EXHIBIT 1

Introduction - Hurricane Fiona Requests of Information

NEPR-MI-2022-0003

November 18, 2022

1.0 Introduction

LUMA appreciates the opportunity to respond to the Energy Bureau's Request of Information (ROI) with respect to LUMA's response to Hurricane Fiona. LUMA has prepared this introductory document in order to establish a common understanding of LUMA's implementation of the Emergency Response Plan (ERP) framework and the response and restoration timelines referenced in the ROIs. It is recommended that this document is reviewed in its entirety prior to review of the ROI responses as the responses often make references to the topics discussed below in Section 2.0 LUMA's Emergency Response Plan and Section 3.0 Hurricane Fiona Timeline.

Hurricane Fiona was a Category 1 hurricane with winds over 100 miles per hour, over 30 inches of rain, severe flooding, and widespread damage to local and electric infrastructure across Puerto Rico. The severity of Fiona directly contributed to significant damage to critical parts of the electric grid and generation facilities. LUMA's response and restoration efforts, which included close coordination with Federal and Puerto Rican emergency agencies, represented a historic undertaking that has never been seen before in Puerto Rico.

LUMA's emergency response to Hurricane Fiona follows 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 in June 2021, LUMA focused intensely on training, planning and preparing for an event like Hurricane Fiona which included for example, over 10,000 hours in emergency response training on FEMA's National Incident Management System as well as providing field crews with proper safety equipment and roadworthy vehicles—training and equipment that were absent under the Puerto Electric Power Authority (PREPA).

With respect to our emergency response, on and around September 14, 2022, LUMA began formal preparations for responding to Hurricane Fiona. To support this historic restoration, LUMA prepositioned and deployed resources across Puerto Rico to being to respond to the significant devastation brought by Hurricane Fiona and restore power to customers as quickly and safely as possible. Throughout the duration of restoration efforts, LUMA took the following actions:

- Activated the LUMA Emergency Operations Center and deployed LUMA representatives to the central government's Emergency Operations Center;
- Activated six regional operations centers in LUMA's six different service regions;
- Mobilized 1,300 LUMA field workers, including lineworkers and substation technicians, who are trained and available to respond to serious emergencies;
- Maintained our 1,800 fleet units fueled and ready to deploy for emergency response;
- Kept the approximately $130 million inventory of transmission and distribution material available and on-hand to respond to emergency events (more than five times the inventory that was on the island immediately prior to Hurricane Maria);
- Deferred all planned reliability work in order to prioritize and dedicate all available resources to storm response;

- Coordinated with the Puerto Rico Emergency Management Bureau (PREMB), PREPA, FEMA, the U.S. Department of Energy Support Function #12 Annex (ESF #12 Annex) and other government agencies to coordinate a unified response;

- Conducted proactive outreach to essential service providers like hospitals;

- Coordinated restoration work to prioritize Community Lifelines, including health, safety, transportation and communications facilities; and

- Pre-deployed equipment and resources in Puerto Rico to respond to possible impacts from the storm and maintained contact with mutual aid providers so that in the event of the need for additional response resources, the Caribbean Electric Utility Services Corporation (CARILEC), the Edison Electric Institute (EEI) and the American Public Power Association (APPA) could provide assistance with restoration efforts.

The electric grid, which was already fragile prior to the storm, was severely damaged by the severity of Hurricane Fiona, especially in the Ponce, Mayagüez and some of the central highland regions that suffered widespread damage to roads and local critical infrastructure. Overall, LUMA documented clear and significant damage to the island's electric transmission and distribution system from Hurricane Fiona including:

- 35% of transmission line segments sustaining damage,

- 56% of distribution feeders sustaining damage, and

- Seven substations experiencing severe flooding (submerged in water) or were rendered inaccessible.

Given the substantial impact of Hurricane Fiona on the T&D System, coupled with the fragility of the grid prior to Fiona, the result was an island-wide blackout leading to more than 1.5 million customers experiencing outages.

As part of our emergency response and restoration efforts, LUMA utilized more than 2,500 utility workers and more than 2,500 vehicles, including seven helicopters, to restore power to its customers and the grid. Among the actions taken included:

- Using helicopters to perform damage assessment and restoration work. In total, LUMA aerial assets conducted over 239 total flight hours and flew over 12,000 nautical miles.

- In addition to LUMA's normal workforce, eight local contractor companies, as well as crews a leveraged from Quanta Services, one of its parent companies, resulted in the deployment of an additional 221 lineworkers, 56 bucket trucks, and 22 diggers.

- Workers were directed from six regional operations centers, which were overseen by a centralized LUMA Emergency Operations Center, which coordinated with the System Operations Control Center in San Juan and a mobile emergency operations center in Guayanilla on the southern coast.

As part of a coordinated communications strategy during the emergency response, LUMA took a series of actions to keep the public informed including:

- 435 total public updates to the general public on hurricane response and disaster recovery efforts
- 1,759 radio announcements
- 1,135 social media updates
- 34 videos posted online showing extent of damages and ongoing recovery efforts

Following the completion of its restoration efforts, and as part of our commitment to transparency, LUMA publicly provided a document titled Hurricane Fiona Response and Restoration Event Summary, with responsive statistical information regarding the response to the emergency related to the passing of Hurricane Fiona through Puerto Rico. Based on our understanding, this summary represents the most comprehensive collection of detailed restoration data and information ever provided to the public so soon following a hurricane in Puerto Rico.

2.0 LUMA's Emergency Response Plan

LUMA's ERP establishes a structured framework for the management of and response to emergency events that affect Puerto Rico's T&D System. It provides the structure and mechanisms for LUMA's coordination of power restoration throughout Puerto Rico. A thorough review of the ERP is carried out at least annually and revised as necessary. LUMA leaders and subject matter/technical experts with responsibilities in the ERP review its contents and participate in training and tabletop exercises to prepare for emergencies like Hurricane Fiona. As a result, the ERP is a living document and LUMA may adjust or modify the plan as needed. Every emergency event has its own set of particular circumstances, challenges, and uncertainties. It is therefore critical that some flexibility be built in to the ERP so that decisionmakers can most effectively prepare for and respond to emergencies affecting the electrical system.

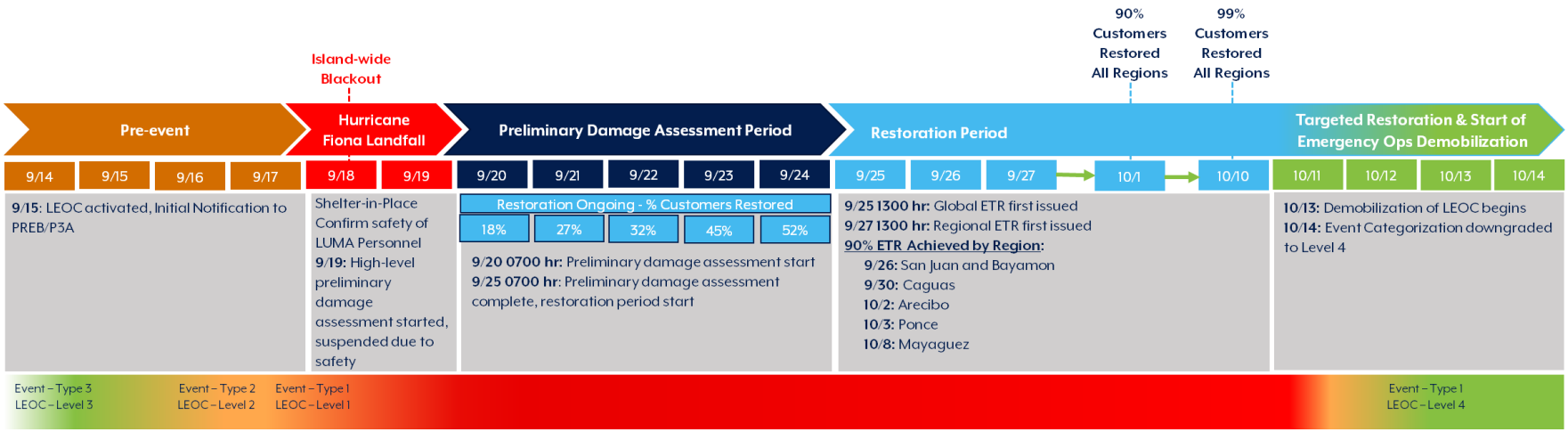
The LUMA Emergency Response Organization is aligned with the National Incident Management System (NIMS) developed for the United States and aligned with FEMA and utilizes an Incident Command System (ICS) structure. The ICS is a framework that allows LUMA to be agile in an emergency by helping establish command and control, coordinate resources, and plan and communicate responsive activities and actions within tight timeframes. ICS is flexible, scalable, and can be used and adjusted for any size emergency response.

