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

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IN RE:

#### PUERTO RICO ELECTRIC POWER AUTHORITY'S EMERGENCY RESPONSE PLAN

#### CASE NO. NEPR-MI-2019-0006

SUBJECT: LUMA'S PRESENTATION FOR TECHNICAL CONFERENCE OF SEPTEMBER 2, 2021

#### MOTION SUBMITTING LUMA'S PRESENTATION FOR TECHNICAL CONFERENCE OF SEPTEMBER 2, 2021

#### TO THE PUERTO RICO ENERGY BUREAU:

**COME NOW LUMA Energy, LLC** ("ManagementCo")<sup>1</sup>, and **LUMA Energy ServCo**, **LLC** ("ServCo")<sup>2</sup>, (jointly referred to as "LUMA"), through the undersigned legal counsel and respectfully submit the following:

1. On July 23, 2021, this honorable Puerto Rico Energy Bureau ("Bureau") issued a Resolution and Order ("July 23<sup>rd</sup> Order"), scheduling a technical conference to be held on September 2, 2021 ("September 2<sup>nd</sup> Technical Conference"), to discuss the Emergency Response Plan ("ERP") filed by LUMA and the one submitted by the Puerto Rico Electric Power Authority ("PREPA"). *See*, July 23<sup>rd</sup> Order at page 6.

2. In the July 23<sup>rd</sup> Order, the Energy Bureau ordered LUMA and PREPA to file on or before August 27, 2021, their respective presentations for the September 2<sup>nd</sup> Technical Conference.

3. In compliance with the July 23<sup>rd</sup> Order, LUMA hereby submits as **Exhibit 1**, the Power Point<sup>TM</sup> Presentation in pdf format, that it proposes to offer during the September 2<sup>nd</sup>

<sup>&</sup>lt;sup>1</sup> Register No. 439372.

<sup>&</sup>lt;sup>2</sup> Register No. 439373.

Technical Conference. The presentation provides an overview of the different components of LUMA's ERP.

WHEREFORE, LUMA respectfully requests that the Energy Bureau accept the Power Point<sup>TM</sup> Presentation submitted as Exhibit 1 to this Motion in pdf format that LUMA proposes to offer during the September 2<sup>nd</sup> Technical Conference.

#### **RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 27th day of August 2021.

I hereby certify that I filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this motion to the attorneys for PREPA, Joannely Marrero-Cruz, jmarrero@diazvaz.law and Katiuska Bolaños-Lugo, <u>kbolanos@diazvaz.law.</u>



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#### Exhibit 1 Presentation in pdf format



## EMERGENCY RESPONSE PLAN NEPR-MI-2019-0006

September 2, 2021

#### **GENERAL CONCEPT**

In the event of a disaster, LUMA will rapidly assess the impacts to the T&D infrastructure. At this time, LUMA will take the necessary actions to restore community lifelines as rapidly as possible, minimizing the impact to the citizens of Puerto Rico.





#### **CRISIS MANAGEMENT STRATEGY**

LUMA's Crisis Management Strategy reinforces our commitment to our customers and the communities we serve. LUMA strives to utilize effective emergency management principles and protocols that enhance our ability to provide safe and reliable energy services. LUMA will deliver on its commitments to its customers by:

- Conducting risk assessments,
- Developing appropriate prevention or risk mitigation strategies,
- Implementing comprehensive emergency preparedness programs,
- Communicating timely and accurate information to customers and other stakeholders,
- Responding with appropriate resources to address the emergency,
- Recovering from emergencies expeditiously, and
- Continuously improving.



# EMERGENCY RESPONSE PLAN (ERP)

Overview



### **EMERGENCY RESPONSE PLAN (ERP) PURPOSE**

- Emphasizes a standard philosophy for responding to any type of emergency regardless of size, cause or complexity that affects the LUMA organization and/or LUMA customers
- Describes LUMA's approach to incident operations and the coordination structures that implement them
- Utilizes the Incident Command System (ICS)





## **INCIDENT COMMAND SYSTEM**

The Incident Command System, or ICS, is a foundational component of the National Incident Management System and was implemented as a result of the terrorist attacks on 9/11/2001.

