order, Puerto Rico Energy Bureau, May 21, 2021 (Available at: <https://energia.pr.gov/wp-content/uploads/sites/7/2021/05/Resolution-and-Order-NEPR-MI-2019-0007.pdf>).

established baselines and benchmarks for the SAIFI and SAIDI metrics. Accordingly, we believe it is appropriate to use the data provided by the PREB for purposes of the SAIFI comparative analysis.

While we can't speak to the accuracy and validity of PREPA, independent reviews scored PREPA overall as one of the worst performing utilities across multiple operational measures.

3. According to LUMA's performance data reported in its June 20 Motion Submitting Quarterly Performance Metrics submitted to PREB, it failed to meet its baseline performance metrics outlined in Annex IX the Operations and Management Agreement for the duration of outages. Notably, LUMA's annual SAIDI and CAIDI fell short of established baseline performance metrics. Furthermore, the duration of outages has been significantly longer than during PREPA's final year of operation. According to performance data that LUMA provided to the committee, the monthly SAIDI during PREPA's last year averaged to 102 minutes, compared to LUMA's first year average of 138 minutes—an increase of 35%. Similarly, PREPA's monthly CAIDI during its last year averaged 153 minutes, compared to LUMA's first year average of 236—an increase of 55%. Furthermore, the data shows that durations remain high in the months leading up to Hurricane Fiona.

What accounts for the severity and persistence of these outages, and what is LUMA doing to improve its performance? What is LUMA's projected timeline for meeting its baseline performance metrics for the duration of outages?

Response:

To understand the dynamics surrounding our mission to transform Puerto Rico's transmission and distribution system ("T&D") one must first start to analyze the electric grid's condition prior to LUMA beginning operations on the island. As has been documented publicly, Puerto Rico's electrical grid suffered from years and decades of neglect and mismanagement under the past utility operator. These profound operational failures severely impact all areas of the energy system and represent an ongoing challenge that LUMA remains determined to confront and overcome.

With respect to the state of infrastructure that LUMA inherited 18 months ago, the following are just some examples of the poor operational and infrastructure conditions that were faced, and which continue to pose significant and ongoing challenges:

- **Poor Condition of Substations:** 30% of transmission and distribution substations, key nodes in the electric grid, were estimated to require safety and hazard mitigation to reach remediation.
- **Poor Condition of T&D Assets:** An estimated 20% of transmission and distribution line assets, including poles and wires, required safety and hazard mitigation to reach remediation.
- **Public Safety Hazards:** Approximately 50,000 streetlights, more than 10% of all of the streetlights on the island, were estimated to be physical and public safety hazards.
- **Lack of Sound Engineering & Planning:** Processes for engineering functions such as distribution planning, transmission planning, protection and coordination were lacking and not following industry standards. For example, a proper simulation model for the Puerto Rico's transmission system did not exist to properly plan and design the system.
- **Antiquated EMS:** The Energy Management System (EMS), a primary technology to facilitate stable grid operations, had been purchased in the mid-1990s, poorly maintained and was no longer

supported by the equipment manufacturer. We found that PREPA had procured spare parts from eBay.

- **Lack of Safety Requirements:** The entire ground fleet used for utility operations did not meet U.S. Department of Transportation safety requirements.
- **Lack of Critical Maintenance:** Recommended baseline maintenance of transmission and substation assets were not completed, and manufacturers' guidelines were not followed.
- **Poor Vegetation Management:** Vegetation management was often delayed by PREPA, and overgrown vegetation that interfered with safe operation of the system was present and evident when visiting substations.
- **Lasting Impact of Hurricane Maria:** Hurricane Maria accelerated this deterioration and highlighted the flaws in legacy design, operation, and maintenance activities. Some customers didn't have power for more than a year after Hurricane Maria, which is unacceptable.

The above-referenced facts, while significant in scope and impact, do not come close to fully capturing the truly deteriorated state of the electric grid. As LUMA has documented through photographic evidence that has been provided to multiple Congressional Committees, the T&D system inherited by LUMA was weakened by years, if not decades, of poor design, maintenance, lack of proper inspections, and other profound failures that continue to impact the stability and reliability of the energy system.

As a measure of the fragile and weakened nature of the energy grid, Puerto Rico has experienced a number of large-scale outage events since 2016 – five of which preceded a similar large outage event on April 6th of 2022:

- September 21, 2016 – Due to fire at Aguirre Power Generating Plant
- April 12, 2018 – Due to vegetation
- April 18, 2018 – Due to transmission repairs
- January 7, 2020 – Due to earthquake on the island
- July 28th, 2020 – Due to vegetation / equipment failure

Each of these events noted above occurred prior to LUMA taking over operations, affected more than 500,000 customers and restoration efforts lasted for longer than three days. This legacy of system-wide events underscores how deeply fragile and severely vulnerable Puerto Rico's electric grid and critical infrastructure have been because of the failures of the past operator and reinforces the need for LUMA to remain focused on the fundamental improvements needed to modernize and transform the energy system.

Given the need to address these past infrastructure failures and overall fragility of the energy grid, LUMA takes very seriously the need to improve the reliability and resiliency of Puerto Rico's transmission and distribution system. Accordingly, we have implemented a markedly different approach that is grounded in data, rigorous engineering, sound planning aligned with industry standards, and transparency about the progress being conducted and the challenges that are being faced. With this approach, LUMA has made substantial progress across key areas in spite of the challenges we have faced, including:

- **Improving Reliability (Reducing the Number of Outages Experienced):**

- The System Average Interruption Frequency Index (“SAIFI”), or the number of outages that an average customer experiences in a year, has been reduced by 30% (improvement from a PREPA baseline of 10.6 to 7.6).
- **Empowering the Growth of Renewables:**
 - Before LUMA began operations, there was a severe backlog of customers applying for inclusion in PREPA’s solar net-metering program.
 - We have successfully reduced this backlog and have now integrated more than 36500 customers to the program, which represents more than double the number of customers than before.
 - In a little over a year, LUMA added more customers to the residential solar program than PREPA ever did over a full decade. Average time for approval of interconnection has dropped to under 30 days
 - Completed studies to support the interconnection of more than 1300 MW of renewable utility-scale generation and completed solar hosting capacity analyses.
 - Completed cutting-edge optimization analysis to identify locations in the system with zero network upgrade cost for affordable and economical renewable energy integration.
 - We have gone from approximately 450 distributed generation interconnections monthly to approximately 2,200 interconnections.
 - Reenergized transmission line that connected a 27 MW wind farm to the system that was out of service since Hurricane Maria.
- **Improving Customer Service:**
 - 1.5 million customers have been provided support by LUMA, through more than 5 million calls, 400K+ e-mails, 650K+ DMs on social media
 - The average wait time of customers on the phone decreased from more than 10 minutes while under PREPA to approximately 5 minutes under LUMA.
 - The rate of call abandonment declined from more than 50% with PREPA to 18% under LUMA.
 - 750,000+ downloads of the MiLUMA customer application for smartphones.
- **Improving Workplace Safety & Trainings:**
 - Developed procedures to support the operation of interconnected generation resources, the reliable dispatch of power, black start² and restoration, as well as numerous other critical operations. These procedures did not exist prior to our arrival as operator of the T&D system.

² Black start refers to restarting the grid after an island-wide blackout. The other procedures referenced above are related to managing energy generation to provide reliable power.

- We have renewed the service fleet with 1,200 new or repaired vehicles, fully compliant with safety and transportation requirements.
- Graduated the first class of Puerto Rican electric line workers from LUMA Technical College, with subsequent graduating classes during the last year.
- Total recordable injury rate went from 8.63 under PREPA to 2.88 under LUMA.
- Injury severity rate declined from 62.9 under PREPA to 11.64 under LUMA.

In addition to improved operational performance as crews execute using enhanced procedures, LUMA is executing infrastructure improvement programs to address the underlying challenges. LUMA's corrective actions are addressed in part within the System Remediation Plan (SRP), where specific improvement programs were developed to improve LUMA's delivery of safe, reliable, and resilient electric service, including:

- **Transmission and Distribution Pole & Conductor Repair:** The effect of high-risk findings during the high-level assessment of the distribution poles, hardware, and conductors, continues to be mitigated. After the completion of required repairs and replacements of distribution poles, structures, and conductors, LUMA will have established a system that is more resilient to severe weather with higher service reliability and has assets with an extended life span.
- **Transmission and Distribution Line Rebuild:** This program replaces damaged or ineffective overhead and underground lines. Line rebuilds increase service continuity and reliability to customers by replacing and upgrading facilities that have poor reliability performance and adding and completing facilities that allow for alternate feeds. LUMA is developing loop schemes to increase backups where possible.
- **Transmission and Distribution Substation Reliability Improvements:** This program reinforces and upgrades the existing and aging system infrastructure to improve system reliability. This program continues to facilitate safety improvement by replacing equipment prone to failure and enhancing protection systems to properly de-energize failed equipment. This reduces safety risks for both employees and the public and reduces the impacts of major forced outages due to aged equipment.
- **Distribution Automation:** This program addresses equipment for distribution automation, including the deployment of intelligent switches, such as single-phase and three-phase reclosers. Distribution automation deployment is being prioritized based on reliability performance. These efforts include the installation of technologies to serve as line segmentation and/or protection devices, midline, cutout mounted protective devices, and fault indicators, aimed at enabling the rapid isolation of system faults and isolation of customers not directly on the faulted section of the line.
- **LUMA Vegetation Strategic Approach:** LUMA is shifting to a more systematic reclamation of the right-of-way, thus reducing the frequency of tree-caused outages. This transition is happening as the frequency of unplanned outage events continues to decrease, allowing vegetation management to adopt a more proactive stance.

4. Please provide a copy of the agreement extending LUMA's supplementary contract period that was set to expire on November 30, 2022.

Response:

See copy of the agreement attached.

B. Questions For the Record from Rep. Jenniffer Gonzalez Colon (R-PR)

1. The Contractors Association and others have claimed that when contracting for LUMA work, they are forced to commit that the Project Labor Agreement terms for LUMA contracts (especially worker pay) must be then offered to all work in all projects of all their customers not just LUMA's.

Is this true? Does LUMA in any way bind its contractors to offering the same condition to all their workers in all their projects outside LUMA, or not?

Response:

Since our first day of operations, LUMA has made clear that it fully supports our employees' labor rights. To be clear, LUMA does not select the union that represents our employees. LUMA employees choose which union they will be represented by. Furthermore, LUMA does not, in any way, bind its contractors to offering the same condition to all their workers on all their projects outside LUMA.

Currently, the majority of our employees are represented by the International Brotherhood of Electrical Workers (IBEW) - the largest union in the world representing electrical and utility workers. Prior to LUMA, there were approximately five different labor unions that represented PREPA's workers. One of the largest unions under PREPA, UTICE, chose to amalgamate with the IBEW and engaged in negotiations with LUMA. Others, like UTIER, chose not to engage in negotiations and actively urged their members to not apply for open positions at LUMA.

We are incredibly proud of our relationship with the IBEW and have negotiated a labor agreement that prioritizes worker safety and training. This agreement also helps enhance the economic development of the local region, cultivate and further develop a highly skilled local construction workforce and helps create exciting opportunities that build the next generation of Puerto Rican line workers that are training up to industry standards. The highly trained workforce will enable a faster and more efficient installation process, resulting in higher quality standards. We share IBEW's strong values for training and safety, and along with IBEW, LUMA is building the best-trained utility workforce in the history of Puerto Rico.

The modern labor agreement with IBEW ensures all major transmission and distribution capital programs use the best-trained workforce, and that this critical work is done safely and efficiently. **To be clear, the use of well-trained and qualified workers for capital improvement work will not result in an increase to customer rates.**

We have no doubt that the committee shares in our belief in strong labor rights, that the IBEW is the best and most respected utility union in the workforce, and that contractors who perform work for LUMA should and must provide a safe and highly trained workforce.

2. Puerto Rico law directly empowers mayors to perform rebuilding of infrastructure after a disaster, with the right to be reimbursed if the work is complying to code. Municipalities in Puerto Rico have repair teams that can do limited work on local distribution lines, like raising poles and reconnecting lines to customers. Many of these are made of former PREPA employees and other trained personnel.

Is LUMA making agreements to allow this work to proceed and committing to pay? If not, why not? (We have heard repeated reports that LUMA meets with the mayor, says “we’ll work together” then sends a letter saying all they can do is pick up debris.

Response:

As the operator of Puerto Rico’s transmission and distribution system, LUMA and its qualified and trained utility crews are responsible for the repair and restoration of the electric grid following any natural disaster. During hurricane Fiona’s response, we deployed over 2,500 utility workers representing more than 660 crews working in the field across Puerto Rico to restore and reenergize the electric system.

While we share the desire to restore power as quickly as possible, power restoration must be done safely and right, according to electrical standards.

Nowhere in the United States, Canada, or any modern nation, are untrained or uncertified utility workers permitted to work on utility lines because of the threat it poses to public safety and the system. Untrained workers expose themselves, the public and our LUMA crews to significant safety risks. We raised concerns regarding the images that were shared of individuals working on power lines without proper safety gear and without proper safety training.

One fact that stood out as part of Hurricane Fiona’s response is that repair work must be done right, safely and be highly coordinated with our generation partners, otherwise it complicates, delays and endangers power restoration efforts across all of Puerto Rico.

We are committed to working together with municipalities to expedite restoration efforts. What we can’t stress enough is that work on the transmission and distribution system must be performed by LUMA’s trained and qualified field crews. Many of the workers hired directly by the municipalities have not worked at PREPA nor have they received training and completed proper certifications in over a year. As such, we urge those municipal leaders to immediately work with us and not endanger the lives of others or the people they serve.

3. Reminder of information requested to be submitted at the hearing:

- ***Status of projects to be performed with recovery funds***
- ***Breakdown of how many projects have been submitted and how much funding they require***
- ***Planned rebuilding timeline: outline of projected milestone dates for submissions, starts of work and expected completions per the presented Action Plans and expected times (year at least) to reach them. For example: When will all the transmission lines be up and operational? At what point do we expect half the substations that need replacing to be replaced? Three quarters? All?***
- ***Costs of subcontracting and consulting for LUMA***
- ***The comparison of the cost differences between the cost of the contract work in Fiona vs. what would have been the cost of using A.P.P.A. support***
- ***The profit earned by LUMA in its first year as operator***

1. ***Status of projects to be performed with recovery funds; Breakdown of how many projects have been submitted and how much funding they require***

Response:

As of November 1, 2022, LUMA has initiated 251 projects with FEMA, representing more than \$6.2 billion worth of federally funded projects. In contrast, only 37 project submissions were submitted to FEMA (and not one project had been designed) before LUMA assumed operations on June 1, 2021.

Obligated FEMA Projects. LUMA has received, to date, FEMA approval for 38 critical infrastructure projects including:

- o Twenty-eight local distribution projects that will address critical infrastructure, such as streetlights and pole replacement, targeting the municipalities of San Juan, Arecibo, Mayaguez, Caguas, Bayamón and Carolina to reduce outages and increase the reliability of the electric system.
- o Four regional transmission reconstruction projects that will help improve the high-voltage critical energy infrastructure that delivers energy across the island.
- o Five substation modernization projects that will address the pivotal role played by substations in helping deliver energy to communities across Puerto Rico beginning in the municipalities of San Juan, Vieques, Culebra, Manatí, and Guayanilla.
- o One critical Emergency Management System (EMS), which is the first phase of transforming the system operations control center with state-of-the-art technology and software to modernize the way Puerto Rico's energy grid is monitored and managed.