LUMA's ERP is intended to establish an operation and tactical comprehensive framework for LUMA's response to all emergencies. No two emergencies are identical and therefore, it would not be prudent or best practice to respond in the exact same manner for every event. For every emergency event, LUMA uses the ERP as a roadmap while also relying on situational awareness and industry expertise to respond effectively to each emergency event, coordinate with first responders and government agencies, and communicate with the regulator, customers, and stakeholders.

3.0 Hurricane Fiona Timeline

LUMA has developed a visual timeline for Hurricane Fiona key dates in Figure 3-1. The figure depicts the various stages of the event referred to in the ROIs including pre-event, emergency event, preliminary damage assessment, restoration and normal operations and demobilization of emergency operations.

Figure 3-1 Hurricane Fiona Timeline



3.1 Stage Definitions

3.1.1 Pre-event

The period of time between when LUMA first identifies an impending Emergency Event and when the Emergency Event first causes damage to the system resulting in Service Interruptions.

3.1.2 Preliminary Damage Assessment

LUMA begins a preliminary damage assessment of the affected area(s) and/or T&D facilities when it is safe to do so. The preliminary damage assessment is to be completed within a reasonable time (see Table 3 below) at the beginning of the Operation Response phase in accordance with the LUMA Major Outage Metrics in Appendix A of the ERP.

3.1.3 Restoration

Period of time between when an Emergency Event causes damage to the system (causing Service Interruptions), and the time when service is restored to customers.

3.1.4 Post Event / Normal Operations and Demobilization of Emergency Operations

The period immediately following the restoration of service to customers after an Emergency Event.

3.2 Timeline for Preliminary Damage Assessment and ETRs

Regarding the timeline for preliminary damage assessment, issuance of ETRs and the restoration period, Major Outage Restoration – Annex A of the LUMA T&D ERP outlines the anticipated actions related to the preliminary damage assessment and identification of ETRs. Annex A outlines these actions based on the Event Type as defined in Appendix A of the ERP. Hurricane Fiona is classified as a Type 1 event.

Major Outage Restoration – Annex A of the ERP is intended to "establish an operational and tactical comprehensive framework for responding to major outage restoration events" such as Hurricane Fiona. The damage assessment response times included in this section are specific to the requirements for each Event Type 1 and should supersede any generic requirements outlined in the Base Plan.

Section 7.1.8 of Annex A specifically addresses "Major Outage Event Preliminary DA". Please see Table 3: Reasonable time for preliminary damage assessment below.

Preliminary DA Reasonable Time		
Event Type	**Duration of Event**	**Response Time**
Type 3 or 2 – High Alert or Emergency Conditions	3 to 5 days	36 hours
Type 2 – Emergency Conditions	5 to 10 days	72 hours
Type 1 – Catastrophic	Greater than 10 days	120 hours

Table 3: Reasonable time for preliminary damage assessment

Hurricane Fiona is classified as a Type 1 – Catastrophic Event Type. Thus, the start and completion times of the preliminary damage assessment, with a duration of 120 hours, are consistent with Table 3. Following the completion of the damage assessment and start of the restoration period, the timeline for the issuance of Global and Regional ETRs is outlined in Table 16: Restoration activities for events greater

than 48 hours in Annex A of the ERP. The issuance of Global and Regional ETRs during Hurricane Fiona were also in compliance with the defined timeline.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-A001

SUBJECT

Pre-Event – Lifeline Residential Service (LRS) Customers

REQUEST

During the Pre-Event Stage, did LUMA notify Lifeline Residential Service (LRS) customers in accordance with its 2022 Base Plan at page 41?

a. If so, how many LRS customers were contacted?

b. By what means were they contacted?

c. What information was provided and/or requested in the contacts?

d. If not, fully explain why not.

e. How many LRS customers are on record?

f. Has LUMA become aware of LRS customers who were not notified because they were not on record? If so, how many?

RESPONSE

Yes, LUMA notified LRS customers in accordance with the plan. Calls to LRS customers began on September 16th, 2022 and were completed by 1642 hours on September 17th, 2022.

a. 3,028 LRS customers were contacted.

b. Customers were contacted via outbound phone calls. LRS customers expressed that they appreciated these calls.

c. LUMA's initial contact with customers during the pre-event stage was to advise LRS customers of the storm and to ensure they took precautions for their safety and well-being. During the phone calls, many LRS customers confirmed they could withstand several days without power. LUMA Customer Service Agents provided resources should the customer's conditions or situations change.

   A script used to guide the pre-event phone calls is provided below.

Buenos Días Sr/Sra. XXXX.

Soy XXXXX llamando desde LUMA.

Todos nosotros en LUMA estamos preparando nuestra respuesta de emergencia para lo que se pronostica como una tormenta grave y severa este fin de semana que probablemente dará lugar a interrupciones del servicio. Le pedimos a todos nuestros clientes a tomar medidas para prepararse para el impacto de esta tormenta. Queremos que sepan que estamos tomando medidas ahora para prepararnos y que restableceremos el suministro eléctrico de la forma más rápida y segura posible tras el paso de la tormenta. La seguridad es nuestra prioridad número uno, y pedimos a nuestros clientes que tomen las precauciones adecuadas para garantizar la seguridad de sus familias. Como cliente de Lifeline Residential Services (LRS) que necesita equipos médicos eléctricos, le aconsejamos que active sus planes de emergencia en previsión de posibles interrupciones del servicio.

Vamos a coordinar los trabajos de restauración después de la tormenta para dar prioridad a los clientes residenciales de Lifeline como usted que necesitan electricidad para operar equipos médicos y Community Lifelines, incluyendo instalaciones de salud, seguridad, transporte y comunicaciones.

Por favor, manténgase a salvo durante esta tormenta.

English Translation:

Good morning or Good Afternoon Mr./Mrs. XXXX.

This is XXXXX calling from LUMA.

All of us at LUMA are preparing our emergency response for what is forecasted to be a serious and severe storm this weekend that will likely lead to service interruptions. We are strongly encouraging all our customers to take steps to prepare for the impact of this storm. Safety is our number one priority, and we are asking our customers to take the appropriate precautions to ensure the safety of their families. As a Lifeline Residential Services (LRS) customer that requires electrical medical equipment we are advising you to activate your emergency plans in anticipation of possible service interruptions.

We will be coordinating restoration work after the storm strikes to prioritize lifeline residential customers like yourself who need electricity to operate medical equipment and Community Lifelines, including health, safety, transportation, and communications facilities.