- Is a standardized, on-scene, all-hazards incident management concept
- Enables a coordinated response among various jurisdictions and agencies
- Establishes common processes for planning and management of resources
- Allows for integration within a common organizational structure
- Utilizes common terminology and plain language



National Incident Management System Incident Command System





## **COMPONENTS OF THE ERP**

- Base Plan
- Appendices
- Attachments
- Annexes
  - Annex A, Major Outage Restoration
  - Annex B, Fire Response
  - Annex C, Earthquake Response





## **COMMUNITY LIFELINES**

The ERP is based on the principles of Community Lifelines which are fundamental services in the community that, when stabilized, enable the continuous operation of critical government and business functions and is essential to human health and safety or economic recovery.

Following Hurricane Maria, FEMA established seven (7) Lifelines:

- Safety and Security
- Food, Water, Shelter
- Health and Medical
- Energy (Power & Fuel)
- Communications
- Transportation
- Hazardous Material





### **EMERGENCY RESPONSE ORGANIZATION**

- LUMA Crisis Management Committee
- LUMA Emergency Operations Center (LEOC)
  - $_{\circ}$  Command Staff
  - $_{\circ}$  General Staff
- Emergency Response Organization across the Island





### LUMA CRISIS MANAGEMENT COMMITTEE

- Chaired by the LUMA CEO
- Provides strategic direction to the LUMA Incident Commander during response and restoration activities
- Composed of the most senior level executives





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### **LUMA CRISIS MANAGEMENT COMMITTEE**

- Crisis Management Committee
   Chair LUMA CEO
- Senior VP Capital Programs
- Senior VP Operations
- VP Customer Experience
- VP HSEQ
- VP Utility Transformation

- Chief Regulatory Officer
- Chief Information Officer
- Chief Financial Officer
- Chief Corporate Services
   Officer
- Chief People Officer
- Crisis Management Leader



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## **COMMAND STAFF**

- Incident Commander (IC)
- Deputy Incident Commander
  - Emergency Management Officer
  - LEOC Manager
  - $_{\circ}$  Safety Officer
- Public Information Officer
  - Digital Communications
  - Employee Communications
  - Customer Experience
  - Customer Relations

- Liaison Officer
  - PREPA Liaison Officer
  - PREPA Generation Liaison Officer
  - LUMA Generation Liaison Officer
  - LUMA PREMB Liaison Officer
  - LUMA PREMB Regional Liaison
     Officers (10)
  - PRASA Liaison Officer
  - LUMA PREB & P3A Liaison Officer
- Section Controller



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### **GENERAL STAFF**

- Responsible for key functional aspects
- Organized by Sections
  - Operations
  - Logistics
  - Planning and IntelligenceFinance / Administration



August 2021 – LEOC After Action Review for Tropical Storm Fred



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#### **OPERATIONS SECTION**

The Operations Section is responsible for directing the response and restoration activities following an incident.

The Operations Section manages field operations including, but not limited to:

- Dispatching work to crews and tracking crew locations
- Coordination of pole sets
- Directing and managing downed wire activities
- Ensure outages are restored within the projected global Estimated Time of Restoration (ETR) and communicated, as required
- Coordinate with the Planning and Intelligence Section for adequate resource and restoration monitoring





### **OPERATIONS SECTION**



- Divided into the East Division and West Division
- LUMA has six (6) total regions; each is led by a Regional Commander
- System Emergency Restoration Chief (SERT) Chiefs lead the response and restoration operations within the municipality
- A LUMA Liaison will be in each of the 10 PREMB Regional Emergency Operations Centers.



#### **OPERATIONS – REGIONAL COORDINATION**



**NOTE:** This is an example of how Regional operations will be organized and may vary by region



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#### **LOGISTICS SECTION**

The Logistics Section is responsible for the coordination of logistical planning and logistical response activities required to enable Operations personnel to focus on the restoration of services while having the resources needed.

The main responsibilities for the Logistics Section include, but are not limited to:

- Acquire, mobilize, and manage resources to include services such as lodging, meals, materials, and transportation needed.
- Establish and coordinate staging areas as determined by the Incident Commander (IC).
- Ensure regional stockrooms and facilities are staffed with Regional logistics personnel.
- Monitor the Materials Management System to order or restock materials.
- Request the mobilization of vendor contracts related to supplies and services.



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#### PLANNING AND INTELLIGENCE SECTION

The Planning and Intelligence (P&I) Section is responsible for the development and distribution of the Incident Action Plans (IAP), Situation Reports, internal and external reports, GIS mapping functions, and maintaining all incident documentation for record keeping.