FEMA Projects Under Construction. LUMA has started construction on 23 FEMA funded projects across Puerto Rico including:

- o Six initial streetlight projects as part of LUMA's \$1 billion Community Streetlight Initiative in the municipalities of Guánica, Lajas, Aguada, Maunabo, Luquillo, and Villalba, where in less than three months, LUMA has installed over 15,000 streetlights.
- o One critical transmission line repair project to improve the grid's resiliency.
- o Sixteen distribution pole replacement projects to increase the reliability of the electric grid.
- o Launch of Puerto Rico's federally-funded Substation Modernization Initiative (SMI) with the modernization and reconstruction of the Manatí Substation in the municipality of Manatí.

In addition to the projects initiated, approved, and under construction, LUMA has also taken the following FEMA-related actions:

- Received approval for \$656 million to procure material that requires long lead times for manufacturing and delivery, mainly grid equipment including breakers, transformers, and reclosers.
- Developed four proposals for Hazard Mitigation for non-damaged infrastructure under Section 404 of the Stafford Act which would represent \$900 million for grid modernization, including an advanced metering infrastructure, an advanced microgrid project, and mobile microgrids to enable renewable energy and make communities more resilient in the face of system-wide disturbances.
- Working with FEMA to get support for the immediate addressing of Fiona-related damages with permanent work.

Taken in totality, over the coming months and years, FEMA-funded projects that are being directed by LUMA will be not only the largest capital energy program in Puerto Rico’s history, but also the largest ever funded by the federal government to repair and rebuild an electric system across any state and/or territory. As a result, LUMA is excited by the significant progress that has been made to date that will, as more FEMA projects begin construction, provide Puerto Ricans with a stronger, transformed energy grid.

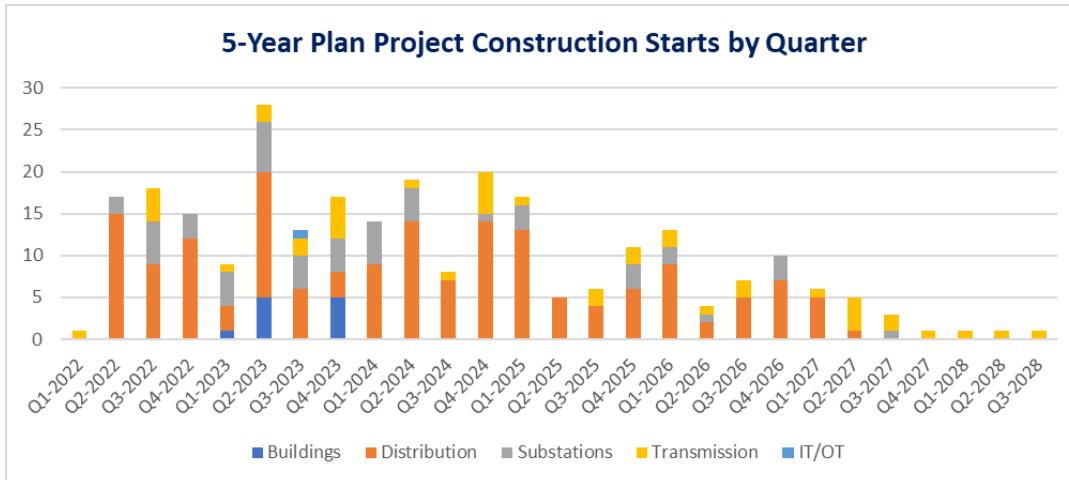
2. *Planned rebuilding timeline: outline of projected milestone dates for submissions, starts of work and expected completions per the presented Action Plans and expected times (year at least) to reach them. For example: When will all the transmission lines be up and operational? At what point do we expect half the substations that need replacing to be replaced? Three quarters? All?*

In May 2022 LUMA submitted a 5-Year Plan to COR3 and FEMA to provide LUMA’s anticipated timing for sending detailed scopes of work to COR3 and FEMA for evaluation and review. This 5-Year Plan is a living document based on the best information available to LUMA at the time of submission. LUMA expects this plan to evolve over time as new information becomes available and conditions impacting the electric grid change.

Additionally, the 5-Year Plan provides an overview of the current list of projects LUMA plans to initiate over the next five years (2022-2026) and their schedules for submitting detailed SOWs to COR3 and FEMA for review. The majority of these projects are near-term projects identified by LUMA. The list will continue to grow as mid- and long-term projects are identified.

The table below provides information on the number of projects currently planned to initiate Engineering Design in each of the years 2022-2026. As the table shows, LUMA has initiated 85 projects as of the date of the 5-Year Plan (May 4, 2022) and plans to initiate another 185 through to 2026. It is important to note that LUMA continues to identify new projects across all categories and will add them to the portfolio over time.

Asset Category	# Projects In Flight	# Remaining Projects To Reach Milestone #1					Total Projects
	Current	2022	2023	2024	2025	2026	
Transmission	22	20	0	0	1	0	43
Distribution	37	44	24	27	18	14	164
Substations	24	19	5	3	0	0	51
Buildings	0	11	0	0	0	0	11
IT/OT	1	0	0	0	0	0	1
Total	84	94	29	30	19	14	270



For a complete list of individual projects included in the 5-Year Plan, see Attachment B.

3. *Costs of subcontracting and consulting for LUMA*

With respect to legal and consulting expenses, LUMA works through a strict expense review process that is independently audited and approved by third-party actors who reviewed all expenses and invoices related to the transition between LUMA Energy and PREPA.

4. *The comparison of the cost differences between the cost of the contract work in Fiona vs. what would have been the cost of using A.P.P.A. support*

Although the American Public Power Association (“APPA”) manages a mutual aid program to facilitate restoration work following storms and other disasters, it would be speculative to come up with an estimate of any specific rates that would have applied on the days following the aftermath of Hurricane Fiona.

However, cost differences are not the only consideration present. Timing of response and availability to assist is of much greater importance. In that regard, had LUMA relied exclusively on external partners and their mutual aid programs, the response rate would have been much slower.

LUMA’s emergency response to Hurricane Fiona followed a 15-month effort to overcome years – if not decades – of profound operational neglect and lack of maintenance by the previous operator. Even before starting operations, LUMA focused intensely on preparing for an event like Hurricane Fiona, ensuring that personnel received over 10,000 hours in emergency response training on FEMA’s National Incident Management System and fully outfitting field crews with proper safety equipment and roadworthy vehicles—conditions that were absent under the previous operator.

On and around September 14, 2022, LUMA activated its emergency operations center and began formal preparations for what became a powerful and devastating Category 1 hurricane, that included 100 mph winds, over 30 inches of rain, severe flooding, and widespread damage to local infrastructure and electric infrastructure.

LUMA’s advance work and close coordination with Puerto Rico and federal emergency response agencies, as well as local communities, allowed a restoration of electric service to 90% of customers within 12 days of Hurricane Fiona making landfall—a restoration timeline never seen before in Puerto Rico for a hurricane, and on par with restoration times for similar events in other jurisdictions in the continental US.

It is important to note and include as part of the analysis that on September 28, 2022, just 14 days after Hurricane Fiona impacted Puerto Rico, Hurricane Ian made landfall in southwestern Florida as a dangerous and powerful Category 4 storm. In the past, coetaneous or closely dated disaster events have dislocated and altered the response and availability of disaster recovery resources for the island of Puerto Rico. That was not the case under LUMA's recovery efforts from Hurricane Fiona.

Moreover, for more information regarding the response to the emergency related to the passing of Hurricane Fiona through Puerto Rico, see Hurricane Fiona Response and Restoration Event Summary, October 21, 2022, (Attachment C). We believe that this summary represents the most comprehensive collection of restoration information ever provided to the public so soon following a hurricane in Puerto Rico.

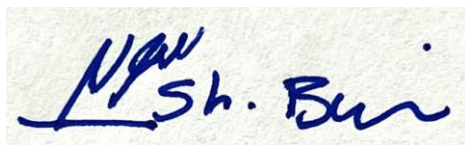
5. The profit earned by LUMA in its first year as operator

LUMA's service fee is authorized under Section 7.1 of the Transmission and Distribution System Operation and Maintenance Agreement (T&D OMA) and provides compensation for the performance of the O&M Services. The service fee for Fiscal Year 2022 was \$117 million, in accordance with the terms of the T&D OMA. It is important to note that LUMA's service fee was determined as part of a competitive process overseen by the Puerto Rico Agency for Public Private Partnerships for the award of the T&D OMA. The Partnership Committee in charge of that process noted in their report that LUMA's fee was lower than that proposed by other proposals.

It is important to note that LUMA has NEVER raised or proposed raising customer rates.

LUMA has no control over how rising generation fuel prices may directly impact customer rates or bills – which are exclusively set by the Puerto Rico Energy Bureau (PREB). LUMA does not generate energy, nor does it financially benefit from any change or increase in generation fuel costs. **Since the beginning of 2021, there have been SEVEN increases to the rate customers pay for electricity due to the rising cost of generation fuel used by PREPA and other generators and there have been ZERO increases proposed to pay for any of LUMA's operations. Because some are unaware of the facts have suggested otherwise, we want to be very clear – LUMA has NEVER raised customer rates.**

As we have done over the last 18 months, the over 3,000 men and women are absolutely committed to building a better energy future for Puerto Rico and overcoming the years and decades of operational and maintenance neglect by the past operator.



Dr. Shay Bahramirad
Senior Vice President, Engineering, Asset Management, Capital Programs
LUMA Energy

Attachment A

November 30, 2022

Puerto Rico Electric Power Authority
PO Box 364267
San Juan, Puerto Rico 00936-4267
Attention: Chief Executive Officer

LUMA Energy, LLC
644 Fernandez Juncos Ave., Suite 301
San Juan, Puerto Rico 00907
Attention: President/CEO; General Counsel

Ladies and Gentlemen:


We refer to the Puerto Rico Transmission and Distribution System Supplemental Terms Agreement, dated June 22, 2020 (the "Supplemental Agreement"), among the Puerto Rico Electric Power Authority ("Owner"), the Puerto Rico Public-Private Partnerships Authority ("Administrator"), LUMA Energy, LLC ("ManagementCo") and LUMA Energy ServCo ("ServCo") and, together with ManagementCo, "Operator"). Capitalized terms used but not defined herein shall have the meanings set forth in the Supplemental Agreement.

In accordance with the express terms of Section 7.1(a) of the Supplemental Agreement, Administrator hereby requests an extension of the Interim Period Termination Date to the date on which the following Service Commencement Date Conditions shall have been satisfied or waived: (i) the Title III Exit shall have occurred; and (ii) the Title III Plan and order of the Title III Court confirming same shall be reasonably acceptable to Operator.

By signing below, each of Administrator, Owner and Operator confirms its agreement to the foregoing extension of the Interim Period Termination Date.

Respectfully,

PUERTO RICO PUBLIC-PRIVATE PARTNERSHIPS AUTHORITY, as Administrator

By: 
Name: Fermín E. Fontanés Gómez
Title: Executive Director

cc: Puerto Rico Energy Bureau
268 Avenida Muñoz Rivera
Edificio World Plaza
Piso 7, Suite 704
Hato Rey, Puerto Rico 00918
Attention: President


ACKNOWLEDGED AND AGREED:


PUERTO RICO ELECTRIC POWER AUTHORITY

By: 
Name: Fernando A. Gil-Enseñat
Title: Chairman
PREPA Governing Board

ACKNOWLEDGED AND AGREED:


LUMA ENERGY, LLC

By: 
Name: Wayne Stensby
Title: President & CEO

By: 
Name: MARIO HURTADO
Title: VP + Chief Regulatory Officer

LUMA ENERGY SERVCO, LLC

By: 
Name: Wayne Stensby
Title: President & CEO

By: 
Name: MARIO HURTADO
Title: VP and Chief Regulatory Officer

Attachment B



FEMA



LUMA 5-Year Plan



May 2022

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SUBSTATIONS 18

BUILDINGS 20

IT/OT 20

I. INTRODUCTION

The purpose of this document is to provide an overview of LUMA's current infrastructure investment plan for the next five years, covering projects initiated in the years 2022-2026. The 5-Year Plan is being submitted to COR3 and FEMA to provide LUMA's anticipated timing for sending detailed scopes of work to COR3 and FEMA for evaluation and review.

This plan is not subject to approval by COR3 or FEMA, nor does it secure the release of any obligated federal funds. Rather, the plan serves as a working document to provide context and support for collaboration among LUMA, COR3, and FEMA in the process of developing and submitting individual projects for review, approval, and funds disbursement.

This 5-Year Plan is a living document based on the best information available to LUMA at the time of submission. LUMA expects this plan to evolve over time as new information becomes available and conditions impacting the electric grid change.

This document provides:

- An overview of LUMA's 5-year project portfolio for the following asset categories: Transmission, Distribution, Substations, and Buildings
- A summary of the number of projects to be initiated in each of the next five years and the number of detailed scopes of work (SOWs) to be submitted to COR3 and FEMA for review each of the next five years
- Details on each project in the portfolio, including project name, FEMA project number, and timing for reaching each of LUMA's four high-level project milestones:
 1. Start Engineering Design
 2. Submit Detailed SOW
 3. Start Construction/Execution
 4. Begin Close-Out

II. 5-YEAR PROJECT PORTFOLIO OVERVIEW

This section of the 5-Year Plan provides an overview of the current list of projects LUMA plans to initiate over the next five years (2022-2026) and their schedules for submitting detailed SOWs to COR3 and FEMA for review. The majority of these projects are near-term projects identified by LUMA. The list will continue to grow as mid- and long-term projects are identified. For the purposes of this plan, LUMA defines initiating a project (e.g., In Flight) as reaching milestone #1: Start Engineering Design.

The streetlight program has been fully scoped and prioritized for execution for all municipalities representing 114 projects. Other programs such as substation minor repairs (5 Projects), physical security (5 Projects), critical distribution pole and conductor (24 Projects), and critical transmission pole replacements (5 Projects) programs have commenced and prioritized. Additional projects within these programs will continue to be added to the 5-year Plan as LUMA assesses the electrical system and determines scopes and priorities.

The sections below provide a high-level description of LUMA's focus areas for each of the five asset categories included in this 5-Year Plan.

Transmission

Transmission projects included in the 5-Year Plan are designed to improve reliability and resiliency of 230, 115, and 38 kV transmission line infrastructure by strengthening or replacing critical transmission structures and components. Projects also include replacement of critical overhead transmission poles and towers through the Transmission Priority Pole Replacement program.

Distribution

Distribution projects in the 5-Year Plan are focused on replacing damaged overhead and underground distribution lines that have been identified as critical and in need of repair. Distribution projects also focus on minimizing safety hazards associated with critical distribution poles and conductors in need of repair or replacement, as well as island-wide replacement of distribution streetlights.

Substations

Substation projects are designed to upgrade, modernize, and/or rebuild damaged transmission and distribution substations to improve long-term system reliability and substation safety. Substation projects include relocation of substations impacted by flooding as well as reinforcement of existing and aging substation infrastructure, including physical security (e.g., locks, fencing, card readers, signage, CCTV, etc.), animal/bird mitigation, vegetation management, and grounding grid repairs.