Please stay safe throughout this storm event.

e. 3,028 LRS customers are on record in the CC&B system.

f. LUMA has not been made aware of any LRS customers who were not notified during the pre-event stage because they were not on record.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-A002

SUBJECT

Pre-Event - LRS Customers Contacted During Event

REQUEST

Were LRS customers contacted during the event (as compared with pre-event notification)?

a. If so, how many LRS customers were contacted?

b. By what means were they contacted?

c. What information was contained and/or requested in the contacts?

d. If not, fully explain why not.

RESPONSE

In accordance with the LUMA ERP and stated in LUMA's response to RFI-LUMA-MI-2022-0003-20221118-PREB-A001, LUMA contacted all LRS customers through pre-event phone calls and communications. Due to the commitment to address incoming customer inquiries during the storm, LUMA did not perform a second round of outbound communications to LRS customers during the event.

LUMA's initial contact with customers during the pre-event stage was to advise LRS customers and to ensure they took precautions for their safety and well-being. Pre-event communications confirmed LRS customers could withstand several days without power and provided resources should their conditions change.

a. LUMA employees responded to all LUMA customers throughout the duration of the storm. Systems used to track customer contacts do not indicate if the customer is a LRS customer. Therefore, this data is not available.

b. The LUMA customer contact personnel were operational and available to all customers throughout the storm. LRS customers and all LUMA customers received support via access to the LUMA Customer Contact Center phone line, LUMA email address, and social media comments and messages. All customers were notified of these resources in pre-event communications and were reiterated regularly throughout the storm.

c. LUMA customers, including LRS customers, were supported on a case-by-case basis as their inquiries were received.

d. As stated in LUMA's response to RFI-LUMA-MI-2022-0003-20221118-PREB-A001, LRS customers confirmed their safety through pre-event communications. LUMA customer contact personnel were operating and available throughout the storm to all customers, including LRS customers. Proper response and support were provided to all LUMA customers, including LRS customers, by LUMA Customer Experience employees.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-A003

SUBJECT

Pre-Event - Stage Reports Submitted

REQUEST

Were Pre-Event Stage Reports submitted at least once daily to the Regulatory Authorities?

a. If so, what information was contained in the Pre-Event Stage Reports.

b. If not, fully explain why not.

RESPONSE

Yes, LUMA provided pre-event stage reports at least a once daily beginning September 15th, 2022, to the Energy Bureau and P3A leading up to the event. Prior to the event, a total of five reports were provided. The reports included information that was available at the time which typically included the following topics:

- Date and time of the report
- Anticipated event start date
- Event name
- Event summary – including weather forecasting and monitoring information
- LUMA event classification
- LEOC activation level
- Additional preparation information as available, such as;
    - Safety
    - Status of crews
    - Status of generation

This information is aligned with Section 5.14 as well as Section VII of Annex I to the T&D OMA which provide an overview of the "Implementation of the Emergency Response Plan" and general information LUMA is required to provide to the Energy Bureau and P3A.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-B001

SUBJECT

Restoration Stage Reports – Within First 6 Hours

REQUEST

Within the first six hours of the restoration period:

a. Explain why LUMA did not provide the Energy Bureau with notification of the start time of the Restoration Period.

b. Indicate at what time and what date the Restoration Period started.

RESPONSE

a. LUMA's ERP is a plan, tool, and framework for LUMA's response to all potential emergencies. No two emergencies are identical, and it would not be prudent to respond in the exact same manner. For situations that the ERP does not fully contemplate, LUMA uses the ERP as a guideline and relies on situational awareness and industry expertise to restore the T&D system as safely and efficiently as possible.

Please see Table 16 from Annex A of the ERP below which suggests that within the first six hours of the restoration period, "The utility shall indicate that it will be a multi-day event (i.e., greater than 48 hours). The notification shall be made to regulatory authorities and will state what LUMA has defined as the start of the restoration period."

Type 1 and 2 Events expected to last greater than 48 hours

Within the first 6 hours of the restoration period
• The utility shall indicate that it will be a multi-day event (i.e., greater than 48 hours). The notification shall be made to regulatory authorities and will state what LUMA has defined as the start of the restoration period. • Provide a public statement indicating the likelihood of extended outages and make this information available via customer representatives, IVR systems, and websites. • In certain situations (e.g., nighttime events), only limited information may be available within the initial six-hour window. In these situations, the expectation is that the companies will inform regulatory authorities of the delay in determining the initial outage duration within six hours and the notification will occur in an expedited manner as information becomes known. Following a nighttime storm, the determination of whether the restoration period will be greater than 48 hours will be communicated as soon as possible, but no later than noon the following day. Any delay in establishing the initial storm expectations will not affect the time requirements below.

Table 16: Restoration activities for events greater than 48 hours

LUMA communicated daily to the Energy Bureau and P3A since the storm made landfall, that the restoration period would be a multi-day event and provided updates regarding assessment. In LUMA's first report to the Energy Bureau following landfall LUMA states, "Given the size and scope of the outage, as well as ongoing impacts of Hurricane Fiona, full power restoration could take several days. We are coordinating with PREMB and other agencies and will continue to keep our customers updated."

At the official start of the restoration period LUMA was focused on communicating global ETRs with the Energy Bureau, P3A, and the public on September 18, 2022, since the statement above was communicated in the first report following landfall. Due to the focus global ETRs were able to be delivered to all at 1300 hours on September 25, 2022, ahead of the deadline. This was within the six hour timeframe in question. Please refer to Figure 3-1 in theIntroduction document for a timeline of events.

b. In accordance with the timeline defined in the Introduction document, the restoration period began at 0700 hours on September 25, 2022.

While Hurricane Fiona restoration activities were initiated as soon as it was safe to do so following the emergency event, the restoration period does not begin until after the preliminary damage assessment is complete. In the case of a Type 1 Catastrophic Event, as per Table 3 from Section 7.1.8 in Annex A of the ERP, the reasonable amount of time to complete the preliminary damage assessment is approximately 120 hours.

Preliminary DA Reasonable Time		
Event Type	**Duration of Event**	**Response Time**
Type 3 or 2 – High Alert or Emergency Conditions	3 to 5 days	36 hours
Type 2 – Emergency Conditions	5 to 10 days	72 hours
Type 1 – Catastrophic	Greater than 10 days	120 hours

Table 3: Reasonable time for preliminary damage assessment

Estimated Time of Restoration Notification

The information included in this report is current as of 1300 hours on 2022-09-25. All information is preliminary and subject to change.

In compliance with Section 5.14(b) of the Transmission and Distribution Operation and Maintenance Agreement (T&D OMA) and the LUMA Emergency Response Plan (ERP), LUMA is providing an update on LUMA's response to the Emergency Event as described below:

Summary of Emergency Event

Event Start Date	Saturday, September 17th, 2022
Event Name	Hurricane Fiona
Event Summary	On September 15, 2022, the LEOC was activated in preparation of the anticipated impacts of Hurricane Fiona. Initial impacts to the T&D System, as a result of Hurricane Fiona, began occurring on September 17, 2022. On September 18, 2022, as a result of severe weather from Hurricane Fiona, the electric system experienced numerous transmission line outages which contributed to an island-wide power outage.

Notification of Estimated Time for Restoration

Overview	In accordance with the requirements set forth in LUMA's ERP, LUMA began preliminary damage assessment on Tuesday, September 20, at 0700 hrs, when it was safe to deploy personnel and fly helicopters. At this time, LUMA has completed the initial preliminary damage assessment and can provide a preliminary global, system-wide Estimated Time of Restoration (ETR). This information is summarized below.