The primary responsibilities of the P&I Section include, but are not limited to:

- Manage the overall effort of collecting, processing, and reporting emergency service restoration information including overseeing the development and distribution of routine Restoration Status Reports and IAPs.
- Work with Branch Directors within the Operations Section to establish an accurate and timely reporting process.
- Document, maintain, and provide internal information about the status of restoration efforts to the Incident Commander (IC), Liaison Officer (LNO) and Public Information Officer (PIO).
- Collect and file all incident documentation as an official record.



#### FINANCE AND ADMINISTRATION SECTION

The Finance and Administration Section is responsible for all fiscal matters related to the emergency. This section tracks all costs related to the incident and ensures cost tracking and financing protocols are in place. The Finance and Administration Section ensures records are retained for each emergency or disaster, such as documentation of work performed with associated costs. Administrative functions include providing Human Resources support and assistance programs to all employees and acquired resources.

The primary responsibilities of Finance and Administration Section include, but are not limited to:

- Tracking costs related to the incident and ensuring cost-tracking and financial protocols are in place.
- Maintain accurate staffing rosters and shift schedules of all responding internal personnel located in the LEOC and regional EOCs, when applicable.
- Issue procurement cards and put other purchasing mechanisms in place.
- Provide procurement services for response and restoration activities. 2021-09-02



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#### **OUTAGE EVENT CLASSIFICATION**

All potential incidents, natural, man-made, and technological, with the potential to affect T&D System Operations are assigned a classification by the Incident Commander. The Outage Event Classification Type will depend upon the analysis of the expected severity and complexity of an outage event and drawn from the consideration of numerous factors including, but not limited to:

- Life safety
- Current and forecasted weather conditions
- Certainty and plausibility of weather forecast and scenarios
- Size of the anticipated incident and expected impacts to T&D system operations
- Anticipated type and extent of potential or known damage
- Historical experience with other events
- Current operational situation (number of outages, resources, supplies, etc.)
- Damage assessments
- Restoration priorities
- Forecasted operational tempo



#### **OUTAGE EVENT CLASSIFICATION**

#### There are five (5) Event Types:

- Type 5 and Type 4 Non-emergency event. Represent *normal* operations and are managed by the Operations Dispatch Organization which is staffed 24/7/365. These events typically include system events that impact one or more district.
- Type 3 High Alert Event. Event historically resulted in *significant* damage to district(s) or moderate damage to region(s). The approach is to prepare for more than one region to potentially be impacted by activating the ICS structure and the opening of one or more regional EOCs.
- Type 2 Emergency Conditions. A *severe* event, which has historically resulted in significant damage to the electrical transmission and distribution system in a region(s) or could be moderate damage across the entire island.
- Type 1 Catastrophic Emergency. Historically result in *significant damage* to the *entire* electrical transmission and distribution system. Type 1 events are rare but are usually forecasted in advance of the event. This event calls for the *full implementation* of ICS.



LEOC Activation	Characteristics	
Level 5 – Normal Operations	Normal Day to Day Operations	
Level 4 – Heightened Alert	<ul> <li>No worker injuries</li> <li>No or low media interest</li> <li>Corporate reputation not impacted</li> <li>Spills and releases confined to site/lease</li> <li>Public / employee health &amp; safety not threatened</li> <li>Pre-storm preparation activities also occur</li> </ul>	
Level 3 – High Alert	<ul> <li>After an event occurs, at least 3 of the following are present:</li> <li>First aid treatment required for worker(s)</li> <li>Local and possible regional media interest</li> <li>Public / employee health &amp; safety or environment not threatened – perception of risk present</li> <li>Spills and releases not contained on lease or potential extend beyond site/lease</li> <li>Corporate reputation not impacted</li> <li>Pre-storm preparation activities also occur</li> </ul>	LUMA's EOC Activation Levels
Level 2 – Emergency Conditions	<ul> <li>After an event occurs, at least 3 of the following are present:</li> <li>Multiple workers require hospitalization</li> <li>Regional &amp; national media interest</li> <li>Spill or release not contained, extends beyond lease</li> <li>Public / employee health &amp; safety or environment could be jeopardized</li> <li>Local and/or corporate reputation or company impacted</li> </ul>	
<b>Level 1 – Catastrophic Emergency</b> 2021-09-02	<ul> <li>After an event occurs, at least 3 of the following are present:</li> <li>Mass Fatality Incident</li> <li>National &amp; international media interest</li> <li>Spill or release off site / not contained</li> <li>Public / employee health &amp; safety or environment jeopardized</li> <li>Corporate reputation impacted</li> </ul>	LUR