Buildings

Buildings projects are focused on repair, remediation, and restoration of facilities and real property (e.g., warehouses, mechanic shops, etc.) damaged by natural disasters. This includes structural assessment of buildings to verify code compliance and, where needed, construction of

new facilities to remediate structural deficiencies and replacement of malfunctioning equipment to conform with building use and capacity.

IT/OT

The current 5-Year Plan includes only the Emergency Management System project. Future versions of the plan will include additional projects in this category in relation to the following programs:

- Field Area Network (FAN)
- Telecom Infrastructure
- Microwave PTP Backbone
- MPLS Network Deployment
- LMR Two Way Radio
- SCADA - Remote Access and RTU Replacements

Table 2.1 below provides information on the number of projects currently planned to initiate Engineering Design in each of the years 2022-2026. As Table 2.1 shows, LUMA has initiated 85 projects as of the date of this 5-Year Plan (May 4, 2022) and plans to initiate another 185 through to 2026.

LUMA continues to identify new projects across all categories and will add them to the portfolio over time.

Table 2.1 – Summary of 5-Year Plan Projects

Asset Category	# Projects In Flight	# Remaining Projects To Reach Milestone #1					Total Projects
	Current	2022	2023	2024	2025	2026	
Transmission	22	20	0	0	1	0	43
Distribution	38	40	27	27	18	14	164
Substations	24	19	5	3	0	0	51
Buildings	0	11	0	0	0	0	11
IT/OT	1	0	0	0	0	0	1
Total	85	90	32	30	19	14	270

Note: LUMA has cancelled the 171118 Caridad Substation Project and 551928 Primary and Secondary Control Centers Projects.

To provide visibility regarding the number of detailed SOWs LUMA plans to send COR3 and FEMA for review each quarter, Figure 2.1 below shows the number and asset category for planned detailed SOW submissions each quarter of the next five years.

As can be seen in Figure 2.1, LUMA plans to aggressively pursue submission of detailed SOWs over the course of the next two years before entering a more steady-state rate of approximately 10 detailed SOWs per quarter for the remainder of the 5-Year Plan period.

Moreover, Figure 2.2 below shows the number and asset category for the planned construction starts each quarter of the next five years, thus providing additional visibility as to the execution of the projects.

As can be seen in Figure 2.2, the combination of in-flight projects and LUMA's plans to aggressively pursue additional project submission will allow it to begin construction on a steady stream of new projects over the course of the next five years.

Figure 2.1 – Summary of 5-Year Plan Detailed SOW Submissions by Quarter

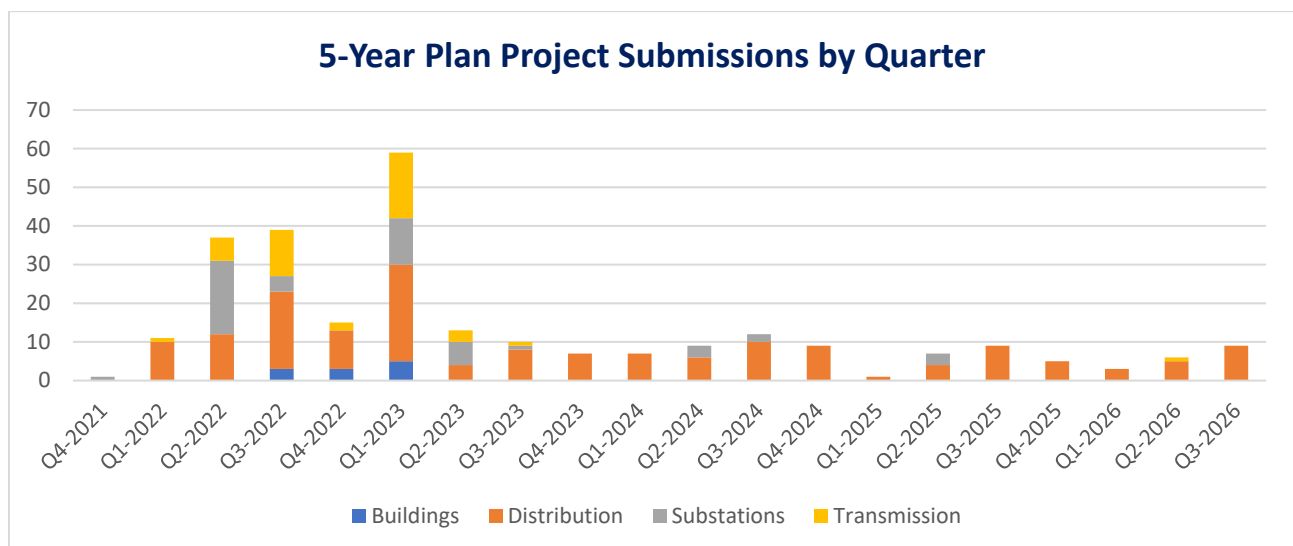
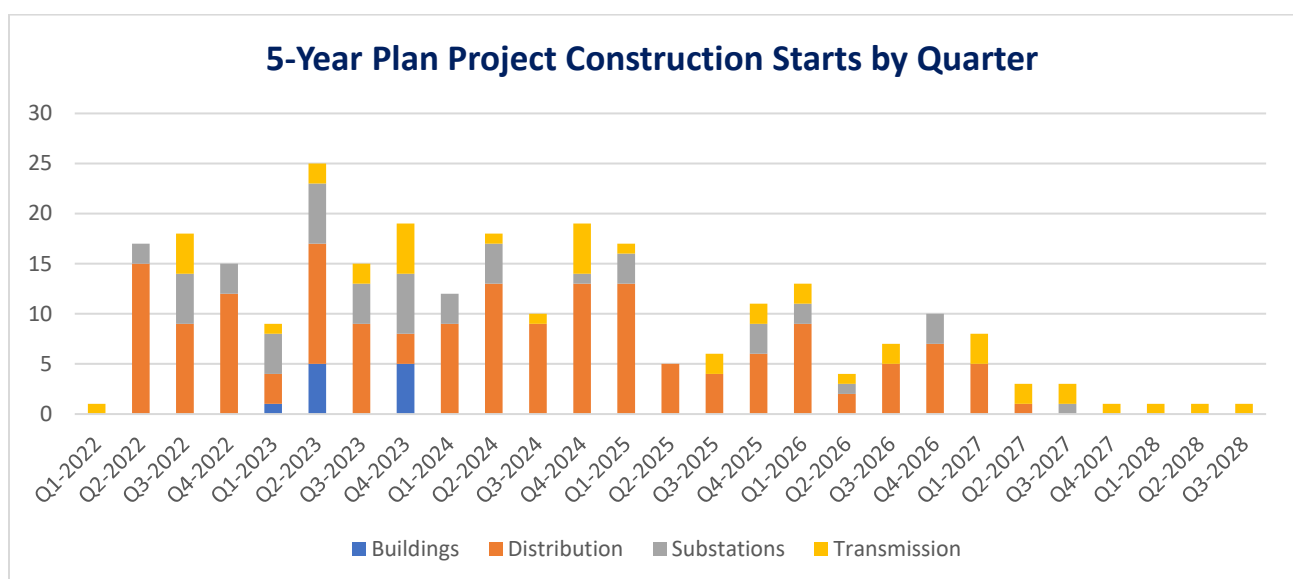


Figure 2.2 – Summary of 5-Year Plan Project Construction Starts by Quarter



III. PROJECT DETAILS

This section provides details on each of the projects included in the 5-Year Plan, organized within the four asset categories included in this Plan. Projects in the tables below are sequenced chronologically by their timing for Milestone #1: Start Engineering Design ("Start Eng. Design" in the tables below).

TRANSMISSION

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
1	1100 - Garzas 1 HP - Garzas 2 HP	176954	Q4-2021	Q2-2022	Q3-2023	Q2-2024
2	Existing 38kV - Line 100, Line 200 Ponce TC to Jobos TC	180052	Q4-2021	Q3-2022	Q4-2023	Q4-2026
3	Transmission Priority Pole Replacement - L50500 Mora Substation	668669	Q4-2021	Q1-2022	Q1-2022	Q3-2022
4	Transmission Priority Pole Replacement - L2200	334468	Q4-2021	Q2-2022	Q3-2022	Q4-2022
5	Transmission Priority Pole Replacement - L6700	550896	Q4-2021	Q2-2022	Q3-2022	Q4-2022
6	9500 - Palo Seco SP - Catano Sect	176913	Q4-2021	Q3-2022	Q4-2023	Q4-2024
7	Existing 115 kV - Line 36800 Palmer Fajardo to Sabana Llana	180326	Q4-2021	Q4-2022	Q4-2023	Q4-2025
8	8200 - San Juan SP - Catano Sect	176971	Q4-2021	Q3-2022	Q2-2023	Q2-2024
9	Transmission Priority Pole Replacement - L13300	668583	Q4-2021	Q2-2022	Q3-2022	Q4-2022
10	Transmission Priority Pole Replacement - L9800	668592	Q4-2021	Q2-2022	Q3-2022	Q1-2023
11	38000 - San Juan - Isla Grande (LOOP)	168226	Q4-2021	Q2-2022	Q3-2023	Q1-2024
12	37800 - Caguas - Monacillo	166904	Q4-2021	Q3-2022	Q4-2023	Q4-2024
13	39000 - Aguas Buenas - Caguas	177191	Q4-2021	Q3-2022	Q4-2024	Q3-2025
14	36100 - Dos Bocas - Monacillos	167446	Q4-2021	Q4-2022	Q4-2023	Q2-2026
15	51300 - Ponce - Costa Sur	166707	Q4-2021	Q3-2022	Q1-2023	Q1-2024
16	37100 - Costa Sur - Acacias	167168	Q4-2021	Q3-2022	Q4-2024	Q4-2026
17	37800 - Jobos - Caguas	166860	Q4-2021	Q3-2022	Q4-2025	Q2-2027
18	4100 - Guaraguo TC - Comerio TC	177134	Q4-2021	Q3-2022	Q2-2023	Q4-2023
19	Main Land 5400 - Rio Blanco HP - Dagua TC	165213	Q4-2021	Q3-2023	Q4-2024	Q4-2026
20	36200 - Monacillos - Juncos	167443	Q4-2021	Q3-2022	Q1-2027	Q1-2028
21	50100 - Cambalache - Manati	167508	Q4-2021	Q3-2022	Q2-2027	Q2-2028
22	36400 - Dos Bocas - Ponce	168483	Q1-2022	Q3-2022	Q2-2024	Q2-2026

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
23	Existing 38 kV - Line 1500 Mayaguez GP to GOAB 1515	547342	Q3-2022	Q1-2023	Q3-2026	Q1-2028
24	Existing 38 kV - Line 1200 Mayaguez GP to Yauco 2 HP	547160	Q3-2022	Q1-2023	Q4-2025	Q2-2027
25	Existing 38 kV - Line 1900 Dos Bocas HP to San Sebastian TC	334331	Q3-2022	Q1-2023	Q3-2025	Q1-2027
26	Existing 115 kV - Line 36200 Fajardo to Rio Blanco	548598	Q3-2022	Q1-2023	Q2-2028	Q3-2029
27	Existing 38 kV - Line 2700 Victoria TC to Quebradillas Sect	547259	Q3-2022	Q1-2023	Q4-2024	Q1-2026
28	Existing 38 kV - Line 3600 Monacillos TC to Martin Peña	547221	Q3-2022	Q1-2023	Q1-2026	Q2-2027
29	Existing 38 kV - Line 500 Ponce TC to Costa Sur SP	334334	Q3-2022	Q1-2023	Q1-2026	Q1-2027
30	Existing 38 kV - Line 2400 Dos Bocas HP to America Apparel	547251	Q3-2022	Q1-2023	Q3-2024	Q2-2025
31	Existing 38 kV - Line 11400 Barceloneta TC to Florida TO	547226	Q3-2022	Q1-2023	Q3-2027	Q1-2028
32	Existing 38 kV - Line 8900 Monacillos TC to Adm Tribunal Apelaciones	334469	Q3-2022	Q1-2023	Q3-2028	Q2-2029
33	Existing 38 kV - Line 600 Caguas TC to Gautier Benitez Sect	550019	Q3-2022	Q1-2023	Q2-2027	Q1-2028
34	Existing 38 kV - Line 13300 Bayamon TC to Plaza del Sol	547350	Q3-2022	Q1-2023	Q3-2027	Q1-2028
35	Existing 38 kV - Line 6700 Martin Peña TC to Villamar Sect	550896	Q3-2022	Q1-2023	Q4-2024	Q3-2025
36	Existing 38 kV - Line 9100 Guaragao TC to Bayamon Pueblo Sect	551911	Q3-2022	Q1-2023	Q1-2028	Q3-2028
37	Existing 38 kV - Line 2800 Aguadilla Hospital Distrito Sect to T-Bone TO	547269	Q3-2022	Q1-2023	Q1-2027	Q4-2027
38	Existing 38 kV - Line 11100 Canovanas TC to GOAB 11115	551067	Q3-2022	Q1-2023	Q1-2025	Q4-2025
39	Existing 38 kV - Line 9700 Palo Seco SP to Bay View Sect	550902	Q3-2022	Q1-2023	Q1-2027	Q4-2027
40	Existing 38 kV - Line 3100 Monacillos TC to Daguao TC	334470	Q3-2022	Q2-2023	Q2-2026	Q3-2028
41	Existing 38 kV - Line 2200 Dos Bocas HP to Dorado TC	334468	Q3-2022	Q2-2023	Q3-2025	Q1-2028
42	Existing 38 kV - Line 3000 Monacillos TC to Juncos TC	334482	Q3-2022	Q2-2023	Q3-2026	Q3-2028
43	Existing 38 kV - Line 4000 Comerio HP to Escuela Francisco Morales	550070	Q4-2025	Q2-2026	Q4-2027	Q4-2028

DISTRIBUTION

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
1	Distribution Pole and Conductor Repair- Ponce Group 1	334323	Q3-2021	Q1-2022	Q2-2022	Q1-2023
2	Distribution Pole and Conductor Repair- Ponce Group 2	334329	Q3-2021	Q1-2022	Q2-2022	Q1-2023
3	Distribution Pole and Conductor Repair-Arecibo Group 2	542762	Q3-2021	Q1-2022	Q2-2022	Q1-2023
4	Distribution Pole and Conductor Repair-Caguas Group 4	334488	Q3-2021	Q1-2022	Q2-2022	Q1-2023
5	Distribution Pole and Conductor Repair-Caguas Group 8	334527	Q3-2021	Q1-2022	Q2-2022	Q1-2023
6	Distribution Pole and Conductor Repair- Mayaguez Group 3	334191	Q3-2021	Q2-2022	Q2-2022	Q1-2023
7	Distribution Pole and Conductor Repair- Mayaguez Group 4	334293	Q3-2021	Q2-2022	Q2-2022	Q1-2023
8	Distribution Pole and Conductor Repair- San Juan Group 2	334472	Q3-2021	Q2-2022	Q3-2022	Q1-2023
9	Distribution Pole and Conductor Repair-Carolina Group 3	334477	Q3-2021	Q2-2022	Q2-2022	Q1-2023
10	Distribution Pole and Conductor Repair-Mayaguez Group 1	334308	Q3-2021	Q2-2022	Q2-2022	Q1-2023
11	Distribution Pole and Conductor Repair-Bayamon Group 2	334474	Q3-2021	Q2-2022	Q2-2022	Q1-2023
12	Distribution Pole and Conductor Repair-Caguas Group 2	334443	Q3-2021	Q2-2022	Q2-2022	Q1-2023
13	Distribution Pole and Conductor Repair-Caguas Group 5	334491	Q3-2021	Q2-2022	Q2-2022	Q1-2023
14	Distribution Pole and Conductor Repair-Caguas Group 6	334497	Q3-2021	Q2-2022	Q2-2022	Q1-2023
15	Distribution Pole and Conductor Repair- Mayaguez Group 2	334285	Q3-2021	Q3-2022	Q3-2022	Q2-2023
16	Distribution Pole and Conductor Repair- San Juan Group 1	334471	Q3-2021	Q3-2022	Q3-2022	Q2-2023
17	Distribution Pole and Conductor Repair- San Juan Group 3	546374	Q3-2021	Q3-2022	Q3-2022	Q2-2023
18	Distribution Pole and Conductor Repair-Bayamon Group 1	334473	Q3-2021	Q3-2022	Q3-2022	Q2-2023
19	Distribution Pole and Conductor Repair-Carolina Group 2	334476	Q3-2021	Q3-2022	Q3-2022	Q2-2023