Estimated Time of Restoration Notification

Estimated Restoration Timeframe

Accuracy of ETR estimates is dependent on a combination of factors, including:

- Availability of generation resources,
- System stability as load is matched to generation, and extensive switching activities are undertaken,
- Sufficient system generation reserves;
- Weather conditions, and
- Access that may be blocked due to debris, flooding or otherwise.

This list of risks may change based on information from damage assessments. ETRs will be updated based on new information.

Projected Available Generation (PREPA, AES and Ecoelectrica)	Projected Timing for Available Generation	System-Wide Customers with Service	System-Wide Customers with Service
~1900 - 2100 MW	Monday, 9/26	850K – 950K	57% - 64%
~2100 - 2300 MW	Wednesday, 9/28	950K – 1.15M	64% - 77%
~2300 - 2600 MW	Friday, 9/30	1.15M – 1.35M	77% - 91%
*Restoration estimates subject to change depending on extent of damage and availability of generation. Actual number of customers restored can and will fluctuate daily.			

Based on these estimates and if 2600 MW of generation capacity is available, the Estimated Time of Restoration for 90% of service outages is Friday, 9/30.

Some areas and communities in Puerto Rico may have power restored sooner than others. Specifically**, some areas in western, southern, and central Puerto Rico may see power restoration take longer** due to severity of damage to roads and infrastructure is complicating damage assessments and restoration efforts. Additionally, although power will be restored to customers, Puerto Rico's electric grid will remain fragile and require fundamental transformation and modernization in order to ensure long-term stability of the system and service reliability.

Reserves

It is essential that generation reserves are maintained to protect the overall stability of the energy system. Generation reserves are an essential component of the gradual restoration process. LUMA, in its role as the System Operator, will maintain generation reserves throughout the restoration effort in order to protect the system and reduce the potential for major setbacks to restoration and further service interruptions.

COMUNICADO de prensa

LUMA PROVIDES POWER RESTORATION ESTIMATES FOLLOWING HURRICANE FIONA

AS OF 8 AM, SERVICE TO 821,227 CUSTOMERS, 56% OF TOTAL, HAS BEEN RESTORED

Depending on ongoing damage assessment and the availability of generation, power to 77-91% of customers may be restored by the end of the week

San Juan, Puerto Rico, September 25, 2022 – Today, LUMA announced estimated timeframes for the reenergization of the grid and restoring electric service to most customers impacted by Hurricane Fiona. LUMA stressed that the restoration estimates could change due to extensive damage caused by Hurricane Fiona, ongoing damage assessments, system repairs and the availability of generation.

Damage Assessment and Repairs are Continuing

Hurricane Fiona has impacted many parts of the electric grid and generation facilities across Puerto Rico, especially in the western, southern and central regions of Puerto Rico. While damage assessments are ongoing, preliminary damage assessments and visual inspections indicated approximately 50% of the Puerto Rico electrical grid infrastructure incurred damage from the impacts brought by Hurricane Fiona. LUMA has been and will continue working around the clock to repair these damages, balance the system and restore power to the entire grid.

"**We want to be very clear that LUMA is ready to restore power to more customers as soon as additional generation becomes available.** We are being transparent about the progress we are making to restore power, and the ongoing challenges we face, given the impacts of Hurricane Fiona on generation and critical segments of the transmission and distribution system. Since the impact of the storm, we are continuing to coordinate our efforts to restore power and reenergize the electric system as quickly and safely as possible with PREPA and our generation partners. While there are many factors that could impact our combined restoration efforts over

the coming days, bring online more generation is critical, and we are working as hard as possible to restore power to the overwhelming majority of customers by this Friday," said LUMA Engineer Daniel Hernandez."

Estimated Restoration Timeframe
With respect to the progression of power restoration over the coming days, **LUMA estimated service to more than 64-77% of customers may be restored by Wednesday, September 28, 2022, while 77-91% of customers may be restored by Friday, September 30**.

LUMA emphasized that these estimated restoration numbers are highly dependent on a combination of factors including the availability of generation, the need to have sufficient energy reserves to stabilize and protect the entire energy grid, ongoing damage assessments, gaining access to critical infrastructure impacted by Fiona, and the speed of which damage to areas of the grid and/or generation facilities can be repaired.

PREPA/Private Generation	Projected Timing for Generation	Customers with Power	% Customers with Power
~1900-2100 MW	Monday, 9/26	850K – 950K	57% – 64%
~2100-2300 MW	Wednesday, 9/28	950K – 1.15M	64% – 77%
~2300-2600 MW	Friday, 9/30	1.15M – 1.35M	77% – 91%
*Restoration estimates are subject to change depending on extent of damage and availability generation. Actual number of customers restored can and will fluctuate daily.			

As part of these projections, LUMA reported that some areas and communities of Puerto Rico may see power come on sooner than others. Specifically, some areas in western, southern and central Puerto Rico may see power restoration take longer because damage to roads and infrastructure is complicating damage assessments and restoration efforts. Additionally, although power will be restored to customers, Puerto Rico's electric grid will remain very fragile and require fundamental transformation and modernization in order to ensure long-term stability of the system.

"LUMA continues to be fully mobilized – we are adding more resources every day and we will not stop until power to every customer has been restored," Hernandez said.

Maintaining Reserves to Protect the System
While more generation will become available in the coming days, it is essential, given the impacts of the storm, that generation reserves are maintained to protect the overall stability of the energy system. Generation reserves are an essential component of the step-by-step

restoration process. LUMA, in its role as the System Operator, will maintain generation reserves throughout the restoration in order to protect the system and reduce the potential for setbacks and further service interruptions.

About LUMA

LUMA is a Puerto Rican company that, since June 1, 2021, operates and manages the electric power transmission and distribution system in Puerto Rico. LUMA is a company driven by a mission to transform the electrical transmission and distribution system to provide all Puerto Ricans with the reliable, resilient, cleaner, and affordable electrical grid they deserve. As a customer-centric company, LUMA's entire workforce of more than 3,000 employees is focused on safely delivering an exceptional customer service experience to its 1.5 million customers.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-B002

SUBJECT

Restoration Stage Reports – Within first 24 Hours

REQUEST

Within the first 24 hours of the restoration period:

a. Did LUMA notify Regulatory Authorities of what areas sustained the most damage to the electric system and provide ETRs, where known, on a general geographic basis?

b. If so, when and by what means did that notification occur?

c. If not, why not?

d. Was a press release for upcoming news cycles with that information issued?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-B001 for details regarding the start of the restoration period.

a. Yes, within the first 24 hours of the restoration period, LUMA provided the Energy Bureau and P3A ETRs on a general geographic basis and notified them of what areas sustained the most damage.

b. LUMA exceeded this expectation by providing Global ETRs and notification of the most damaged areas within six hours of the restoration period. Both were provided in the 2022-09-25_ETR_Notification_1300_corrected report and was distributed to Energy Bureau and P3A by email. Please see Attachment 1.

d. The first LUMA press release publishing ETRs was issued on September 25, 2022. Please see Attachment 2. Press releases issued by LUMA are posted on the LUMAPR.com website and distributed to outlets in Puerto Rico and the United States, including independent journalists, regional newspapers and digital publications.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-B003

SUBJECT

Restoration Stage Reports – Start and Completion of Damage Assessments

REQUEST

Were Regulatory Authorities notified of the start and completion of damage assessment?

a. If so, when and by what means did that notification occur?

b. If not, why not?

