

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

**NEPR**

**Received:**

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IN RE: INTERRUPCIÓN DE SERVICIO  
ELÉCTRICO DE 12 DE JULIO DE 2022

**CASE NO. NEPR-IN-2022-0003**

**SUBJECT:**

**Motion to Submit Final Report of July 12<sup>th</sup>  
Incident and Request for Confidential  
Treatment**

**MOTION TO SUBMIT FINAL REPORT OF JULY 12<sup>TH</sup> INCIDENT AND REQUEST  
FOR CONFIDENTIAL TREATMENT**

**TO THE HONORABLE PUERTO RICO ENERGY BUREAU:**

**COME** now **LUMA Energy, LLC** (“ManagementCo”), and **LUMA Energy ServCo, LLC** (“ServCo”), (jointly referred to as the “Operator” or “LUMA”), and respectfully state and request the following:

1. On July 12<sup>th</sup> 2022, a failure in the electric system led to a fire at the 115KV/4KV Jayuya Substation, which resulted in a power outage in the municipality of Jayuya (hereinafter, the “July 12<sup>th</sup> Incident”).

2. On July 13<sup>th</sup>, 2022, this Honorable Puerto Rico Energy Bureau (“Energy Bureau”) issued a Resolution and Order whereby it initiated a confidential investigation of the July 12<sup>th</sup> Incident (“July 13<sup>th</sup> Order”).

3. The July 13<sup>th</sup> Order instructed LUMA to submit, on or before July 19<sup>th</sup>, 2022, at 3:00 p.m., a preliminary report on the causes of the July 12<sup>th</sup> Incident and the corrective actions taken by LUMA (the “Preliminary Report”).

4. Further, the July 13<sup>th</sup> Order instructed LUMA to submit on or before October 15<sup>th</sup>, 2022, at 3:00 p.m., a final and more detailed report on the July 12<sup>th</sup> Incident with the following information (the “Final Report”):

- (i) A summary of the incident including, but not limited to, a chronological description of the events and their effect, if any, on the Puerto Rico Electric Power Authority’s (“PREPA”) generation fleet, other energy producers, and the transmission and distribution system, as well as investigative, corrective, or other actions taken by LUMA;
- (ii) Any information received, obtained, or gathered in the course of investigative, corrective, or other efforts undertaken by LUMA and/or PREPA, its agents, attorneys, or consultants to determine the cause of the incident and its effect, if any, on PREPA’s generation fleet and the transmission and distribution system;
- (iii) Any document produced, prepared, or received by LUMA and/or PREPA, its agents, attorneys, or consultants in the course of investigative, corrective, or any other efforts were undertaken to determine the cause of the incident, including, but not limited to, the root cause report of the incident and its effect, if any, on PREPA’s generation fleet and the transmission and distribution system;
- (iv) Repercussions, consequences, or effects that clients and the electricity system will face in the short or long term because of the incident; and
- (v) Any information, in digital or tangible format regarding the incident in possession of LUMA and/or PREPA, which includes, but is not limited to, data, graphs, maps, videos, audios, photos, reports, or documents related to the incident and its effect on the electric service, the generation fleet, and the electricity transmission and distribution system of Puerto Rico

5. The July 13<sup>th</sup> Order also required LUMA to submit monthly progress reports (the “Monthly Progress Reports”) until LUMA files its Final Report on the July 12<sup>th</sup> Incident.

6. After requesting an extension of time, on July 17, 2022, LUMA filed the Preliminary Report of the July 12<sup>th</sup> Incident, which included the following:

- (i) Summary of Information on the July 12<sup>th</sup> Incident
- (ii) Incident Chronology
- (iii) LUMA's Response to the Outage
- (iv) Damage Assessment and Affected Assets
- (v) Restoration Plans and Next Steps

7. On August 31, 2022, LUMA filed the first Monthly Progress Report of the July 12<sup>th</sup> Incident (the "August Monthly Progress Report"), which provided an update on the restoration efforts that were performed to stabilize the system and return the Jayuya station to normal operations.

8. LUMA intended to file another Monthly Progress Report on or before September 30, 2022 (the "September Monthly Progress Report"). However, the passage through the Puerto Rico of Hurricane Fiona on September 18, 2022, required the deployment of LUMA's workforce to prepare for and address an island-wide emergency, resulting in an unforeseen delay in gathering important information. As a result, on September 30, 2022, LUMA filed an informative motion to inform the Energy Bureau that it was not going to be able to file a September Monthly Progress Report. Nevertheless, LUMA informed the Energy Bureau that it intended to file the Final Report of the July 12<sup>th</sup> Incident on or before October 15, 2022, as required by the July 13<sup>th</sup> Order.

9. In compliance with the July 13<sup>th</sup> Order, and to be transparent with its customers and regulators about its operations, LUMA hereby submits the Final Report of the July 12<sup>th</sup> Incident.

See, Exhibit 1.

10. Considering that Section 15.10 of Regulation No. 8543 allows for the release to the public of information after an investigation has concluded, LUMA respectfully submits that the Final Report of the July 12<sup>th</sup> Incident should be designated as confidential material that should be protected from disclosure after the investigation of the July 12<sup>th</sup> Incident concludes. The Final Report of the July 12<sup>th</sup> Incident is protected from disclosure as CEII, *see e.g.*, 6 U.S.C. §§ 671-674; 18 C.F.R. §388.113 (2020), and pursuant to the Bureau's Policy on Management of Confidential Information. *See* Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009, issued on August 31, 2016, as amended by Resolution dated September 20, 2016.