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
20	Distribution Pole and Conductor Repair-Arecibo Group 1	436616	Q3-2021	Q3-2022	Q4-2022	Q2-2023
21	Distribution Pole and Conductor Repair-Bayamon Group 3	334475	Q3-2021	Q3-2022	Q4-2022	Q2-2023
22	Distribution Pole and Conductor Repair-Caguas Group 1	334420	Q3-2021	Q3-2022	Q4-2022	Q2-2023
23	Distribution Pole and Conductor Repair-Caguas Group 3	334452	Q3-2021	Q3-2022	Q4-2022	Q2-2023
24	Distribution Pole and Conductor Repair-Caguas Group 7	334518	Q3-2021	Q3-2022	Q4-2022	Q2-2023
25	Aguada Municipality (Streetlighting Program)	542688	Q3-2021	Q1-2022	Q2-2022	Q4-2022
26	Luquillo Municipality (Streetlighting Program)	542517	Q4-2021	Q1-2022	Q3-2022	Q4-2022
27	Maunabo Municipality (Streetlighting Program)	542690	Q4-2021	Q1-2022	Q2-2022	Q4-2022
28	Lajas Municipality (Streetlighting Program)	542687	Q4-2021	Q1-2022	Q3-2022	Q4-2022
29	Vieques & Culebra Feeders	165226	Q4-2021	Q2-2022	Q3-2023	Q1-2024
30	Guánica Municipality (Streetlighting Program)	542756	Q4-2021	Q1-2022	Q3-2022	Q4-2022
31	Aibonito Municipality (Streetlighting Program)	659715	Q1-2022	Q3-2022	Q4-2022	Q2-2023
32	Cataño Municipality (Streetlighting Program)	659623	Q1-2022	Q2-2022	Q4-2022	Q1-2023
33	Manatí Municipality (Streetlighting Program)	660437	Q1-2022	Q3-2022	Q4-2022	Q2-2023
34	Villalba Municipality (Streetlighting Program)	660239	Q1-2022	Q2-2022	Q4-2022	Q1-2023
35	Hatillo Municipality (Streetlighting Program)	660227	Q1-2022	Q3-2022	Q4-2022	Q2-2023
36	Dorado Municipality (Streetlighting Program)	659625	Q1-2022	Q3-2022	Q4-2022	Q2-2023
37	San Germán Municipality (Streetlighting Program)	659968	Q1-2022	Q3-2022	Q4-2022	Q2-2023
38	Distribution Feeders - Caguas Short Term Group 6	TBD	Q2-2022	Q1-2023	Q3-2024	Q4-2024
39	Barceloneta Municipality (Streetlighting Program)		Q2-2022	Q3-2022	Q1-2023	Q2-2023

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
40	Utuado Municipality (Streetlighting Program)		Q2-2022	Q3-2022	Q1-2023	Q3-2023
41	Yabucoa Municipality (Streetlighting Program)		Q2-2022	Q3-2022	Q1-2023	Q3-2023
42	San Juan Municipality - Phase 1 (Streetlighting Program)	666894	Q2-2022	Q4-2022	Q2-2023	Q4-2023
43	Distribution Feeders - Ponce Short Term Group 1	TBD	Q2-2022	Q3-2022	Q1-2025	Q2-2025
44	Distribution Feeders - Caguas Short Term Group 2	TBD	Q2-2022	Q1-2023	Q4-2024	Q2-2025
45	Distribution Feeders - Caguas Short Term Group 8	TBD	Q2-2022	Q4-2022	Q2-2024	Q4-2024
46	Distribution Feeders - Caguas Short Term Group 7	TBD	Q3-2022	Q1-2023	Q2-2024	Q3-2024
47	El Yunque 2305-01 Supply	546386	Q3-2022	Q1-2023	Q1-2027	Q2-2027
48	Distribution Feeders - Mayaguez Short Term Group 4	TBD	Q3-2022	Q1-2023	Q3-2024	Q4-2024
49	Distribution Feeders - Carolina Short Term Group 3	TBD	Q3-2022	Q1-2023	Q3-2024	Q4-2024
50	Distribution Feeders - Caguas Short Term Group 4	TBD	Q3-2022	Q4-2022	Q4-2024	Q2-2025
51	Distribution Feeders - Bayamon Short Term Group 2	TBD	Q3-2022	Q4-2022	Q2-2027	Q3-2027
52	Distribution Feeders - Caguas Short Term Group 3	TBD	Q3-2022	Q1-2023	Q3-2024	Q4-2024
53	Distribution Feeders - San Juan Short Term Group 2	TBD	Q3-2022	Q3-2022	Q2-2024	Q3-2024
54	Gurabo Municipality (Streetlighting Program)		Q3-2022	Q4-2022	Q2-2023	Q4-2023
55	Distribution Feeders - San Juan Short Term Group 1	TBD	Q3-2022	Q4-2022	Q1-2024	Q2-2024
56	Distribution Feeders - Mayaguez Short Term Group 3	TBD	Q3-2022	Q1-2023	Q4-2024	Q2-2025
57	Distribution Feeders - Caguas Short Term Group 1	TBD	Q3-2022	Q1-2023	Q2-2024	Q3-2024
58	Arecibo Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q4-2022	Q2-2023	Q4-2023
59	Caguas Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q4-2022	Q2-2023	Q4-2023

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
60	Mayagüez Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q4-2022	Q2-2023	Q3-2023
61	Distribution Feeders - San Juan Short Term Group 3	TBD	Q3-2022	Q4-2022	Q1-2024	Q2-2024
62	Distribution Feeders - Bayamon Short Term Group 1	TBD	Q3-2022	Q1-2023	Q3-2024	Q4-2024
63	Distribution Feeders - Mayaguez Short Term Group 1	TBD	Q3-2022	Q1-2023	Q2-2024	Q3-2024
64	Carolina Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q1-2023	Q2-2023	Q4-2023
65	Ponce Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q1-2023	Q2-2023	Q4-2023
66	Distribution Feeders - Carolina Short Term Group 2	TBD	Q3-2022	Q1-2023	Q2-2024	Q3-2024
67	Distribution Feeders - Arecibo Short Term Group 2	TBD	Q3-2022	Q1-2023	Q4-2025	Q2-2026
68	Aguadilla Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q1-2023	Q2-2023	Q4-2023
69	Bayamón Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q1-2023	Q2-2023	Q4-2023
70	Trujillo Alto Municipality - Phase 1 (Streetlighting Program)		Q3-2022	Q1-2023	Q2-2023	Q4-2023
71	Distribution Feeders - Mayaguez Short Term Group 2	TBD	Q4-2022	Q1-2023	Q3-2024	Q4-2024
72	Guayama Municipality - Phase 1 (Streetlighting Program)		Q4-2022	Q1-2023	Q2-2023	Q4-2023
73	Cayey Municipality (Streetlighting Program)		Q4-2022	Q1-2023	Q3-2023	Q1-2024
74	Juana Díaz Municipality (Streetlighting Program)		Q4-2022	Q1-2023	Q3-2023	Q1-2024
75	Humacao Municipality - Phase 1 (Streetlighting Program)		Q4-2022	Q1-2023	Q3-2023	Q4-2023
76	Isabela Municipality - Phase 1 (Streetlighting Program)		Q4-2022	Q1-2023	Q3-2023	Q4-2023
77	Río Grande Municipality - Phase 1 (Streetlighting Program)		Q4-2022	Q1-2023	Q2-2023	Q4-2023
78	Distribution Feeders - Caguas Short Term Group 5	TBD	Q4-2022	Q3-2023	Q4-2024	Q2-2025
79	Toa Alta Municipality - Phase 1 (Streetlighting Program)		Q1-2023	Q2-2023	Q3-2023	Q1-2024

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
80	Toa Baja Municipality - Phase 1 (Streetlighting Program)		Q1-2023	Q2-2023	Q3-2023	Q1-2024
81	Vega Baja Municipality - Phase 1 (Streetlighting Program)		Q1-2023	Q2-2023	Q3-2023	Q1-2024
82	Juncos Municipality (Streetlighting Program)		Q1-2023	Q2-2023	Q3-2023	Q1-2024
83	Canóvanas Municipality (Streetlighting Program)		Q1-2023	Q3-2023	Q4-2023	Q2-2024
84	Corozal Municipality (Streetlighting Program)		Q1-2023	Q3-2023	Q4-2023	Q2-2024
85	Distribution Feeders - Ponce Short Term Group 2	TBD	Q2-2023	Q3-2023	Q1-2025	Q2-2025
86	Cabo Rojo Municipality - Phase 1 (Streetlighting Program)		Q2-2023	Q3-2023	Q1-2024	Q2-2024
87	Guaynabo Municipality - Phase 1 (Streetlighting Program)		Q2-2023	Q3-2023	Q1-2024	Q2-2024
88	Loíza Municipality (Streetlighting Program)		Q2-2023	Q3-2023	Q4-2023	Q2-2024
89	Vega Alta Municipality (Streetlighting Program)		Q2-2023	Q3-2023	Q1-2024	Q3-2024
90	Camuy Municipality (Streetlighting Program)		Q3-2023	Q4-2023	Q1-2024	Q3-2024
91	Coamo Municipality (Streetlighting Program)		Q3-2023	Q4-2023	Q1-2024	Q3-2024
92	Morovis Municipality (Streetlighting Program)		Q3-2023	Q4-2023	Q1-2024	Q3-2024
93	San Sebastián Municipality (Streetlighting Program)		Q3-2023	Q4-2023	Q1-2024	Q3-2024
94	Distribution Feeders - Arecibo Short Term Group 1	TBD	Q3-2023	Q4-2023	Q2-2025	Q3-2025
95	Naranjito Municipality (Streetlighting Program)		Q3-2023	Q4-2023	Q2-2024	Q4-2024
96	San Lorenzo Municipality (Streetlighting Program)		Q3-2023	Q1-2024	Q2-2024	Q4-2024
97	Vieques Municipality (Streetlighting Program)		Q3-2023	Q4-2023	Q2-2024	Q3-2024
98	Yauco Municipality (Streetlighting Program)		Q3-2023	Q1-2024	Q2-2024	Q4-2024
99	Distribution Feeders - Bayamon Short Term Group 3	TBD	Q4-2023	Q1-2024	Q3-2025	Q4-2025

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
100	Barranquitas Municipality (Streetlighting Program)		Q4-2023	Q1-2024	Q2-2024	Q4-2024
101	Ceiba Municipality (Streetlighting Program)		Q4-2023	Q1-2024	Q2-2024	Q4-2024
102	Santa Isabel Municipality (Streetlighting Program)		Q4-2023	Q1-2024	Q2-2024	Q4-2024
103	Añasco Municipality (Streetlighting Program)		Q4-2023	Q1-2024	Q3-2024	Q1-2025
104	Fajardo Municipality (Streetlighting Program)		Q4-2023	Q2-2024	Q3-2024	Q1-2025
105	Las Piedras Municipality (Streetlighting Program)		Q4-2023	Q2-2024	Q3-2024	Q1-2025
106	Moca Municipality (Streetlighting Program)		Q1-2024	Q2-2024	Q4-2024	Q2-2025
107	Naguabo Municipality (Streetlighting Program)		Q1-2024	Q2-2024	Q4-2024	Q2-2025
108	Rincón Municipality (Streetlighting Program)		Q1-2024	Q2-2024	Q4-2024	Q1-2025
109	Sabana Grande Municipality (Streetlighting Program)		Q1-2024	Q2-2024	Q4-2024	Q1-2025
110	Ciales Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q4-2024	Q2-2025
111	Cidra Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q4-2024	Q2-2025
112	Jayuya Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q4-2024	Q2-2025
113	Peñuelas Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q4-2024	Q2-2025
114	Salinas Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q4-2024	Q3-2025
115	Aguas Buenas Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q1-2025	Q3-2025
116	Arroyo Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q1-2025	Q3-2025
117	Culebra Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q1-2025	Q2-2025
118	Guayanilla Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q1-2025	Q3-2025
119	Quebradillas Municipality (Streetlighting Program)		Q2-2024	Q3-2024	Q1-2025	Q3-2025

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
120	Adjuntas Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q1-2025	Q3-2025
121	Florida Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q1-2025	Q3-2025
122	Hormigueros Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q1-2025	Q3-2025
123	Lares Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q1-2025	Q3-2025
124	Las Marías Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q1-2025	Q3-2025
125	Maricao Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q1-2025	Q3-2025
126	Comerio Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q2-2025	Q3-2025
127	Orocovis Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q2-2025	Q3-2025
128	Patillas Municipality (Streetlighting Program)		Q3-2024	Q4-2024	Q2-2025	Q4-2025
129	Mayagüez Municipality - Phase 2 (Streetlighting Program)		Q4-2024	Q1-2025	Q2-2025	Q4-2025
130	San Juan Municipality - Phase 2 (Streetlighting Program)		Q4-2024	Q2-2025	Q3-2025	Q2-2026
131	Arecibo Municipality - Phase 2 (Streetlighting Program)		Q4-2024	Q2-2025	Q3-2025	Q1-2026
132	Caguas Municipality - Phase 2 (Streetlighting Program)		Q4-2024	Q2-2025	Q3-2025	Q1-2026
133	Carolina Municipality - Phase 2 (Streetlighting Program)		Q1-2025	Q3-2025	Q4-2025	Q2-2026
134	Ponce Municipality - Phase 2 (Streetlighting Program)		Q1-2025	Q3-2025	Q4-2025	Q2-2026
135	Trujillo Alto Municipality - Phase 2 (Streetlighting Program)		Q1-2025	Q2-2025	Q4-2025	Q1-2026
136	Aguadilla Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q4-2025	Q2-2026
137	Bayamón Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q1-2026	Q3-2026
138	Guayama Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q4-2025	Q2-2026
139	Humacao Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q1-2026	Q2-2026