RESPONSE

In accordance with the timeline defined in Figure 3-1 of the Introduction document, the preliminary damage assessment started at 0700 hours on September 20th, 2022 and was completed at 0700 hours on September 25th, 2022. LUMA attempted to begin the damage assessment in areas of the island where it was safe to do so on September 19, 2022, however LUMA was unable to collect data required for damage assessments due to ongoing weather conditions, therefore LUMA returned to perform damage assessments on September 20, 2022.

a. LUMA notified the Energy Bureau and P3A that preliminary damage assessments were initiated across the island on September 19, 2022, and September 20, 2022, through the Emergency Event Notification report. The September 19, 2022, notification was made because preliminary damage assessments were attempted but weather would not permit sufficient data collection. Detailed damage assessments continue as of today's filing date of November 18, 2022.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-B004

SUBJECT

Restoration Stage Reports – Provide ETR Update

REQUEST

Were Regulatory Authorities provided with an update on the estimated time of restoration (ETR) at the completion of damage assessment or after the first 24 hours following the start of damage assessment, whichever occurs first?

a. If so, when and by what means did that notification occur?

b. If not, why not?

RESPONSE

Please refer to response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-B002.

In accordance with the timeline defined in Figure 3-1 of the Introduction document, the completion of the preliminary damage assessment occurred at 0700 hours on September 25, 2022.

a. LUMA provided ETRs in the 2022-09-25_ETR_Notification_1300_corrected report which was distributed to the Energy Bureau and P3A by email, the same day that the preliminary damage assessment was completed. Subsequent to the initial ETR notification, daily Restoration Reports were provided to the Energy Bureau and P3A until October 8, 2022. Restoration Reports included updated ETRs.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-B005

SUBJECT

Restoration Stage Reports – Frequency

REQUEST

Were Restoration Stage Reports, including ETRs, provided to the Regulatory Authorities at a minimum of once per day until restoration was complete?

a. If not, why not?

RESPONSE

Please refer to response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-B004.

Yes, Restoration Reports, including ETRs, were provided to the Energy Bureau and P3A at a minimum of once per day until global and regional ETRs were achieved.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-B006

SUBJECT

Restoration Stage Reports – Restoration Updates

REQUEST

Were restoration updates provided daily to Regulatory Authorities until otherwise directed by staff?

a. If not, why not?

RESPONSE

Yes, in accordance with the LUMA ERP emergency event reporting was provided daily to the Energy Bureau and P3A until the event classification was downgraded to a Level 4 – Non-Emergency Event on October 13th, 2022. Please see the milestone overview of the reports that were provided to the Energy Bureau and P3A below:

- September 25th, 2022 at 1300 hours: LUMA provided the "ETR Notification" report containing global ETRs by email to the Energy Bureau and P3A (2022-09-25_ETR_Notification_1300_corrected).
- September 26th, 2022 at 0430 and 1300 hours: LUMA provided "Emergency Event Update" reports by email to the Energy Bureau and P3A (2022-09-27_EmergencyEventUpdate_0430, 2022-09-26_EmergencyEventUpdate_1300_corrected) containing restoration updates.
- September 27th, 2022 at 1300 hours: LUMA provided the "Restoration Report" containing the regional ETRs by email to the Energy Bureau and P3A (2022-09-27_RestorationReport_1300).
- September 28th, 2022 – October 7th, 2022: LUMA continued to provide "Restoration Reports" and "Emergency Event Updates" by email to the Energy Bureau and P3A on a daily basis.
- October 8th, 2022 at 1000 hours: LUMA provided a final discrete "Restoration Report" containing the notification that the last of the regional ETRs had been achieved by email to the Energy Bureau and P3A (2022-10-08_RestorationReport_1000).
- October 9th, 2022 – October 12th, 2022: LUMA continued to provide daily "Emergency Event Updates" reports by email to the Energy Bureau and P3A.

- October 13th, 2022 at 1600 hours: LUMA provided the final "Emergency Event Update" report containing the notification that the Event Classification and LEOC Activation had been downgraded respectively from Type 1 – Catastrophic Emergency Event and Level 1 – Catastrophic Emergency to Type 4 – Non-Emergency Event and Level 4 – Heightened Alert by email to the Energy Bureau and P3A (2022-10-13_EmergencyEventUpdate_1600).

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-C001

SUBJECT

Municipal Emergency Management - Within the first 12 hours

REQUEST

Within the first 12 hours of the restoration period:

a. Did LUMA prepare a press release and communicate with affected municipal and governmental officials?

   i. If so, identify the municipalities with which communication occurred and the dates, times, and methods of communication.

   ii. If not, fully explain why not.

RESPONSE

Press releases issued by LUMA are posted on the LUMAPR.com website and distributed to outlets in Puerto Rico and the United States, including independent journalists, regional newspapers and digital publications. In accordance with the timeline defined in the Introduction document, the first 12 hours of the restoration period are 0700 to 1900 on September 25, 2022. During this time period, LUMA issued a press release providing Global ETRs.

Throughout the event, LUMA remained in regular communication with government officials to keep them apprised of the response and restoration efforts. Furthermore, LUMA staffed an Interagency Coordinator at PREMB Central EOC and at each of the ten regional EOCs.

LUMA utilized various communication methods to communicate with municipal and government officials throughout the response to Hurricane Fiona that are outlined below:

- **LUMA Contact Center Communication with Municipality Contacts** – Throughout the event, LUMA Key Account Managers maintained direct communication with contacts at the municipal level via telephone calls, in-person visits, social media, and virtual meetings. A data extract that documents these communications for the date range of September 21, 2022 to October 9, 2022 is included as Attachment 1. In addition to direct communications with municipality contacts, LUMA also conducted conference calls.

- **PREMB Regional EOC Communication** – , Municipalities routed incidents through the Regional EOCs using the WebEOC application. Other incidents were generated from 9-1-1 calls or other Interagency Coordinators, such as PRASA, collocated at the Regional EOC. These incidents were handed over to the LUMA Regional Interagency Coordinator for LUMA related incidents such as fallen poles, down wires, critical facility incidents, etc. Once this information was received by the LUMA Regional Interagency Coordinator in the LEOC, they sent an email to generate a ticket that would be assigned to a LUMA Regional Operation Command Center (ROCC) so that the appropriate crews could be dispatched to investigate and resolve the incident.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-C002

SUBJECT

Municipal Emergency Management – Within the first 18 hours

REQUEST

Within the first 18 hours of the restoration period:

a. Did LUMA schedule municipal conference calls or alternative communication methods?

   i. If so, identify the municipalities that were contacted and the dates, times, and methods of communication.

   ii. If not, fully explain why not.

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-C001.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-C003

SUBJECT

Municipal Emergency Management – Within the first 36 hours

REQUEST

Within the first 36 hours of the restoration period:

a. Did the first scheduled municipal conference calls occur?

   i. If so, identify the municipalities with which the conference calls occurred and the dates and times of the conference calls.

   ii. If not, explain fully why not.

b. Did LUMA provide reports to municipal emergency managers or their designees that contain detailed information related to emergency conditions and restoration performance for each affected city and town?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-C001.

During this same time period, LUMA issued Global ETRs publicly via a press release on September 25, 2022. A second press release was issued on September 26, 2022 announcing daily restoration updates detailing progress in each operating region that were published on the LUMAPR.com website and distributed to outlets in Puerto Rico and the United States, including independent journalists, regional newspapers and digital publications as well as LUMA social media channels. LUMA also provided detailed information about restoration via communications within the Regional EOCs.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D001

SUBJECT

Estimated Time of Restoration – Damage Assessment date and time when start and when finish

REQUEST

The LUMA T&D ERP 2022 provides at Base Plan, page 42, that "LUMA provides updates on the estimated time of restoration (ETR) at the completion of the damage assessment or after the first 24 hours following the start of damage assessment whichever occurs first."

a. What was the date and time of the start of damage assessment?

b. What was the date and time of the completion of damage assessment?

RESPONSE

Please refer to the Introduction document and RFI-LUMA-MI-2022-0003-20221118-PREB-B003.

