COMMONWEALTH OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
PUERTO RICO ENERGY BUREAU

IN RE: PUERTO RICO ELECTRIC POWER AUTHORITY'S EMERGENCY RESPONSE PLAN	**CASE NO.:** NEPR-MI-2019-0006 SUBJECT: Submission of Annexes to Emergency Response Plan

MOTION SUBMITING ANNEXES A, B AND C TO LUMA'S EMERGENCY RESPONSE PLAN

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

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

1. LUMA respectfully informs that due to an involuntary omission, the pdf of the Emergency Response Plan (ERP) that was filed on May 31, 2021 with this honorable Puerto Rico Energy Bureau, omitted Annex A (Major Outage Restoration), Annex B (Fire Response) and Annex C (Earthquake Response) to the ERP.

2. LUMA hereby submits Annexes A, B and C to the ERP. *See* Exhibit 1.

3. To protect personal identifying information of LUMA personnel, the signature and name of the LUMA officer that is identified in each of the Annexes (page 5 of Annex A, Annex B and Annex C), were redacted. LUMA hereby requests that the referenced signature and name be kept confidential in accordance with Section 6.15 of Act 57-2014 (providing, that: "[i]f any person who is required to submit information to the Energy Commission believes that the information to

[1] Register No. 439372.
[2] Register No. 439373.

be submitted has any confidentiality privilege, such person may request the Commission to treat such information as such . . . ", 22 LPRA §1054(n)), and pursuant to the Bureau's Policy on Confidential Information. *See* CEPR-MI-2016-0009, Section A, as amended by the Resolution of September 16, 2016, CEPR-MI-2016-0009. It is respectfully submitted that protecting the signature and name of the LUMA officer in a context that reveals details of his/her employment and duties, is in the public interest and aligned with Puerto Rico's legal framework on privacy which protect from disclosure the personal identifying information included in personnel files, *see e.g.*, Const. ELA, Art. II, Sections 8 and 10 which protect the right to control personal information and distinctive traits which applies ex proprio vigore and against private parties. *see also e.g. Vigoreaux v. Quiznos*, 173 DPR 254, 262 (2008); *Bonilla Medina*, 140 DPR at 310-11, *Torres Albertorio*, 115 DPR at 133-34. *See also* Act 122-2019, Article 4 (vi) (which provides, as exceptions to the rule on public disclosure, information whose disclosure could invade the privacy of third parties or affect their fundamental rights; Article 3(c) Act 122-2019 (stating that personnel files and similar information does not constitute public information subject to disclosure). Because the full substantive contents of the ERP has been filed publicly, it is respectfully submitted that redaction of the name and signature at page 5 of each of the annexes is proper and does not affect the public's ability to review the ERP nor interferes with processes before this Energy Bureau in connection with the ERP.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned, **accept and consider** Annex A (Major Outage Restoration), Annex B (Fire Response) and Annex C (Earthquake Response) to the ERP that are included as Exhibit 1 to this Motion and **keep** confidential the name and signature included at page 5 of each of the Annexes (Annexes A, B and C).

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 3rd day of June 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, kbolanos@diazvaz.law.

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Exhibit 1, Annexes A, B and C to LUMA's Emergency Response Plan

Exhibit 1, Annexes A, B and C to LUMA's Emergency Response Plan

Emergency Response Plan

Annex A
Major Outage Restoration

LUMA ENERGY, LLC

CRISIS MANAGEMENT OFFICE

MaZ 10, 2021

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Comments and requests for additional information should be directed to:

Crisis Management Office
LUMA Energy, LLC

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Approval and Implementation

LUMA Energy Emergency Response Plan

Annex A – Major Outage Restoration

[redacted]

May 23, 2021
Date

Director, Emergency Operational Response and Readiness

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I. Purpose

The purpose of LUMA's Major Outage Restoration Annex (the "Annex" or "Annex A") is to establish an operational and tactical comprehensive framework for responding to major outage restoration events. This Annex will assist the Emergency Operations Team to carry out the actions necessary to protect lives, maintain continuity of service, and protect property. It also provides the Puerto Rico Energy Bureau (PREB), the Puerto Rico Public Private Partnerships Authority (P3A), the Puerto Rico Emergency Management Bureau (PREMB), and other agencies the guidance for how LUMA responses and prioritizes electrical system outages with Community Lifeline overarching principles. This Annex helps ensure the safety of the public and employees and implements an effective restoration strategy that is consistent Companywide.