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
140	Isabela Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q1-2026	Q2-2026
141	Río Grande Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q1-2026	Q2-2026
142	Toa Alta Municipality - Phase 2 (Streetlighting Program)		Q2-2025	Q3-2025	Q1-2026	Q2-2026
143	Cabo Rojo Municipality - Phase 2 (Streetlighting Program)		Q3-2025	Q4-2025	Q1-2026	Q3-2026
144	Guaynabo Municipality - Phase 2 (Streetlighting Program)		Q3-2025	Q4-2025	Q1-2026	Q3-2026
145	Toa Baja Municipality - Phase 2 (Streetlighting Program)		Q3-2025	Q4-2025	Q1-2026	Q3-2026
146	Vega Baja Municipality - Phase 2 (Streetlighting Program)		Q3-2025	Q4-2025	Q1-2026	Q3-2026
147	Mayagüez Municipality - Phase 3 (Streetlighting Program)		Q3-2025	Q4-2025	Q2-2026	Q4-2026
148	San Juan Municipality - Phase 3 (Streetlighting Program)		Q3-2025	Q1-2026	Q2-2026	Q1-2027
149	Arecibo Municipality - Phase 3 (Streetlighting Program)		Q4-2025	Q1-2026	Q3-2026	Q4-2026
150	Caguas Municipality - Phase 3 (Streetlighting Program)		Q4-2025	Q1-2026	Q3-2026	Q1-2027
151	Carolina Municipality - Phase 3 (Streetlighting Program)		Q1-2026	Q2-2026	Q3-2026	Q1-2027
152	Ponce Municipality - Phase 3 (Streetlighting Program)		Q1-2026	Q2-2026	Q3-2026	Q2-2027
153	Trujillo Alto Municipality - Phase 3 (Streetlighting Program)		Q1-2026	Q2-2026	Q3-2026	Q1-2027
154	Aguadilla Municipality - Phase 3 (Streetlighting Program)		Q1-2026	Q2-2026	Q4-2026	Q1-2027
155	Bayamón Municipality - Phase 3 (Streetlighting Program)		Q1-2026	Q3-2026	Q4-2026	Q2-2027
156	Guayama Municipality - Phase 3 (Streetlighting Program)		Q1-2026	Q2-2026	Q4-2026	Q1-2027
157	Humacao Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q4-2026	Q2-2027
158	Isabela Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q4-2026	Q2-2027
159	Río Grande Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q4-2026	Q2-2027

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
160	Toa Alta Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q4-2026	Q2-2027
161	Cabo Rojo Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q1-2027	Q3-2027
162	Guaynabo Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q1-2027	Q3-2027
163	Toa Baja Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q1-2027	Q2-2027
	Vega Baja Municipality - Phase 3 (Streetlighting Program)		Q2-2026	Q3-2026	Q1-2027	Q2-2027

SUBSTATIONS

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
1	Catano Modernization & Hardening	174422	Q2-2021	Q4-2021	Q1-2023	Q4-2023
2	Viaducto TC 1100 (Metalclad)	169276	Q4-2021	Q2-2022	Q1-2023	Q3-2023
3	Cachete 1526 (Metalclad)	178577	Q4-2021	Q2-2022	Q2-2023	Q3-2024
4	Tapia GIS 1102 (Rebuilt)	169495	Q4-2021	Q2-2022	Q1-2023	Q4-2024
5	Rio Grande Estates - CH - 2306 (Elevated Control House)	165268	Q4-2021	Q2-2022	Q2-2023	Q4-2024
6	Centro Medico 1 & 2 - 1327 & 1359	169266	Q4-2021	Q2-2022	Q2-2023	Q4-2024
7	Aguirre BKRS T018	178503	Q4-2021	Q2-2022	Q2-2023	Q2-2024
8	Culebra 3801 Substation	165209	Q4-2021	Q2-2022	Q3-2023	Q1-2024
9	Vieques 2501 Substation	165225	Q4-2021	Q2-2022	Q3-2023	Q1-2024
10	Costa Sur BKRS P001	169896	Q4-2021	Q2-2022	Q1-2023	Q1-2024
11	Llorens Torres 1106 (Metalclad)	169058	Q4-2021	Q2-2022	Q3-2023	Q3-2025
12	Group A (Substation Minor Repairs)	546370	Q4-2021	Q2-2022	Q3-2022	Q1-2023
13	Bayamon TC - BKRS Y1 - 1711 (Metalclad)	169500	Q4-2021	Q2-2022	Q3-2023	Q1-2025
14	Group B (Substation Minor Repairs)	542758	Q4-2021	Q2-2022	Q3-2022	Q1-2023
15	Group C (Substation Minor Repairs)	546371	Q4-2021	Q2-2022	Q2-2022	Q1-2023
16	Manati BKR T005	179558	Q4-2021	Q2-2022	Q2-2023	Q4-2023
17	Group 2 (Physical Security)	549764	Q4-2021	Q2-2022	Q3-2022	Q4-2022
18	Group D (Substation Minor Repairs)	549715	Q4-2021	Q3-2022	Q4-2022	Q1-2023
19	Group E (Substation Minor Repairs)	549725	Q4-2021	Q3-2022	Q4-2022	Q1-2023
20	Group 5 (Physical Security)	549768	Q4-2021	Q3-2022	Q4-2022	Q2-2023
21	Taft 1105 (Metalclad)	178258	Q4-2021	Q2-2022	Q2-2023	Q4-2024
22	Group 1 (Physical Security)	550910	Q4-2021	Q2-2022	Q3-2022	Q1-2023
23	Group 3 (Physical Security)	551861	Q4-2021	Q2-2022	Q2-2022	Q1-2023
24	Group 4 (Physical Security)	660422	Q1-2022	Q3-2022	Q3-2022	Q1-2023
25	Baldrich 1422 (Metalclad)	550894	Q3-2022	Q1-2023	Q4-2023	Q1-2024
26	Condado 1133 (Metalclad)	550986	Q3-2022	Q1-2023	Q4-2023	Q1-2024
27	Crematorio 1512 (Metalclad)	551918	Q3-2022	Q1-2023	Q2-2024	Q3-2024
28	Egozcue 1109 (Metalclad)	547243	Q3-2022	Q1-2023	Q2-2024	Q3-2024
29	Esc Industrial M Such 1423 (Metalclad)	550099	Q3-2022	Q1-2023	Q2-2024	Q3-2024
30	Guaynabo Pueblo Substation (Metalclad)	551260	Q3-2022	Q1-2023	Q4-2023	Q1-2024

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
31	Isla Grande 1101 (Metalclad)		Q3-2022	Q1-2023	Q2-2024	Q3-2024
32	Parques y Recreos 1002 (Metalclad)	550980	Q3-2022	Q1-2023	Q4-2023	Q1-2024
33	Puerto Nuevo - Metalclad - 1520	551912	Q3-2022	Q1-2023	Q4-2023	Q1-2024
34	Berwind TC 1336 (Metalclad)	550162	Q3-2022	Q1-2023	Q4-2023	Q1-2024
35	Canas TC BKRS 115kV	547248	Q3-2022	Q1-2023	Q1-2024	Q2-2024
36	Monacillo TC - Breakers	550950	Q3-2022	Q1-2023	Q1-2024	Q2-2024
37	Caparra 1911 & 1924 (Elevated Control House)	551914	Q3-2022	Q2-2023	Q1-2025	Q1-2026
38	Tallaboa 5402 (Elevated Control House)	547241	Q3-2022	Q2-2023	Q4-2024	Q4-2025
39	Caguas TC BKRS 115kV	550771	Q3-2022	Q2-2023	Q3-2027	Q3-2028
40	Victoria TC 7008 (Elevated Control House)	547343	Q3-2022	Q2-2023	Q1-2025	Q1-2026
41	Conquistador - CH	550106	Q3-2022	Q2-2023	Q2-2026	Q2-2027
42	Santurce Planta (Sect) 1116 (Metalclad)	550998	Q3-2022	Q2-2023	Q1-2024	Q2-2024
43	Arecibo Pueblo 8002 (Relocation)	547187	Q4-2022	Q3-2023	Q1-2025	Q1-2026
44	Charco Hondo 8008 Relocation	547273	Q3-2023	Q2-2024	Q4-2025	Q4-2026
45	San Jose (Relocation)	542271	Q3-2023	Q2-2024	Q4-2025	Q4-2026
46	Acacias 6801 TC (Relocation)	547344	Q3-2023	Q2-2024	Q4-2025	Q4-2026
47	Bayview Sectionalizer 1802 (Relocation)	551100	Q4-2023	Q3-2024	Q1-2026	Q1-2027
48	Dorado TC (Relocation)	551916	Q4-2023	Q3-2024	Q1-2026	Q1-2027
49	Fonalledas GIS Rebuilt 1401 1421	550972	Q3-2024	Q2-2025	Q4-2026	Q4-2027
50	Pampanos (Relocation)	550498	Q3-2024	Q2-2025	Q4-2026	Q4-2027
51	Cambalache TC (Relocation)	547247	Q3-2024	Q2-2025	Q4-2026	Q4-2027

BUILDINGS

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
1	San Germán Electric Service Center	548596	Q2-2022	Q3-2022	Q2-2023	Q4-2023
2	FAASt Arecibo Electric Service Center (Building)	169798	Q2-2022	Q3-2022	Q2-2023	Q2-2024
3	Carolina Region Miscellaneous Repairs	551827	Q2-2022	Q1-2023	Q4-2023	Q2-2024
4	Bayamon Region Miscellaneous Repairs	551242	Q2-2022	Q1-2023	Q4-2023	Q2-2024
5	Caguas Region Miscellaneous Repairs	550060	Q2-2022	Q1-2023	Q4-2023	Q2-2024
6	FAASt Aguadilla Electric Service Center	169804	Q2-2022	Q4-2022	Q1-2023	Q2-2024
7	FAASt Arecibo Regional Office Building (Building)	169576	Q2-2022	Q4-2022	Q2-2023	Q2-2024
8	Arecibo Region Miscellaneous Repairs	548393	Q2-2022	Q3-2022	Q2-2023	Q4-2023
9	Palo Seco North & South	551247	Q2-2022	Q4-2022	Q2-2023	Q4-2023
10	Mayaguez Region Miscellaneous Repairs	548440	Q2-2022	Q1-2023	Q4-2023	Q2-2024
11	Ponce Region Miscellaneous Repairs	550500	Q2-2022	Q1-2023	Q4-2023	Q2-2024

IT/OT

Table Item #	Project Name	FEMA #	Start Eng. Design	Submit DSOW	Start Const.	Close-Out
1	Emergency Management System (EMS)	657300	Q4-2021	Q3-2022	Q3-2022	Q4-2023

Attachment C



HURRICANE FIONA RESPONSE AND RESTORATION EVENT SUMMARY

10/20/22

Hurricane Fiona

RESPONSE SUMMARY

LUMA's response and restoration efforts following Hurricane Fiona represents a historic undertaking that has never been seen before in Puerto Rico. This report provides key information and data outlining the significant work performed by LUMA to restore power to the company's 1.5 million customers.