In accordance with the timeline defined in the Introduction document, the preliminary damage assessments started at 0700 hours on September 20, 2022. Preliminary damage assessment activities were completed at 0700 hours on September 25, 2022. Detailed damage assessments continue as of today's filing date of November 18, 2022.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D002

SUBJECT

Estimated Time of Restoration – Within first 24 hrs.

REQUEST

Within the first 24 hours of the restoration period, did LUMA provide Regulatory Authorities with ETRs and issue press release with that information issued during that time frame?

a. If so, when were the ETRs provided?

b. If so, when were press releases issued?

c. If not, fully explain why not.

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-B002.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D003

SUBJECT

Estimated Time of Restoration – Global ETR

REQUEST

When was the Global ETR first developed?

RESPONSE

In accordance with the timeline outlined in the Introduction document, the Global ETR was first developed on September 25, 2022 by 1300 hours.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D004

SUBJECT

Estimated Time of Restoration – Global ETR first communication

REQUEST

When and by what means was the Global ETR first communicated to Regulatory Authorities?

RESPONSE

In accordance with the timeline outlined in the Introduction document, the Global ETRs were provided in the 2022-09-25_ETR_Notification_1300_corrected report distributed to the Energy Bureau and P3A by email on September 25, 2022 at 1852 hours.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D005

SUBJECT

Estimated Time of Restoration – RSR Conformance

REQUEST

Did Restoration Stage Reports contain Regional ETRs by municipality in conformance with the Restoration Stage Sample Report on page 147 of the ERP Annex A?

a. If so, provide details.

b. If not, fully explain why not.

RESPONSE

Regional ETRs were developed by September 27, 2022 to support emergency operations, in line with the Puerto Rico State Natural Hazard Mitigation Plan which established Regional EOCs. Further, at this time, Municipal and Individual restoration times cannot be produced based on the current capabilities of the Outage Management System (OMS) and the Geographic Information System (GIS). Given the level of emergency and island wide blackout, the effort that would be required to report Individual ETRs would distract from the necessary focus for LUMA to safely restore the grid.

Additionally, LUMA has adapted emergency response operations to reflect the PREMB regional structure instead of the previous municipality structure. The adaptation included having representatives in the Regional EOCs instead of the Municipal EOCs and as such establishing Regional ETRs.

Regional ETRs are in accordance with the requirements defined in the Major Outage Event metrics. LUMA's ERP will be continually updated to reflect the alignment with the Puerto Rico government's emergency response plans.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D006

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual

REQUEST

When were Regional, Municipal, and Individual ETRs developed?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-D005.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D007

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual (Within the first 36 hours)

REQUEST

Within the first 36 hours of the restoration period:

a. Were regional/municipal ETRs established for areas expected to be restored in five days or less?

    i. If not, fully explain why not.

b. Was ETR information made available to the public?

    i. If so, by what means was it made available?

    ii. If not, fully explain why not.

c. Did LUMA identify any heavily damaged areas where large numbers of customers were expected to remain without service for more than five days?

RESPONSE

Please refer to the Introduction document for a timeline of events.

a. The development and issuance of ETRs executed for this event is in accordance with the Major Outage Event (MOE) Metrics. The LUMA ERP states, "The timing, magnitude, and impact of an event factors into ETR times, therefore LUMA establishes a baseline of projections to assist when determining operational goals and timelines." The baseline timeline applicable to guiding this event is outlined in Table 16 of Annex A to the LUMA ERP and indicates issuance of ETRs within 36 hours of the restoration period. However, to reiterate, this is intended to guide the operational goals and timelines of each event. The development of the ETRs will be impacted by the specifics of the event at hand.

b. Regional ETRs were made available to the public for all regions on September 27, 2022. This included regions expected where restoration was expected to take over 5 days from the start of the restoration period.

Please refer to the table below included in the first issuance on September 27th, 2022 of the Regional ETRs provided to the Energy Bureau and P3A as well as to the public. The table was provided daily via press release, LUMA social media and the LUMAPR.com website.

Service Region	Estimated Timing for 90% Restoration
Bayamón	Monday, 9/26
Arecibo	Saturday,10/1
San Juan	Monday, 9/26
Caguas	Friday, 9/30
Ponce	Tuesday, 10/4 - Thursday, 10/6
Mayagüez	Tuesday, 10/4 - Thursday, 10/6

c. Yes, LUMA identified heavily damaged areas where large numbers of customers were expected to remain without service for more than five days.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D008

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual Within the first 48 hours

REQUEST

Within the first 48 hours of the restoration period:

a. Were regional/municipal ETRs established for areas expected to be restored in five days even if the total restoration period is expected to be over five days?

   i. If not, fully explain why not.

b. Was ETR information made available to the public?

   i. If so, by what means?

   ii. What ETRs were provided?

   iii. If not, fully explain why not.

RESPONSE

Please refer to the Introduction document and the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-D007 which addresses the first 36 hours of the restoration period which is therefore included in the first 48 hours timeframe requested in this response.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D009

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual Beyond the first 48 hours

REQUEST

Beyond the first 48 hours of the restoration period:

a. Were ETRs provided for each affected municipality?

   i. If so, how and when was that information made available?

   ii. If not, fully explain why not.

   iii. If not provided to each affected municipality, for which municipalities were they provided?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-D005 for additional information regarding LUMA's adaptation to the PREMB regional structure and the issuance of regional ETRs.

Yes, regional ETRs for each affected region were included in LUMA's daily press release distributed to outlets in Puerto Rico and the United States, including independent journalists, regional newspapers and digital publications, LUMA social media and the LUMAPR.com website starting on September 27th, 2022.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D010

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual Timeframe

REQUEST

Were Regional, Local, and Individual ETRs developed in accordance with the timeframes set forth at page 31 of the ERP Annex A?

a. If not, fully explain why not.

RESPONSE

Please refer to the responses provided in RFI-LUMA-MI-2022-0003-20221118-PREB-D006 and RFI-LUMA-MI-2022-0003-20221118-PREB-D007.

Page 31 of the ERP Annex A does not outline timeframes. LUMA developed regional ETRs in line with the Major Outage Event (MOE) Metrics.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D011

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual Communications

REQUEST

When, by what means, and to whom were Regional, Municipal, and Individual ETRs communicated?

RESPONSE

Please refer to the responses provided in RFI-LUMA-MI-2022-0003-20221118-PREB-D005 and RFI-LUMA-MI-2022-0003-20221118-PREB-D007.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-D012

SUBJECT

Estimated Time of Restoration – Regional, Municipal, and Individual Affected Locality

REQUEST

When were ETRs for each affected locality developed and by what means were they made available?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-D005 and RFI-LUMA-MI-2022-0003-20221118-PREB-D007.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-E001

SUBJECT

Outage Management System (OMS) – Effective Operation

REQUEST

Did the OMS effectively operate during the event? Explain fully.

RESPONSE

While the Outage Management System (OMS) is capable of supporting major outages, it is not a common best practice for an OMS system to support complete blackout conditions like the conditions that occurred during Hurricane Fiona. OMS works at the distribution feeder level and looks towards the customer meter. OMS works optimally when there is ample generation and a stable transmission system to supply the distribution network. OMS systems are not designed for scenarios of blackout or when there is a significant amount of instability on the transmission system.