A. NIMS and the Incident Command System

LUMA has adopted the National Incident Management System (NIMS), a consistent, nationwide framework and approach that enables government at all levels (federal, state, local, tribal), the private sector and non-governmental organizations to work together to prepare for, respond to, and recover from the effects of incidents, regardless of cause, size, or complexity.

LUMA incorporates the use of Incident Command System (ICS) principles which provides a consistent, all hazards incident management methodology that allows LUMA's organization to integrate seamlessly into a nationally standardized response and recovery structure.

II. Scope

This Emergency Response Plan (ERP) Restoration Annex applies to emergency events caused by any hazard or threat that results in, or could result in, a major potential impact to the integrity of LUMA's Transmission and Distribution (T&D) system and/or a disruption of electrical service to LUMA customers. Additionally, the ERP applies to LUMA personnel and to any staff of LUMA Energy, affiliate company employees, contractors and mutual aid resources, or any other personnel working at the direction or under the authority of LUMA Energy.

For the purpose of this Annex, an Emergency Event is defined as a Level 3, 2, or 1 event. Non-emergency events are defined as Level 5 and 4 events. All five of these levels are described in the Event Classification and Emergency Operations Center (EOC) Activation Table, located in the LUMA ERP, Appendix B.

LUMA's Emergency Operational Boundaries (shown in Figure 1) are split geographically into the West Division and East Division. There are three Regions within each Division and twenty SERT Boundaries which are made up of 78 municipalities.

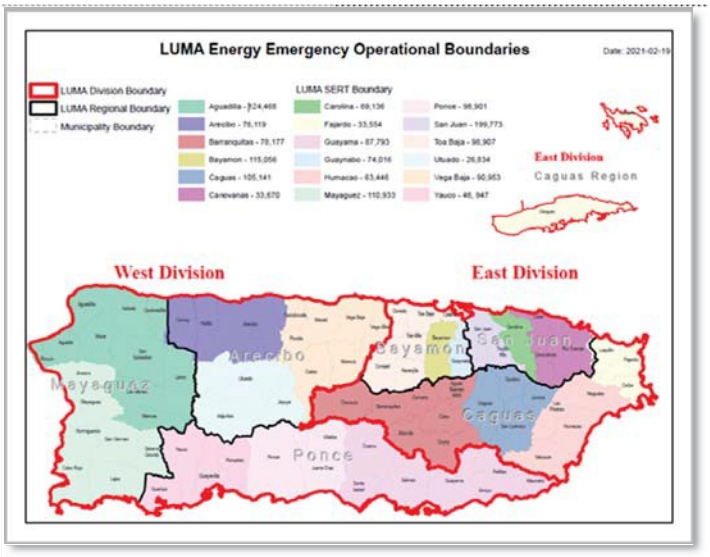


Figure 1: LUMA's Operational Boundaries

A. Guiding Principles

The guiding principles within this Annex are primary mechanisms to coordinate LUMAs preparedness, response and recovery actions when faced with any type of minor or major emergency event.

- LUMA will treat all customers, LUMA personnel and contract personnel with consideration and respect.
- LUMA will assess damage and relay information promptly. A high-level Company damage assessment will be provided within a reasonable timeline depending on the level of damage. Restoration estimates will be provided as each affected geographic area is assessed.
- LUMA follows all safety protocols creating the ability to respond to sites that pose a risk to public safety (such as downed energized conductors) with the highest priority.
- LUMA maintains environmental stewardship by complying with all environmental work practices and regulations.

III. Situation and Assumptions

A. Situation

Puerto Rico sits between the North Atlantic Ocean and the Caribbean Sea as the smallest and most eastern island of the Greater Antilles. Out of the five geographical regions that make up Puerto Rico, the northern region is the most populated and economically diverse, and is home to the capital, San Juan.

The effectiveness of this Annex is based on LUMA's commitment to prepare and implement procedures outlined within this Annex and the ERP – Base Plan. The development of an After-Action Report (AAR) will further enable ongoing improvement in LUMA's response and restoration processes. Execution of the appropriate responses to affect rapid and safe recovery is dependent upon the scalability of this Annex. The number of customers affected, and the magnitude of a major outage event vary, but the operational concept stays consistent. The level of recovery resources can be adjusted as needed.

LUMA will be taking an aggressive approach to harden the T&D electrical system across Puerto Rico, in order to withstand major weather events. Because of this, major hurricanes like Maria will be less impactful to the T&D system which supplies critical energy to LUMA customers. Due to the configuration of Puerto Rico's T&D grid to the location of the generation, LUMA will focus the hardening on key transmission lines to distribute energy to key load centers, critical system substation rebuilding will also be another area focus.