RESTORATION EFFORTS



OVER 90%
Customers restored in **12 days**



2,500+
Utility workers deployed



2,500+
Vehicles deployed



239
Total flight hours,
12,000+ miles flown

DAMAGE ASSESSMENTS

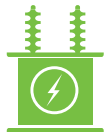
\$4+ Billion
in damages sustained



54%
of Distribution feeders damaged



30%
of Transmission line damaged



7
Substations submerged

PUBLIC INFORMATION



435
Updates provided



1,759
Radio announcements



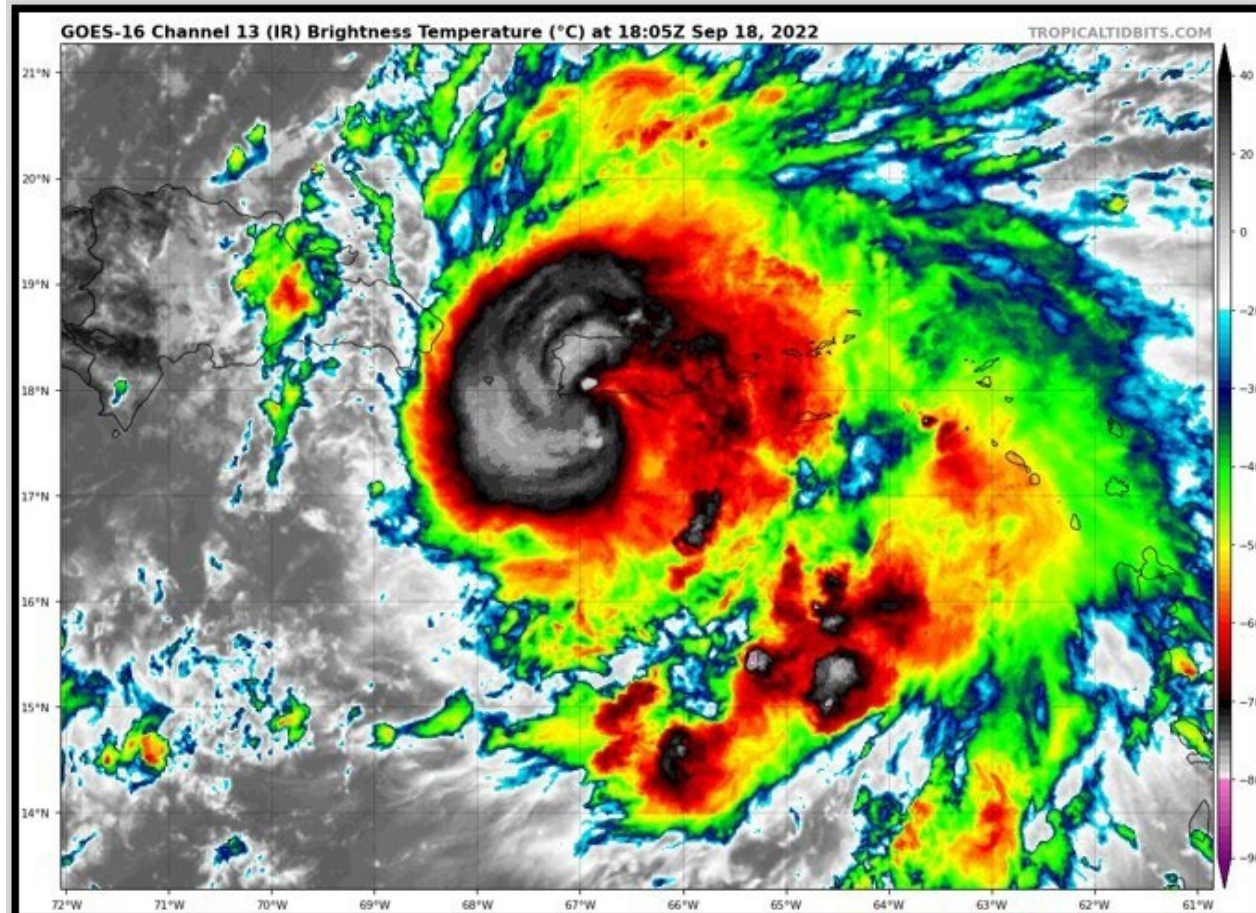
1,135
Social media updates



34
Videos posted

Hurricane Fiona

OVERVIEW



Category 1



12-30+
inches of rain



85-103
mph winds

Widespread Flooding | Federal Emergency Declaration

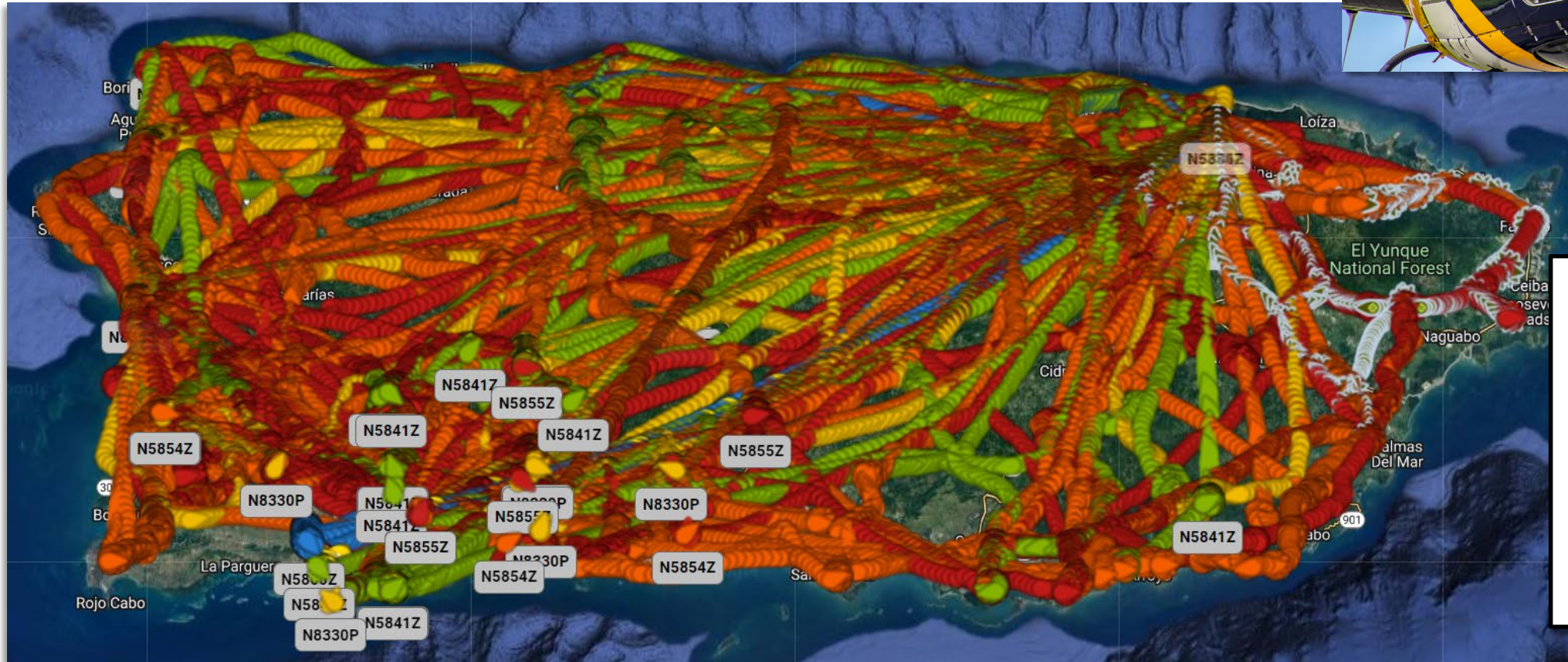


PRELIMINARY DAMAGE ASSESSMENTS

Hurricane Fiona

AERIAL PATROLS

Total aerial patrols conducted during Hurricane Fiona to assess damage and assist with response.



239

Total Flight Hours

12,841

Nautical Miles Flown

(Sep. 26, 2022 – Oct. 15, 2022)

Hurricane Fiona

DAMAGE ASSESSMENTS

54% of Distribution Feeders sustained damage

30% of Transmission Lines sustained damage

7 Substations submerged

Completed visual inspections on **100%** of critical substations

Completed aerial inspections on **100%** of transmission lines

Detailed information related to Hurricane Fiona Damage Assessments can be found on our interactive map here: lumapr.com/fiona



Adjuntas



Bayamón



Yunque



Cabo Rojo



RESOURCES & RESPONSE

Hurricane Fiona

RESOURCES DEPLOYED

- **2,500+** Utility workers
- **2,500+** Vehicles
- **7** Helicopters
- **24/7** LUMA Emergency Operations Center Operations Following Incident Command Structure
- **6** Regional Operations Centers
- **\$130 million** in on-hand inventory for emergency response operations

LUMA prepositioned crews, vehicles and equipment in advance of Hurricane Fiona's landfall.



Quanta Services Mobilized

221
utility workers

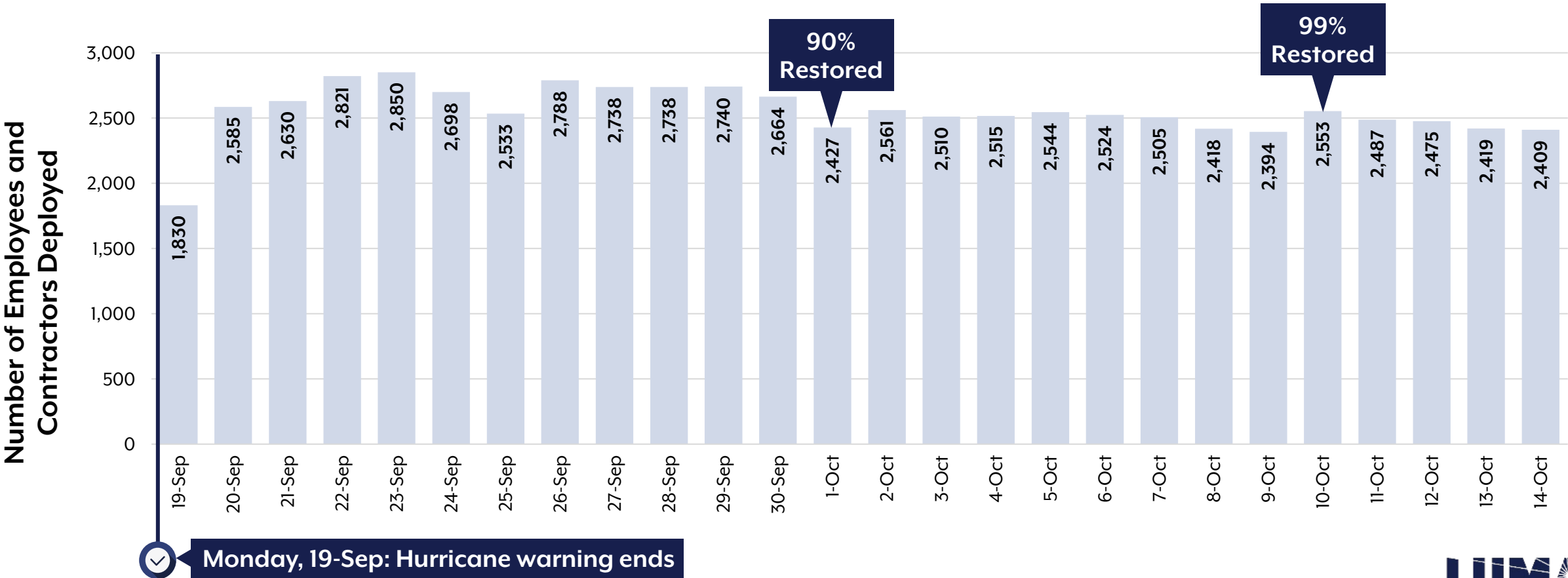
56
bucket trucks

22
diggers

Hurricane Fiona – Employees and Contractors

ALL REGIONS

As restoration efforts progressed following Hurricane Fiona and the hardest hit areas became accessible, LUMA deployed crews and contractors to prioritize restoration in the southern and western regions.



Fleet

TYPES OF VEHICLES

TOTAL VEHICLES DEPLOYED:
2,588

BUCKET TRUCK

Truck equipped with an extendable, hydraulic boom carrying a large bucket for raising workers to poles.

TOTAL VEHICLES:
473

DIGGER TRUCK

A digger truck is a truck with an equipped tool used to dig holes, set poles and work with a variety of materials.

TOTAL VEHICLES:
150

HEAVY DUTY VEHICLES

Vehicles for hauling heavy duty trailers, equipment, and supplies with a max Gross Vehicle Weight Rating >10,000 lbs.

TOTAL VEHICLES:
320

LIGHT DUTY VEHICLES

Vehicles for hauling personnel, tools, and equipment with a max Gross Vehicle Weight Rating <10,000 lbs.

TOTAL VEHICLES:
1,139

TOW BEHIND EQUIPMENT

Trailer beds, mobile generators, vegetation chippers, and conductor carts that are hauled behind other vehicles.

TOTAL VEHICLES:
354

MISCELLANEOUS EQUIPMENT

Other engine -or motor- powered equipment including forklifts, skid steers, and bulldozers.

TOTAL EQUIPMENT:
152



Materials Issued for Hurricane Fiona Restoration

ALL REGIONS

ARRESTERS	798
CONDUCTORS	945,065 feet
HARDWARE/ PARTS	244,104
INSULATORS	12,686
POLES	1,444

STREETLIGHTING	1,170 lights
SWITCHES/BREAKERS	21
SWITCHES & FUSES	21,211
TRANSFORMERS	412
UNDERGROUND	8,387



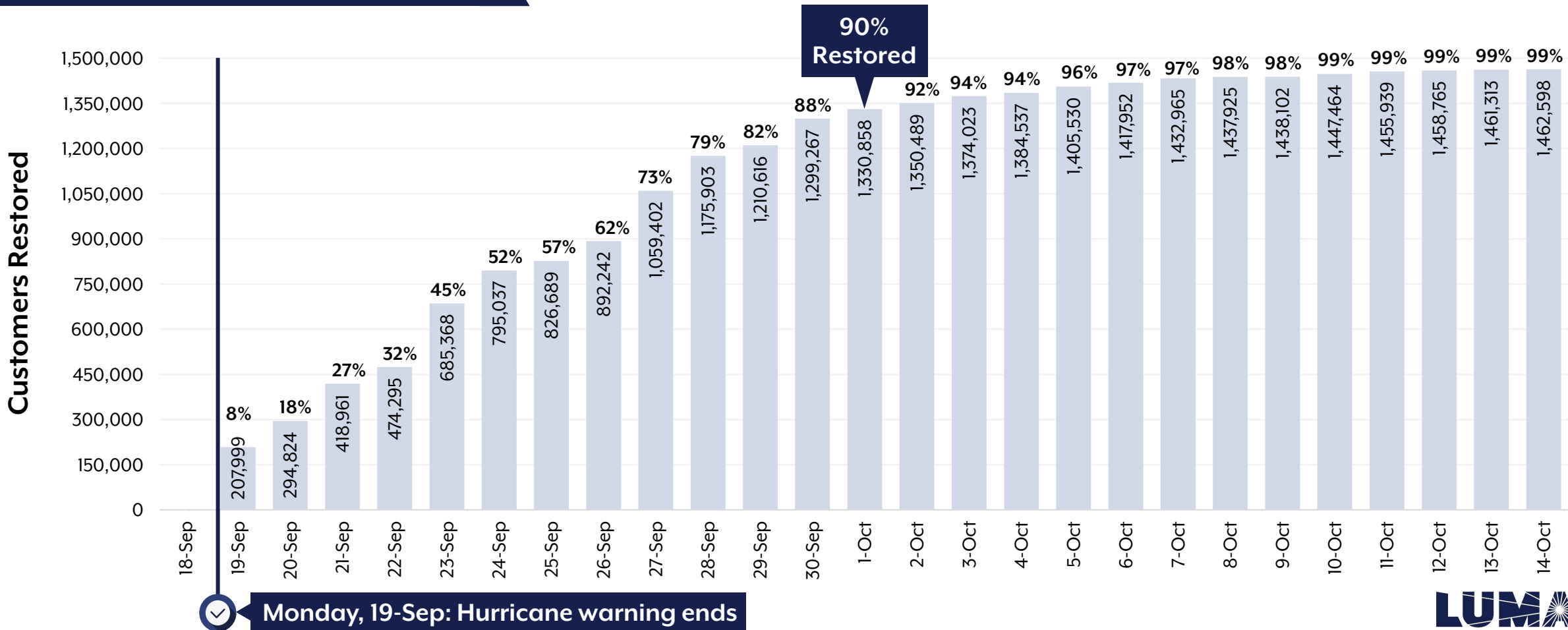


POWER RESTORATION TIMELINE

Hurricane Fiona – Power Restoration Update

ALL REGIONS

LUMA made historic progress in restoring customers affected by a serious category 1 hurricane. In less than two weeks, over 90% of customers had their power restored, in stark comparison to Hurricane Maria, where customers waited over a year.