Leaving the OMS system activated would have overwhelmed the Dispatch team with mass outage calls when there is a known blackout. This would have caused confusion in the field around outages and prioritizations. This is further amplified since there are known legacy inaccuracies in the OMS connected model (customer mapping). As a result, LUMA turned off the OMS and transitioned to using an organized, restoration program focused on prioritization in accordance with the ERP and the Restoration Annex. This manual yet systematic process has been used effectively in previous blackout conditions and utilizes data from EMS/SCADA to bring power generation back on line to support the transmission system. Once the grid was stabilized and the OMS model came in line with the manual focused restoration process, the OMS was re-activated.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-E002

SUBJECT

Outage Management System (OMS)-Failures

REQUEST

Were there any failures of the OMS during the event? Explain fully.

RESPONSE

Please refer to RFI-LUMA-MI-2022-0003-20221118-PREB-E001.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-E003

SUBJECT

Outage Management System (OMS) - Capabilities

REQUEST

What capabilities did the OMS provide? Explain fully.

RESPONSE

Please refer to RFI-LUMA-MI-2022-0003-20221118-PREB-E001.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-E004

SUBJECT

Outage Management System (OMS) – Manually Intensive Processes

REQUEST

To what extent did the OMS alleviate manually intensive processes? Explain fully.

RESPONSE

Please refer to RFI-LUMA-MI-2022-0003-20221118-PREB-E001.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F001

SUBJECT

Call Center - Calls Answered

REQUEST

How many customer calls were answered? Fully explain.

RESPONSE

LUMA answered 185,019 customer calls starting on September 18, 2022 through November 1, 2022.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F002

SUBJECT

Call Center-Abandonment Rate

REQUEST

What was the call abandonment rate?

RESPONSE

The call abandonment rate for the period of September 18, 2022 to November 1, 2022 was 13.20%.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F003

SUBJECT

Call Center- Average Speed

REQUEST

What was the average speed of answer?

RESPONSE

The average speed of answer from September 18, 2022 through November 1, 2022 was 1 minute and 49 seconds.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F004

SUBJECT

Call Center - IVR

REQUEST

What is the breakdown of operator answered calls compared with IVR answered calls?

RESPONSE

All calls were answered first by the IVR and based on customer selection, calls were transferred to an advisor. The only transaction that could be performed through the IVR without advisor assistance is a bill payment. The option for customers to make payments independently is a positive step forward for customer contact center functionality that was introduced during Hurricane Fiona to ensure the highest priority calls were managed efficiently.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F005

SUBJECT

Call Centers – Live Representative

REQUEST

Do customers have the option to speak with a live representative if they wish?

Explain fully.

RESPONSE

Customers always have the option to speak to a live representative if they wish. While in storm mode, the customer is always routed to a representative unless the customer selects the option to make a payment. During storm mode, the payment process is not supported by a representative. The customer must follow the prompts and complete their payment on their own or complete a payment online. As noted in RFI-LUMA-MI-2022-0003-20221118-PREB-F004, the option to make payments independently is a positive step forward for customer contact center functionality that was introduced during Hurricane Fiona to ensure the highest priority calls were managed efficiently.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F006

SUBJECT

Call Center - Call Centers utilized

REQUEST

What was the number of call centers utilized? Explain fully.

RESPONSE

During Hurricane Fiona all four of the LUMA contact centers were operational: the Centro International de Mercadeo in Guaynabo, Hormigueros, Isabela and Ponce. LUMA also activated an emergency contract with a third-party company, Activus Connect, that assisted with calls September 29, 2022 through October 24, 2022.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F007

SUBJECT

Call Center-High Volume

REQUEST

Were high volume vendors utilized? If so, to what extent?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-F006.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F008

SUBJECT

Call Center - Telephone number

REQUEST

Has a dedicated telephone number been established for emergency personnel to contact the call center?

RESPONSE

For calls that originate from emergency personnel such as police, fire, 911 dispatch, the system is designed to recognize the numbers and prioritizes the calls in front of all other calls in queue. With this prioritization to the front of the queue, there no need for a dedicated number provided to emergency personnel. In addition to the LUMA Contact Center communication channel, LUMA's use of an Interagency Coordinator staffed at PREMB Central EOC and at each of the ten Regional EOCs These LUMA personnel proved to be a direct and efficient channel throughout the Hurricane Fiona response. Through this channel, incidents were generated from 9-1-1 calls or another Interagency Coordinators, such as PRASA, collocated at the Regional EOCs. These incidents would be handed over to the LUMA Regional Interagency Coordinator for LUMA related incidents such as fallen poles, down wires, critical facility incidents, etc. Once this information was received, the LUMA Regional Interagency Coordinator, seated within the LEOC, sent an email to generate a ticket that would be assigned to a LUMA Regional Operation Command Center (ROCC) so that the appropriate crews could be dispatched to investigate and resolve the incident.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-F009

SUBJECT

Call Center - Functions Unavailable

REQUEST

Were any customer-oriented functions unavailable during the emergency event?

Explain fully.

RESPONSE

During an emergency, the contact center activates "storm mode" to allow for customers with emergency storm related calls to speak to an agent in the LUMA contact center and during this time, the only functions activated by phone are emergencies and outages. Other functions are deactivated in order to ensure that LUMA maintains service levels such as average speed of answer of no more than 10 minutes. LUMA was able to achieve this and maintained an average speed of answer throughout the emergency response of 1 minute and 49 seconds.

All customer-oriented functions remained available during Hurricane Fiona through a variety of channels. For functions that were unavailable by phone while the contact center was in storm mode, customers still had access to multiple channels to address their needs via LUMAPR.com, MiLUMA application and customer service centers.

During Hurricane Fiona, LUMA added a new customer-oriented function by developing and implementing the IVR payment function that was put in place to allow customers to process their payment through the IVR without the assistance of an agent. This functionality did not exist before the hurricane and the implementation represents a positive step forward for LUMA Contact Center service and efficiency.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-G001

SUBJECT

Staffing/Mutual Aid-Resources

REQUEST

Identify type of work performed and quantify corresponding LUMA resources that were employed during the event for damage assessment and restoration.

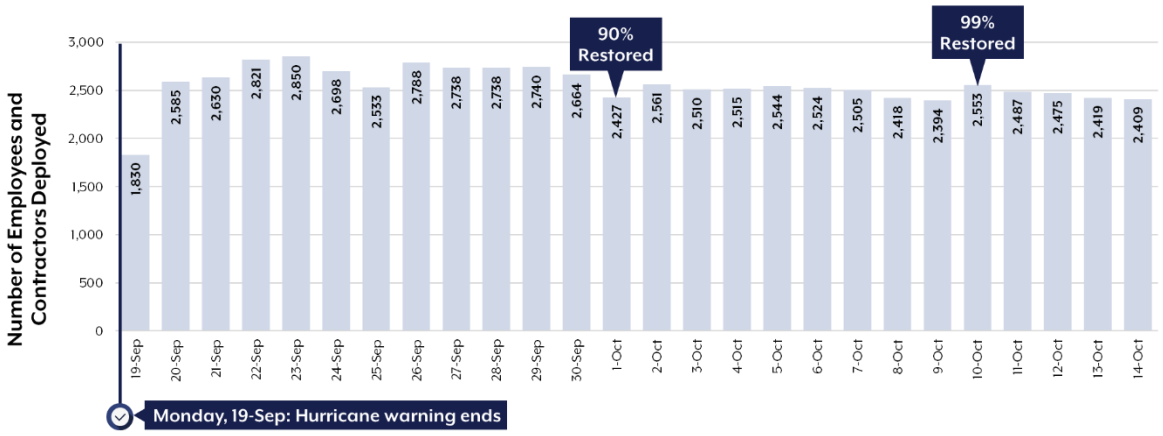
RESPONSE

The damage assessment and restoration work performed was principally divided between vegetation management activities, damage assessment activities, and system restoration activities. Vegetation management activities includes bushing and clearing near lines and structures and access points. Damage assessment activities include the patrolling and investigation of lines, substation, and associated equipment to document the materials and infrastructure that have been damaged. System restoration activities include the repair or replacement of materials and equipment damaged to restore electrical service to customers.