11. Under separate cover and expediently, within the next ten days, as allowed by Section A.2 of the Energy Bureau's Policy on Management of Confidential Information, LUMA will submit a memorandum of law in support of this request to file the Final Report of the July 12<sup>th</sup> Incident under seal of confidentiality.

12. Further, LUMA submits a public executive summary of the Final Report of the July 12<sup>th</sup> Incident as Exhibit 2 to this Motion.

**WHEREFORE**, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned, **accept and treat confidentially** the Final Report of the July 12<sup>th</sup> Incident that is being filed as Exhibit 1 to this Motion, **accept** the public executive summary of the Final Report of the July 12<sup>th</sup> Incident, and **deem** LUMA complied with the July 13<sup>th</sup> Order.

**RESPECTFULLY SUBMITTED.**

We hereby certify that we filed this Motion using the electronic filing system of this Energy Bureau and that we will send an electronic copy of this Motion to the attorney for the Puerto Rico Electric Power Authority, Katuska Bolaños-Lugo, [kbolanos@diazvaz.law](mailto:kbolanos@diazvaz.law).

In San Juan, Puerto Rico, this 15<sup>th</sup> day of October 2022.



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Exhibit 1

(submitted confidentially)

Exhibit 2



LUMAPR.COM

# Jayuya 115 kV/4.16 kV Substations #8301 and #8302 Outage July 12, 2022

## Executive Summary

October 14, 2022



# Executive Summary

The loss of electricity is a deeply frustrating event for all clients, and the July 12<sup>th</sup> event represents a clear reminder that the electric system remains incredibly fragile. While there are many factors that contribute to electrical outages, the one consistency remains that the electric grid, after decades of operational neglect, remains vulnerable to any fault. The ultimate preventative solution will require rebuilding the T&D electric grid. LUMA is addressing these challenges by creating a reliable, sustainable, and resilient energy system that the people of Puerto Rico expect and deserve.

This report is based on the forensic analysis of the system and protection performance during the fault events at both 115 kV/4.16 kV Jayuya substations #8301 and #8302, the 115 kV transmission line #36400 including the remote terminal at Dos Bocas, and the 115 kV transmission line #39000 including the remote terminals at Toro Negro, Juana Diaz, and Barranquitas. The forensic analysis included the examination of outage event data, damaged equipment, repair updates, video recordings, and restoration timelines.

The Jayuya substations were being supplied from the 115 kV line #36400 from Dos Bocas. Jayuya has two transformers that step-down voltage to supply the five 4.16 kV distribution circuits.

## Event

At 05:50 (5:50 a.m.) on July 12, 2022, a series of faults that lasted 46 seconds occurred in the tied Jayuya substations #8302 and #8301, resulting in both substations being de-energized and affecting 6,208 customers.

The initial fault occurred on the 4.16 kV, downstream side of the feeder circuit breaker 8302-05 (F5). The circuit breaker failed to clear the fault and caused an electrical fire that affected 8302-04 (F4). This resulted in the melting of the high-side fuses of the transformers and an additional electrical fire on the 115 kV at or near the fuse holder that damaged 115 kV bus support at substation #8301. During the event and resulting electrical fires, the 115 kV motor operated disconnect MOD #36447 closed, which connected 115 kV line #36400 to 115kV line #39000 and created a 4-terminal 115 kV line. In 45 seconds after the initial 4.16 kV fault, a 115 kV fault developed in Jayuya substation #8301. This caused 115 kV lines #39000 and #36400 to trip (via circuit breakers at remote terminals), de-energized the substations, and cleared the fault from the system.

## Restoration

Restoration began at 06:50 (6:50 a.m.) with the arrival of LUMA personnel. Restoration consisted of grounding, clean-up, isolation, repair, and replacement of electrical wiring and equipment, electrical testing, and temporary emergency system reconfiguration to restore the clients. The 115 kV/4.16 kV transformer was left out of service for further testing and repairs. All the loads from Jayuya were served thru the 115 kV/4.16 kV substation #8302. As feeders F4 and F5 were destroyed by the fire, the loads from both feeders were tied to 8301-01 (F1) and 8301-03 (F3), respectively. Of the five distribution feeders loads supplied by the substations, three were restored at approximately 17:00 (5:00 p.m.), and the remaining two were restored at approximately 17:30 (5:30 p.m.). All customers were fully restored approximately 12 hours after the initial fault.

## Root Causes

LUMA is committed to investigating all the factors that may have led and contributed to the July 12th event and is determined to identify and understand the root cause and actions that must be taken to mitigate against similar incidents occurring again. Some equipment was destroyed in the fires that could have provided definitive causal analysis. The root cause analysis incorporated all data available, including

examination of outage event data, damaged equipment, repair updates, video recordings, and restoration timelines.

The two Jayuya substations were connected and paralleled via a 4.16 kV bus breaker. The 4.16 kV feeder breakers F4 and F5 were not rated to clear the combined fault current from both transformers, and when the fault occurred, the breaker F5 failed to clear the fault and started an electrical fire. After the fire, no AC supply to the battery charger (DC circuit) was found. It is not clear if this condition existed before or was a consequence of the fire at the substation. Moreover, the DC alarms at the MOD# 36447 were present only when the errant closing occurred.