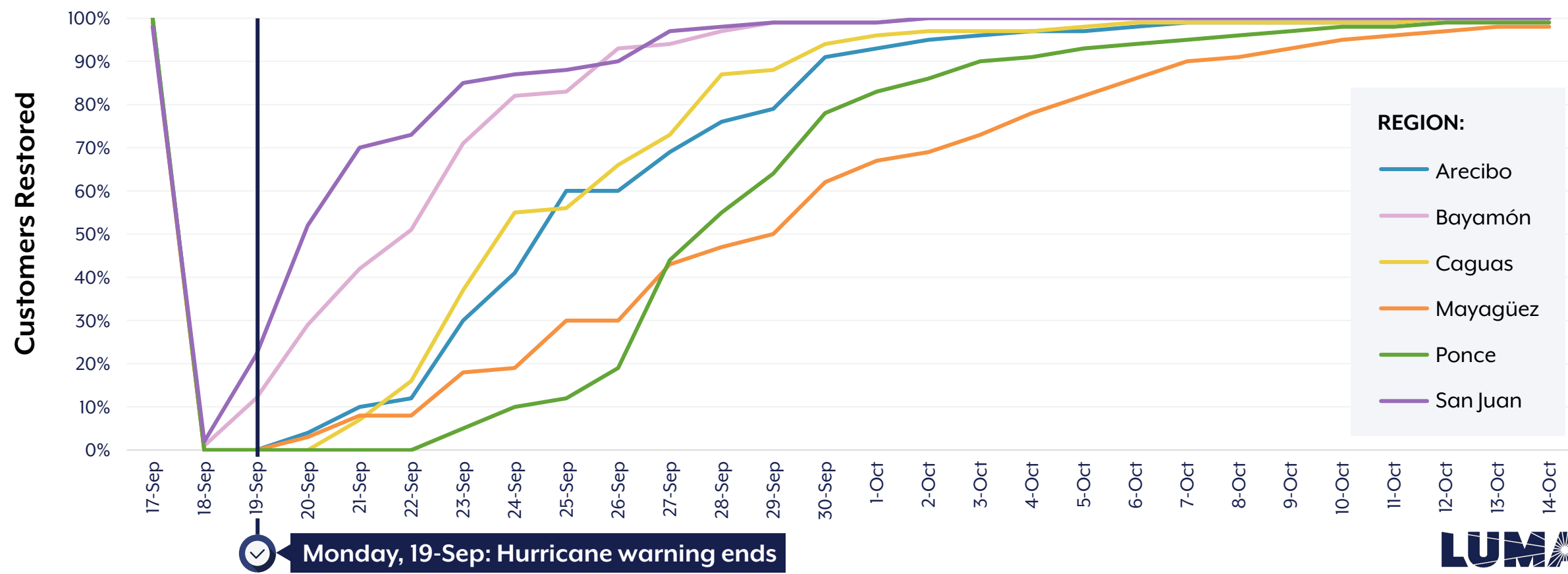


Hurricane Fiona – Power Restoration Update



ALL REGIONS

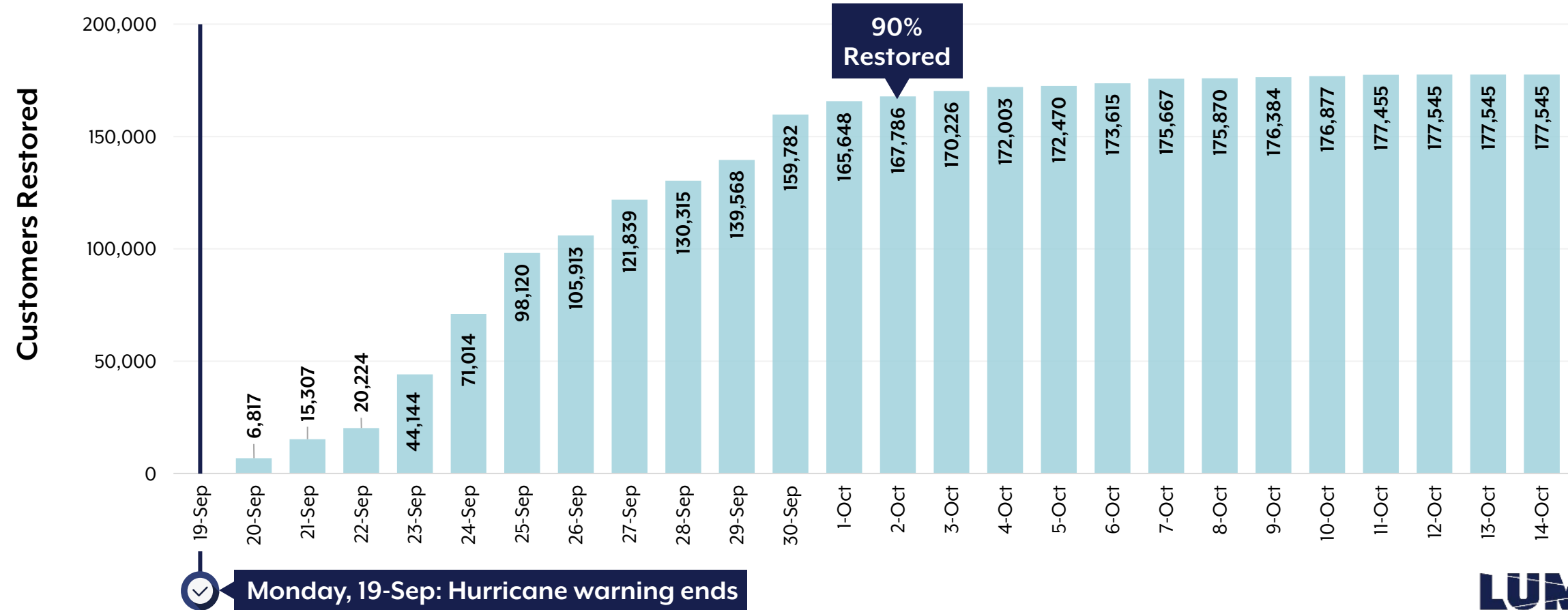
% Customers Restored by Region



Hurricane Fiona – Power Restoration Update



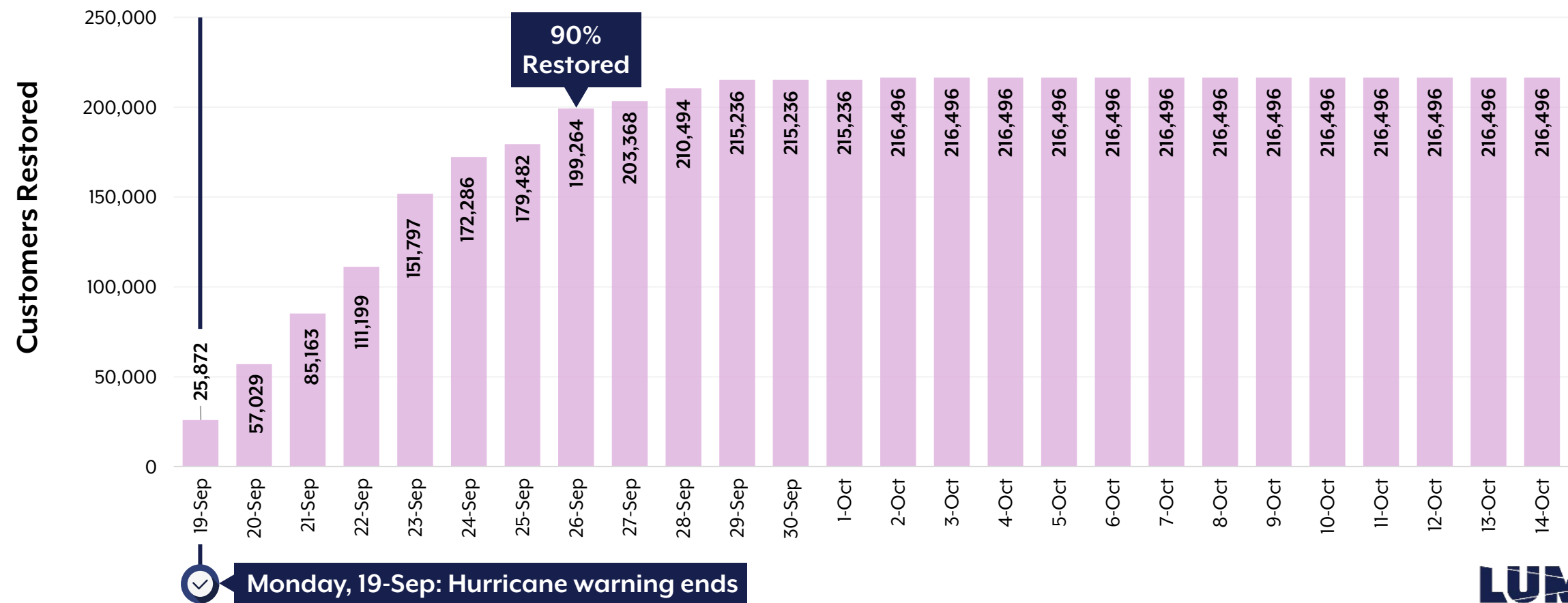
ARECIBO SERVICE REGION



Hurricane Fiona – Power Restoration Update



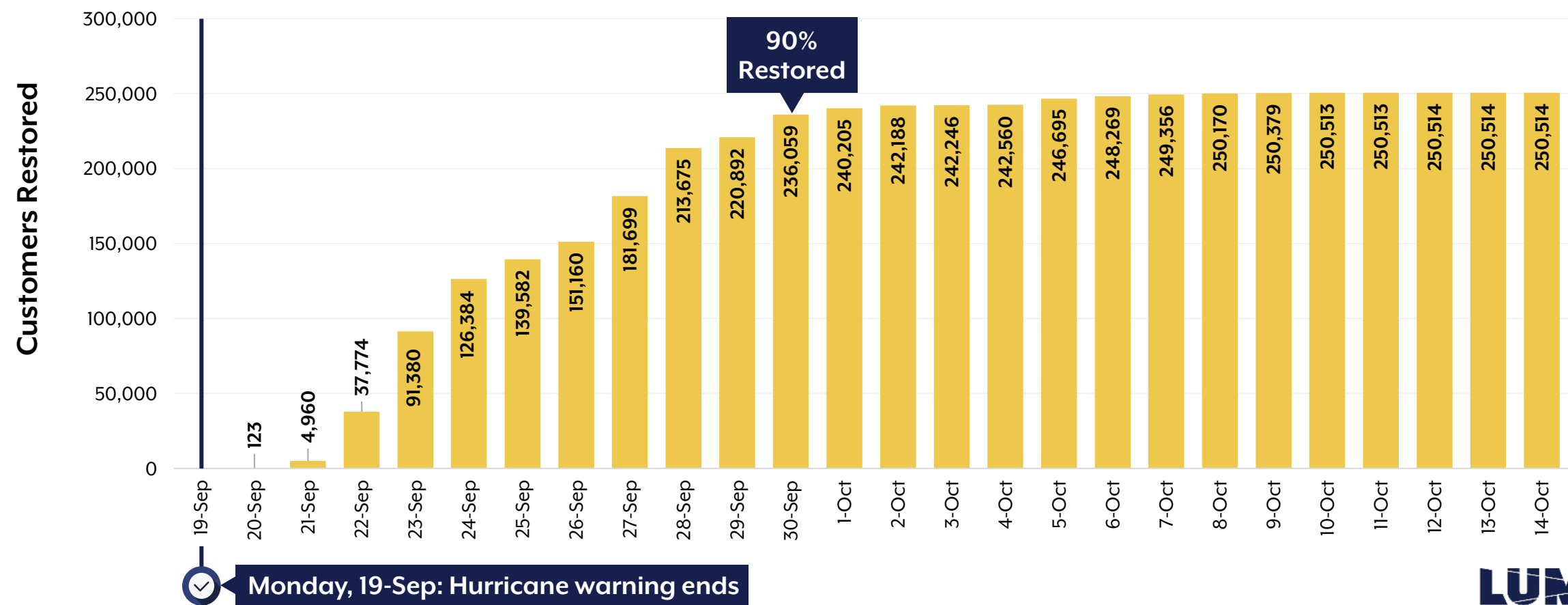
BAYAMÓN SERVICE REGION



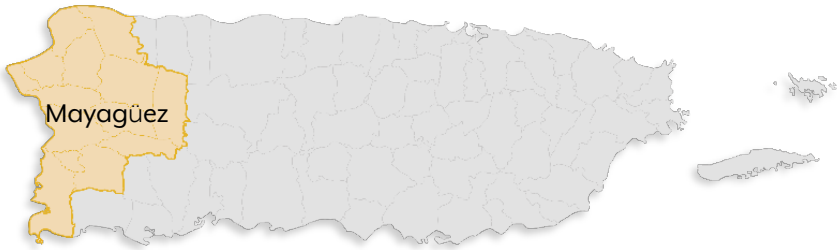
Hurricane Fiona – Power Restoration Update



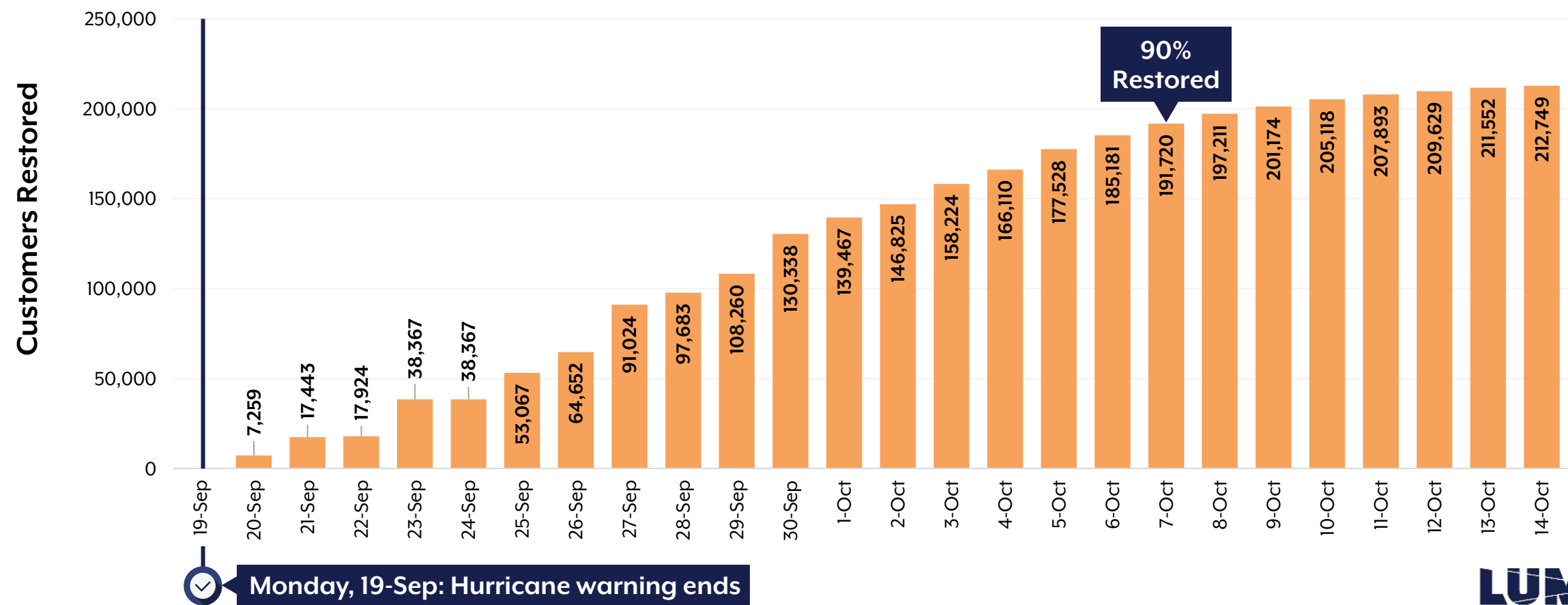
CAGUAS SERVICE REGION



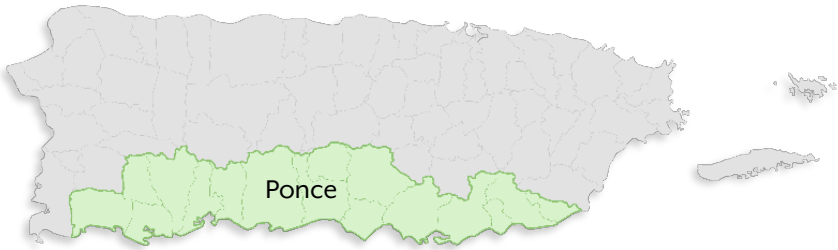
Hurricane Fiona – Power Restoration Update