LUMA is committed to applying NME (Necessary Maintenance Expense) and FEMA funds to take the actions necessary to improve System Resilience through Storm Hardening, thus reducing the size and frequency of service interruptions even during Major Events. This involves a multi-faceted approach, including:

- Hardening key Transmission Lines that distribute energy to key load centers.

- Hardening the Feeder Backbone (alternatively referred to as the mainline or main gut, normally the three-phase part of the circuit that runs unfused from the substation to the normally open ties to other circuits or to the physical end of the circuit).
- Hardening Distribution Express Feeders that serve community lifelines:
  - Targeting High-Risk Vegetation (excessive overhang or trees near lines that appear susceptible to falling during a major event) for proactive "hot spotting".
  - Testing and Inspecting Poles and Structures and remediating identified risks.
  - Sectionalizing with strategic placement of reclosers (enhanced with directional finding capabilities) and addressing any unfused taps.
  - Strategically placing of Lightning Arrestors.
  - Performing physical inspections, identifying and categorizing deficiencies, and performing corrective maintenance on those deemed as requiring urgent or emergency action.
- Rebuilding of critical substations (particularly those susceptible to flooding), and
- Addressing the damaged or partially restored infrastructure caused by Hurricane Maria and recent seismic events.

This two-pronged approach will, over time, result in continued and sustainable improvement in restoration performance, while simultaneously reducing the number of customers experiencing outages during these major events.

B. Assumptions and Considerations

The ERP - Base Plan, Section III, identifies the overall assumptions and considerations. Identified within this Annex are in addition to, but not be limited to the following:

- Damaged sections of the electrical system may be de-energized and isolated, allowing service to be restored up to the point of damage, leaving the site safe until permanent repairs can be completed.
- Any delayed repairs are scheduled and completed in a timely manner.
- Assessments and the scheduling of needed repairs are conducted prior to discharging restoration crew resources.
- Mutual Aid Agreements or Memorandum of Agreements are maintained and activated when the scope of the incident will require additional resources beyond LUMA's capabilities.
- Facilitate coordinated response efforts and share information prior to and during the event to assist in establishing a common operating picture and efficient response.

IV. Organization

This section outlines the key functions of the various components and positions of the Storm Restoration organizational structure. An orderly and consistent flow of information between Operations, Communications, Logistics, and associated support organizations is necessary in times of emergency events. LUMA has nine (9) EOCs; one LEOC, two Division EOCs, and six Regional EOCs. Organizational charts indicating lines of authority and the interrelation between organizational groups are included are included in Appendix A.

A. LUMA Leadership

Prior to, and during major storm events, LUMA's senior leadership will maintain an on-going and open dialogue to discuss and share intelligence regarding an impending emergency event that may affect the electric system. This proactive dialogue ensures the most complete and timely "situational awareness" between leadership teams and provides a platform to facilitate discussions regarding the potential sharing of personnel resources and other support functions between entities.

This coordinated approach is also important to the overall restoration response from a communications perspective, as it provides the mechanism for consistent messaging to employees, customers, and other external stakeholders. With the threat of a major storm or other system emergency, LUMA's leadership team and the Crisis Management Office (CMO) will activate all applicable functional areas (i.e., Operations, Planning, Communications, Logistics, etc.) to discuss and strategize a response to an event.

B. Emergency Response Organization

Figure 2 provides an overview of LUMA's Emergency Response Organization (ERO) and General Staff structure utilized during restoration activities. LUMA's organizational structure during outage restoration can be found in Appendix A to Annex A. Please refer to LUMA's ERP – Base Plan for a list of roles and responsibilities.

C. Employee Staffing Roster

LUMA maintains an employee contact sheet for all roles detailed within the Incident Command System (ICS) Restoration Roles and Responsibilities in Table 1. LUMA will continue to update the list annually or when required, due to personnel changes and/or updates. The full supplemental contact sheet can be found within Attachment 2 upon request.