LUMA Event Classification	Restoration Defined	
Type 5 – *Non-emergency event	<ul> <li>Non-Emergency Restoration Event –</li> <li>Response and Restoration efforts last less than 12 hours</li> </ul>	
Type 4 – *Non-emergency event (LUMA resources and localized Mutual Aid as needed)	<ul> <li>Non-Emergency Restoration Event –</li> <li>Response and Restoration efforts last for approx. 12-24-hour period</li> <li>Locally assigned crews and contractors respond to any isolated incidents</li> </ul>	LUMA's Outage
Type 3 – *Emergency Event (All LUMA resources and possibly Mutual Aid Resources)	<ul> <li>Response and Restoration efforts last for approx. 24-48 hours</li> <li>70k to 350k customer interruptions at peak (represents between 10-25 percent of all LUMA customers)</li> <li>10k or more outages at peak</li> <li>May require activation of ICS</li> </ul>	<b>Event</b> <b>Classification</b>
Type 2 – *Emergency (All LUMA resources and all Mutual Aid Resources)	<ul> <li>Response and Restoration efforts are accomplished in a 7- day period or less</li> <li>350k to 700k customer interruptions at peak (represents between 25-50 percent of all LUMA customers)</li> <li>Causes 25k or more outages at peak</li> <li>Restoration is expected to take up to 7 days</li> </ul>	Types
Type 1 – *Emergency (All company and contractor resources; extensive mutual assistance, federal Assistance) 2021-09-02	<ul> <li>Response and Restoration efforts may require ten (10) days or more</li> <li>700k or more customer interruptions at peak (represents at least half of all LUMA customers)</li> <li>50k or more outages at peak</li> <li>Restoration may take 10 days or longer</li> <li>Will require mutual aid assistance</li> </ul>	LURA





#### **ANNEX A – MAJOR OUTAGE RESTORATION**

- Establishes an operational and tactical comprehensive framework for responding to major outage events and damage to the T&D system.
- Operationalizes the sequence of energy restoration revolving around key infrastructure that supports protection of life and property.
- Provides PREB, P3A, PREMB, and other agencies information related to how LUMA responds and prioritizes electrical system outages in accordance with the principles of Community Lifelines.



August 2021 – LEOC After Action Review for Tropical Storm Grace



#### **RESTORATION PRIORITIES**

#### **Physical Instructure**

- 1. Restore critical power assets generation, micro grids and mini grids
- 2. Repair key transmission lines
- 3. Restore substations

#### **Customers**

- Restore Community Lifelines Hospitals, emergency shelters, water Systems, critical communication towers, ports, fire and police stations, and others
- 2. Restore large service areas
- 3. Restore individual homes





#### **RESTORATION STRATEGY**

- Begins with prioritized outages identified by damage assessment teams and the Outage Management System (OMS).
- System Emergency Restoration Teams (SERTs) address emergency and life-threatening conditions such as public safety hazards or downed wires before any restorations begin.





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### **DAMAGE ASSESSMENTS**

- Key component of the restoration operations.
- Process utilizes "two-person" teams, or additional support as needed, to physically
  inspect and report overhead primary and secondary damage locations associated with
  each locked out circuit.
- Assessment personnel are managed through the SERT and provide their report to the Regional Commander. The order of evaluation is based on the restoration priority list.





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#### **ESTIMATED TIME OF RESTORATION (ETR) GUIDELINES**

- ETRs are a predictor of outage lengths which assist with determining the operational resources and actions required.
- The timing, magnitude, and impact of an outage event factors into the ETR times, therefore LUMA will establish a baseline of projections when determining operational goals and timelines.
- ETRs are segregated into four (4) types:
  - Global ETRs Information is determined at a system-wide level
  - Regional ETRs Information is determined at a regional level
  - Local ETRs Information is determined at a municipal level
  - Individual Customer ETRs Information is determined at a customer level
- Classifications are naturally interconnected and follow a top-down input methodology based on anticipated operational actions, results, and damage assessments.



### **INFORMATION DISSEMINATION**

- Dissemination of information to PREB, P3A, and PREMB
- Dissemination of information to municipal emergency managers, elected officials, and general public





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# ANNEX B – FIRE RESPONSE



#### **ANNEX B – FIRE RESPONSE**

- Describes the key functions that LUMA will implement to address fire specific events that affect facilities and infrastructure providing electric service throughout Puerto Rico.
- This Annex provides guidance to assist in protecting lives and property and maintaining continuity of service when affected by any minor or major fire-related incident.
- A vital feature of this Annex is scalability which allows for expansion and contraction of responding resources depending on the severity of the emergency. Many emergencies are manageable at a local or internal level but can quickly escalate to a system- wide emergency.