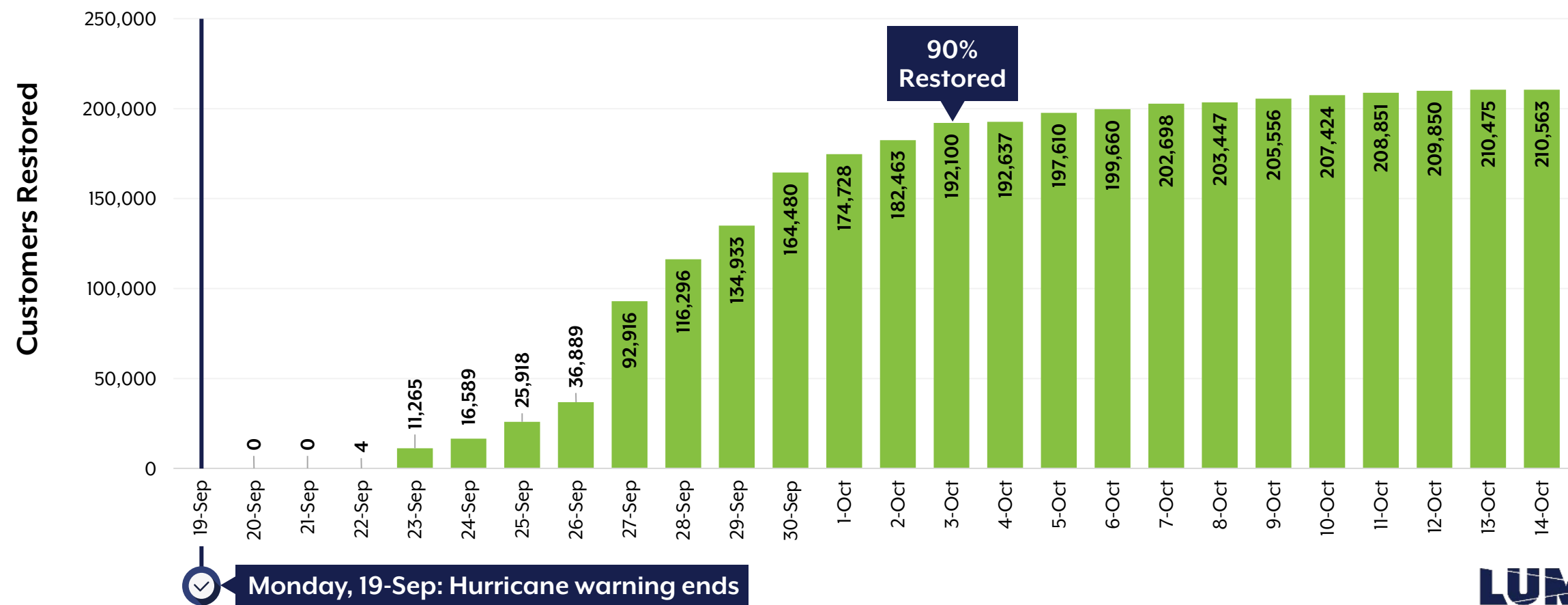
MAYAGÜEZ SERVICE REGION



Hurricane Fiona – Power Restoration Update



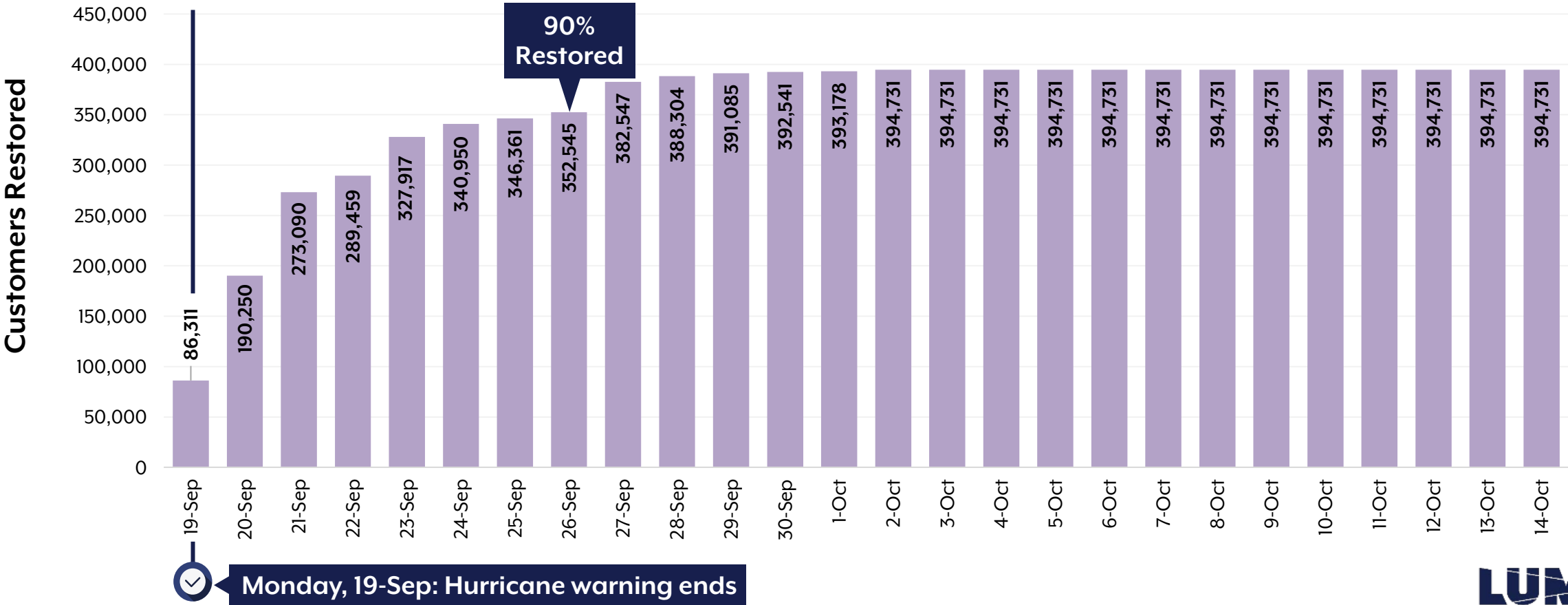
PONCE SERVICE REGION



Hurricane Fiona – Power Restoration Update



SAN JUAN SERVICE REGION



Hurricane Fiona

RESTORATION ACTIONS

Critical Infrastructure Restored

100% of PRASA facilities energized

100% of Level 1 critical hospitals restored

Electric Infrastructure Restored

100% of transmission lines restored

100% of substations restored

In response to emergency events like Hurricane Fiona, LUMA follows a rigorous Emergency Response Plan (ERP) that prioritizes restoration in an organized manner to restore power to critical customers such as Lifeline Residential Services Customers, hospitals and water facilities.





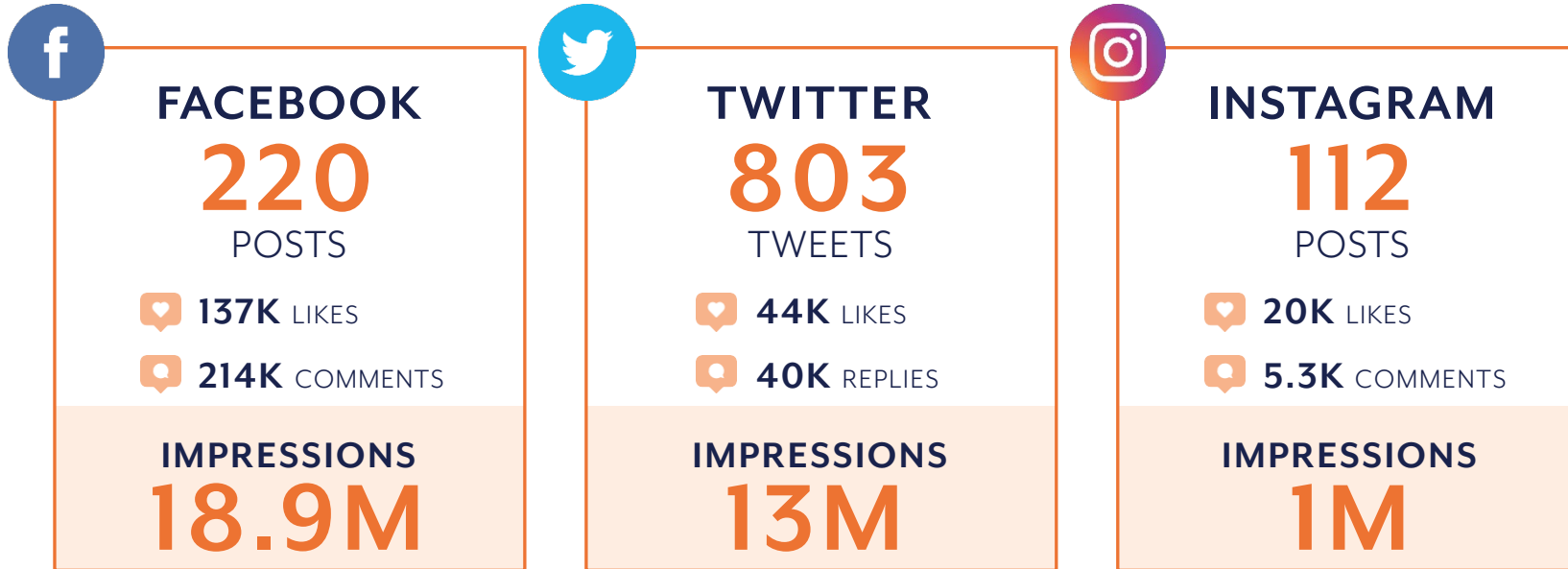
PUBLIC INFORMATION

Hurricane Fiona

OUTREACH BY THE NUMBERS

Throughout the Hurricane Fiona response and restoration efforts, LUMA shared public information through social media, radio and traditional media communicating estimated restoration timelines, work being performed and additional restoration updates.

SOCIAL MEDIA



VIDEOS

34 TOTAL VIDEOS

790K VIEWS

359K VIEWS

148K VIEWS

**TOP PERFORMING VIDEO:
CREW REPAIRS IN BAYAMÓN**



PUBLIC INFORMATION

9 PRESS BRIEFINGS	29 NEWS RELEASES	177 STATEMENTS PROVIDED	220 TV & RADIO INTERVIEWS	435 TOTAL UPDATES
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RADIO

10 RADIO ANNOUNCEMENTS	1,759 RADIO SPOTS
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Hurricane Fiona

LUMA IN ACTION

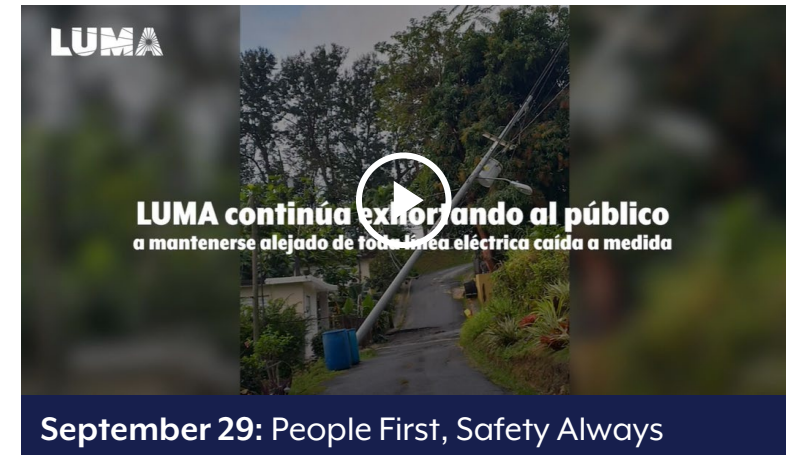
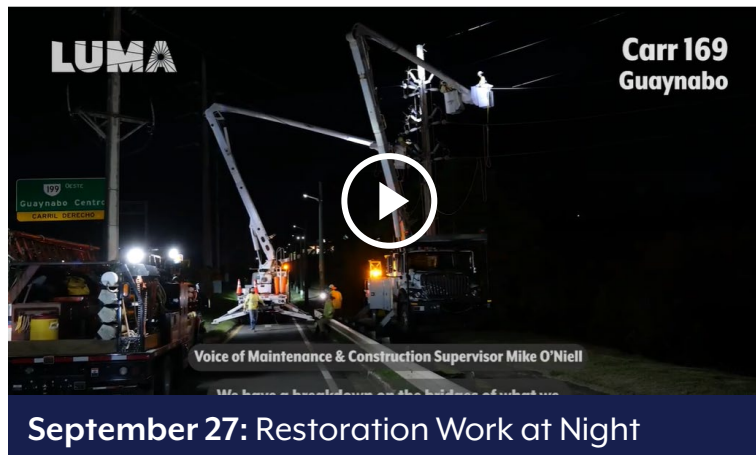
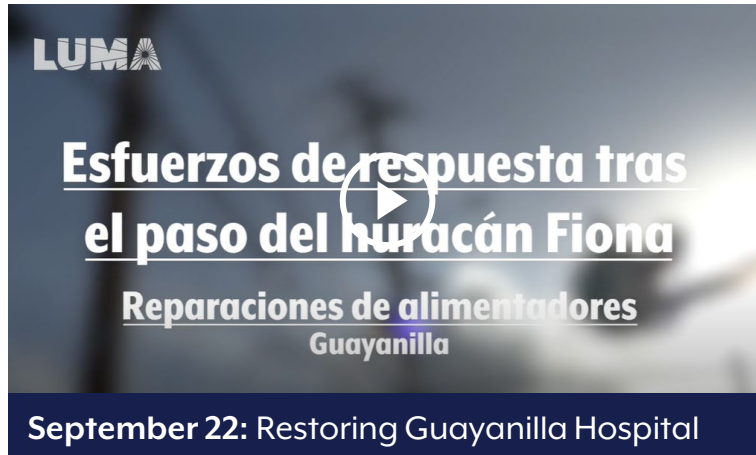
Throughout the Hurricane Fiona response, LUMA shared videos featuring storm restoration and repair work conducted by LUMA crews across Puerto Rico.

Videos highlighted storm damage and repairs done in heavily impacted regions.



Hurricane Fiona

LUMA IN ACTION

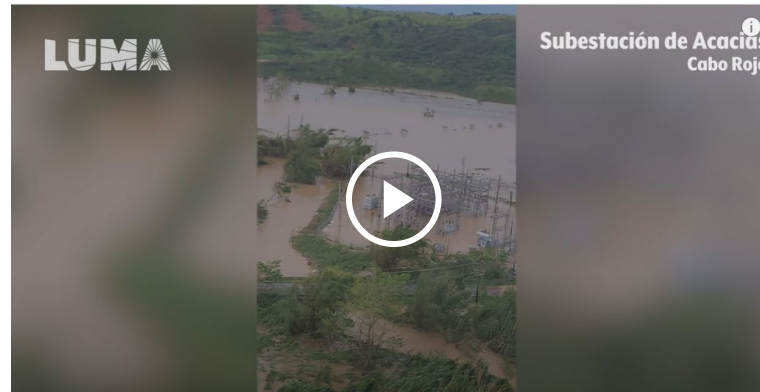


Hurricane Fiona

LUMA IN ACTION



September 30: Substation Restoration at Night



October 1: Flooded Substation Repairs



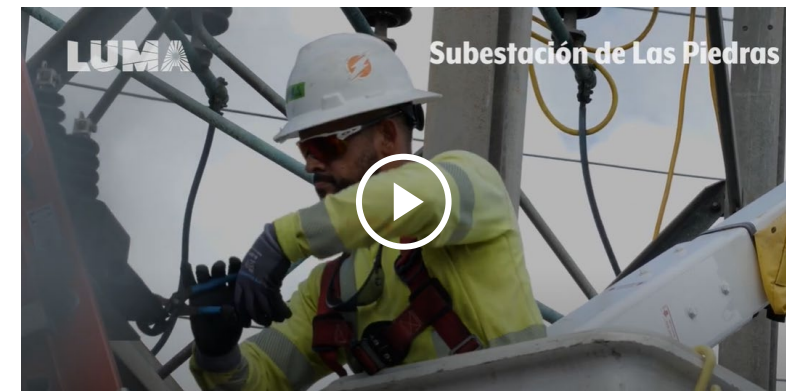
October 2: Ponce Airport Restoration



October 4: Helicopter Transmission Repairs



October 10: Critical Restoration Work in Ponce



October 12: Critical Substation Repairs



HISTORICAL COMPARISON

HISTORICAL STORM | RESTORATION TIMES

LUMA’s response to Hurricane Fiona has outpaced restoration efforts on more modern electric grids. LUMA restored power to over 90% of customers in under two weeks.