Throughout the emergency response, over 2,500 utility workers were deployed, including LUMA employees and contractors. All of LUMA's field crews were utilized during the event for damage assessment and restoration work. Approximately 85% of the utility workers were deployed directly for damage assessment and restoration work. The remainder of the resources were utilized within the Emergency Operations Center, Regional Operations Commander Centers, or in other administrative functions supporting planning and response efforts.

The number of employees and contractors deployed throughout the emergency response by day is reflected in the graph below.

RESPONSES TO NOVEMBER 18, 2022 REQUESTS



LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-G002

SUBJECT

Staffing/Mutual Aid-Performed

REQUEST

Identify type of work performed and quantify corresponding on-island and off-island contracted resources employed during the event for damage assessment and restoration.

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-G001 for the type of damage assessment and restoration work performed.

At maximum deployment, LUMA deployed approximately 440 vegetation management contractors, 125 damage assessment contractors, and 210 system restoration contractors supporting the damage assessment and restoration activities. These contractors are included in the total deployed utility workers provided in RFI-LUMA-MI-2022-0003-20221118-PREB-G001.

LUMA selects and retains contractors based on the needs of the event and for specific scopes of work. Many contractors utilize both on-island and off-island resources to support completion of their work as per their contracts with LUMA. LUMA does not require contractors to disclose employee home locations.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-G003

SUBJECT

Staffing/Mutual Aid-Number and Origin of Crews

REQUEST

Explain and quantify the numbers and origin of mutual aid crews utilized throughout the event?

RESPONSE

Prior to a forecasted event (when the event allows warning time), LUMA will complete a damage prediction to determine the requirements for on and off-island mutual aid/pre-negotiated contracts with other utility service providers. LUMA will activate the required resources and place them on standby until the damage assessment is completed.

For Hurricane Fiona, LUMA communicated to the Energy Bureau and P3A in the September 16, 2022 Emergency Event Report as of 1000 hours that mutual aid entities were notified. LUMA conducted daily calls with the mutual aid entities throughout the event. On September 24, 2022 LUMA deployed 11 incident command personnel from Pacific Gas and Electric Company (PG&E) to provide strategic response support for Hurricane Fiona.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-G004

SUBJECT

Staffing/Mutual Aid- Timing

REQUEST

What was the timing of requests and arrival of mutual aid crews?

RESPONSE

Please refer to response RFI-LUMA-MI-2022-0003-20221118-PREB-G003.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-H001

SUBJECT

Coordination - During Event

REQUEST

Describe coordination that occurred between LUMA and PREPA during the event.

RESPONSE

Coordination between LUMA and PREPA during Hurricane Fiona occurred at different levels based on the purpose, issue, and severity of the incident. The purpose of coordination could be as simple as sharing information to difficult analyses to support decision making.

Both LUMA and PREPA have an Interagency Coordinator assigned to the Puerto Rico Emergency Management Bureau (PREMB). The LUMA, PREPA, and DTOP Interagency Coordinators with DDEC/Emergency Management Function (ESF) 12 personnel sit together under the Infrastructure Branch, which include ESFs 1, 2, and 3. The coordination at this level entails raising concerns on outages of critical infrastructure that are brought up by other government agencies.

In the LEOC, the LUMA LNO sponsored the PREPA LNO. The PREPA LNO during the first days after Hurricane Fiona was present at the LEOC and coordinated with the LUMA Generation LNO, who also sits at the LEOC. Coordination continued throughout the response between the LUMA Generation LNO and PREPA LNO, as well as with generation plant operators (including AES and EcoEléctrica), and included face-to-face meetings, telephone calls and text, and preparation sessions for LUMA-PREPA joint press conferences. LUMA IC and/or LUMA Deputy IC with LUMA System Operations Section Chief met face-to-face and by phone with the PREPA CEO regularly, usually on a daily basis during the first two weeks of the response. These meetings often included the the Office of the Governor (Secretario auxilliar de la gobernacion para asuntos energeticos).

LUMA System Operations from the Energy Control Center was in regular and frequent communication with generators on operational matters.

Coordination between LUMA and PREPA also occurred during the event through instant messages, ESF12-COE and LUMA EOC LNO. The ESF 12-COE messaging group included representatives of LUMA, PREPA, ESF-12, and the Governor's Representative for Energy. The LUMA EOC LNO messaging group included LUMA, PREPA and ESF-12 to share both generation and transmission/distribution energy information with other government agencies such as: Department of Health, Department of Education,

Department of Housing, DTOP, PRASA, PRNG, DOE, DHS, Telecommunications Board, and Department of Public Safety (Fusion Center).

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-H002

SUBJECT

Coordination- EOC

REQUEST

Describe coordination between LUMA and PREPA with respect to the EOC of each entity.

RESPONSE

Please refer to response RFI-LUMA-MI-2022-0003-20221118-PREB-H001.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-H003

SUBJECT

Coordination - Decision Making

REQUEST

Describe decision making coordination between LUMA and PREPA during the event.

RESPONSE

During Hurricane Fiona, decisions between LUMA and PREPA were managed on multiple levels and issues were escalated when required. The decision making coordination between LUMA and PREPA largely mirrored the normal process utilized during blue sky conditions. At all levels, decisions were made in a collaborative manner. Examples of the types of decisions are outlined below.

- The decision impacting "real-time" conditions were coordinated directly from the Control Center operator to the Plant Operator as is normally done during blue sky conditions.
- Decisions regarding forecasted units outage or start-up coordination were done at the manager level and coordinated with PREPA through the plant managers. The communication process and decision making were done similarly to blue-sky conditions.
- Issues were escalated during daily meetings between the LUMA (Incident Commander and Director System Operations), PREPA (Executive Director) and the Office of the Governor (Secretario auxilliar de la gobernacion para asuntos energeticos).

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-I001

SUBJECT

Transmission and Distribution Unauthorized Work: During Event

REQUEST

Has LUMA determined the extent of T&D unauthorized work that took place during the event?

RESPONSE

Throughout the response to Hurricane Fiona, LUMA worked to address the concerns of each of Puerto Rico's municipalities and invited mayors and municipal personnel to collaborate with ongoing restoration efforts to attain the common goal of restoring electric power service safely to all Puerto Ricans. As part of this effort LUMA created a form of Memorandum of Understanding with municipalities to memorialize the work that a municipality can carry out in support of restoration efforts in their community. However, actions of several municipalities resulted in risks to the T&D System. Unauthorized, undocumented and potentially unsafe work delays the restoration of service to customers, as LUMA must take additional safety precautions and carry out additional line patrols.

LUMA continues to determine the extent of T&D unauthorized work that took place during Hurricane Fiona. LUMA is aware of several situations where individuals, contractors and municipalities were completing unauthorized work. LUMA currently has identified nine recorded incidents of unauthorized work on the system and is in the process of investigating these incidents and conducting the necessary repairs.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-I002

SUBJECT

Transmission and Distribution Unauthorized Work - Inspection

REQUEST

Has the T&D unauthorized work been inspected and corrected where necessary?

a. If not, fully explain why not

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-I001.

LUMA's Response to Hurricane Fiona

NEPR-MI-2022-0003

Response: RFI-LUMA-MI-2022-0003-20221118-PREB-I0003

SUBJECT

Transmission and Distribution Unauthorized Work-Inspection and prevention

REQUEST

What steps have been taken to prevent re-occurrence of T&D unauthorized work?

RESPONSE

Please refer to the response provided in RFI-LUMA-MI-2022-0003-20221118-PREB-I0001.