#### **ASSUMPTIONS AND CONSIDERATIONS**

- Natural and man-made emergencies, such as facility or infrastructure fire(s) may necessitate the utilization of local fire service resources.
  - Fire events may present issues that
    require a response by law
    enforcement, fire departments,
    electric and water/wastewater
    utilities, public health authorities, and
    environmental protection agencies. In
    these cases, effective interagency
    coordination utilizing the National
    Incident Management System
    (NIMS)/Incident Command System
    (ICS) is essential.



June 2021 – Monacillos Substation Fire (Image courtesy of CNN)



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#### **EMERGENCY FIRE EVENT CONDITIONS**



The Restoration Priority Matrix and Critical Facility Level protocols are consistent in both normal and emergency operations for any type of event. Municipal emergency response resources, such as law enforcement and/or fire departments, that respond to the incident should provide LUMA with the status of the area/facility before a damage assessment can be conducted.

Impacts to LUMA's facilities and infrastructure will be evaluated by conducting a thorough damage assessment. LUMA's restoration efforts will focus on the prioritization objectives listed below which include but are not limited to:

Responding with appropriate resources to address emergency and lifethreatening conditions regarding electrical services

Restoration to affected Community Lifelines as outlined in Annex A

Disseminate timely and accurate communications of system conditions



#### DIRECTION, CONTROL, AND COORDINATION

- This Annex provides the framework for the systematic response when emergencies due to fire arise and emergency restoration operations are required. Determination of an appropriate response is based on multiple factors which include:
  - Damage Assessments
  - Event Type Classification
  - Coordinated response utilizing the Incident Command System (ICS)
- The LUMA Emergency Response Plan (ERP) and its Annexes and Appendices identify the framework to respond and recover from natural or man-made events. For additional information related to direction, control, and coordination, refer to the ERP – Base Plan, Section VIII.





EARTHQUAKE

ANNEX C –



### **ANNEX C – EARTHQUAKE RESPONSE**



2020 Earthquakes - Guánica Image courtesy of axios.com

- Describes the key functions that LUMA will implement in response to an earthquake or earthquake-related hazard that affects facilities and infrastructure that provide electric service throughout Puerto Rico.
- This Annex provides guidance to assist in protecting lives and property and maintaining continuity of electrical service when affected by any minor or major earthquake or earthquake-related incident. A vital feature of this Annex is scalability which allows for expansion and retraction of responding resources depending on the severity of the emergency. Many emergencies are manageable at a local or internal level but can quickly escalate to a system-wide emergency.



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#### **ASSUMPTIONS AND CONSIDERATIONS**

Earthquakes have the potential to expand into a major emergency and can affect lives, property, and the ability of LUMA to provide continuous electric service to its customers. Puerto Rico's power generating facilities are at risk of damage as a result of earthquakes.

LUMA's ability to respond to an earthquake and/or earthquake-related hazards to lessen the effects of power outages to customers depends upon a combination of coordinated decisions internally and externally regarding local emergency services personnel and resources.



Puerto Rico Earthquakes. Dec. 2019- Jan. 2020 (Source: Temblor)



#### **EMERGENCY EARTHQUAKE CONDITIONS**

- The Restoration Priority Matrix and Critical Facility Level protocols are consistent in both normal and emergency operations for any type of event. Municipal emergency response resources, such as law enforcement and/or fire departments, that respond to the incident should provide LUMA with the status of the area/facility before a damage assessment can be conducted.
- LUMA's facilities and infrastructure damages will be assessed by conducting a damage assessment. LUMA's restoration efforts will focus on the prioritization objectives listed below to include, but not limited to:
  - Responding with appropriate resources to address emergency and life-threatening conditions regarding electrical services.
  - Restoration to affected Community Lifelines as outlined in Annex A.
  - Disseminate timely and accurate communications of system conditions.



#### DIRECTION, CONTROL, AND COORDINATION

- This Annex provides the framework for the systematic response when earthquake emergencies arise, and emergency restoration operations are required.
   Determination of an appropriate response is based on multiple factors which include:
  - Damage Assessments
  - Determination of the Event Type
  - Coordinated response utilizing the Incident Command System (ICS).
- The LUMA Emergency Response Plan (ERP) and its Annexes and Appendices identify the framework to respond to and recover from natural or man-made events. For additional information related to direction, control, and coordination, refer to the ERP – Base Plan, Section VIII.



# THANK YOU