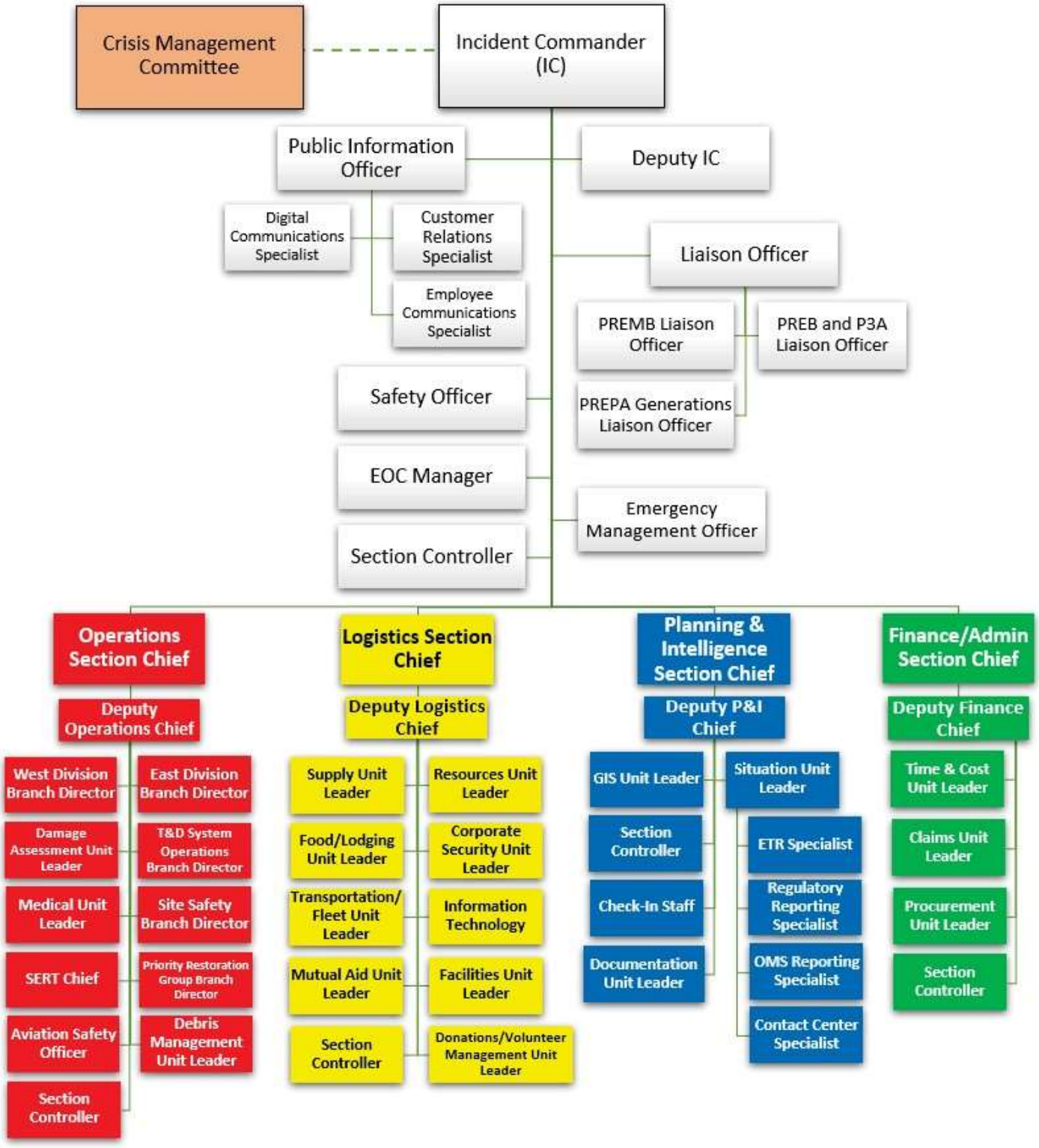


Figure 2: LUMA's Emergency Response Organization

V. Roles and Responsibilities

Table 1 details the key leadership roles during restoration operations and delineates significant corresponding function(s) that are coordinated in the respective areas

A. EOC Actions by Position

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
Incident Commander (IC)	1. Once notified of a pending emergency event, begin an Activity Log to document actions and decisions throughout the event. 2. Review all related policies, procedures, forms and templates used during an event to ensure accuracy. 3. Initiate activities for appropriate resource acquisition and internal mobilization. 4. Initiate Pre-Event notifications and reports to regulatory, municipal and elected officials, when applicable (for Event Levels 1-3).	1. Ensure public safety maintains highest priority during restoration efforts and oversee restoration activities at the LEOC including resource acquirement and release, and demobilization. 2. Review and approve the IAP for the next operational period and continually reassess restoration response and objectives to ensure it addresses event escalation issues. 3. Establish a communication process and protocol to transfer restoration information to customers, regulators, and employees in a timely manner. 4. Using the information obtained from the different functions, determine if you need to alter response objectives/priorities and communicate any changes to the IC organization.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.
Operations Section Chief (OSC)	1. Ensure the staffing rosters for the Operations Section positions are up to date and ready to be used. 2. Following activation of the Incident Management Team, activate the appropriate Operations Section personnel, as needed. 3. Verify with the Branch Directors that all Operations positions are sufficiently staffed and that arrangements are made for 24-hour coverage.	1. Obtain a preliminary assessment of the number of customers affected and assist in development of restoration plans. 2. Oversees the conversion of the IAP's strategic goals into executable tactical plans that implement LUMA's restoration priorities. 3. Monitors the overall effectiveness of the field restoration activities to accomplish the stated IAP goals. 4. Ensure the Planning and Logistics Sections are aware of the operational resource requirements and are requesting and obtaining the necessary additional resources. 5. Ensure adherence to the restoration priorities with all actions.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
West Division Branch Director	1. Ensure the staffing rosters for the Branch Director's staff positions are up to date and ready to be used for their respective EOC. 2. Brief their respective EOC and staff on the impending threat and level of response. 3. Initiate activities for appropriate resource acquisition and internal mobilization.	1. Notify the Operations Section Chief if additional operational resources are needed. 2. Ensure safety procedures and protocols are being followed. 3. Ensure crew movements are communicated with Planning and Logistics Sections. 4. Maintain an awareness of the number of customers affected. 5. Notify the Operations Section Chief when it is known the restoration crews are being ready to be demobilized and redeployed, if necessary. 6. Ensure adherence to the restoration priorities with all actions.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.
East Division Branch Director	1. Ensure the staffing rosters for the Branch Director's staff positions are up to date and ready to be used. 2. Brief the EOC and SERT staff on the impending threat and level of response. 3. Initiate activities for appropriate resource acquisition and internal mobilization.	1. Notify the Operations Section Chief if additional operational resources are needed. 2. Ensure safety procedures and protocols are being followed. 3. Ensure crew movements are communicated with Planning and Logistics Sections. 4. Maintain an awareness of the number of customers affected. 5. Notify the Operations Section Chief when it is known the restoration crews are being ready to be demobilized and redeployed, if necessary. 6. Ensure adherence to the restoration priorities with all actions.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
T&D System Operations Branch Director	1. Assess generation status. 2. Asses T&D System status. 3. Evaluate Black Start Procedures 4. Ensure all T&D redundant systems are in functional operating condition. 5. Prepare staffing plan, schedules, and briefing for control centers as dictated for the event classification and LEOC activation level. 6. Ensure equipment is set up for the T&D System Operations ICS organization.	1. Control what comes on or off the system from a Generation, substation and line perspective. 2. Direct all operational requests and requirements to field personnel. 3. Isolate the grid as necessary during system constraints or lack of capacity 4. Provide field resourcing needs to planning and intelligence teams. 5. Provide IC and LEOC awareness of overall system capacity loading, issues and priorities for the planning periods. 6. Provide restoration priorities from a system perspective to the OSC. 7. Provide ETRs as system conditions and status changes.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.
Operations Regional Commander	1. As directed, notify SERTs and other personnel of the impending threat and level of response required. 2. Prepare staffing plan and schedules for respective Regional EOC as dictated for the duration level in the response matrix and approved by the Director. 3. Ensures equipment is set up in respective Regional EOC and operational, shift schedules for all SERT resources are developed and the process is operating efficiently.	1. Manages the overall readiness and operation of the assigned SERTs, including coordination. 2. Responsible for ensuring that all communications and restoration processes are being implemented as consistent with the ERP. 3. Ensures equipment is set up and operational, shift schedules for all SERT resources are developed and the process is operating efficiently. 4. Ensure adherence to the restoration priorities with all actions.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
Priority Restoration Group (PRG) Branch Director	1. Schedule crews according to predetermined shifts. 2. Communicate with the OSC any staffing or restoration-related issues.	1. Disseminate dispatch instructions to crews. 2. Maintain communications with an assigned contact in the LEOC to address unique or emergency situations. 3. Conduct close-out of OMS tickets with crews to receive reports on the nature of the work completed regardless of manner of dispatch. 4. Conduct follow-up phone calls and/or emails when work is completed including notification to the Customer Experience Team as needed, Community Affairs, Regional and Municipal agencies. 5. Ensure adherence to the restoration priorities with all actions.	1. Participate in post-emergency reviews to identify lessons learned, as instructed. 2. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.
Area System Emergency Restoration Team (SERT) Chief	1. Ensure safety protocols and procedures are utilized. 2. Obtain briefing and assigned prioritized objectives from the Operations Regional Commander.	1. Ensure safety protocols and procedures are utilized. 2. Brief team on assigned incident objectives and communications expectations. 3. Communicate accomplishments, challenges, objective status and resourcing requirements. 4. Dispatch safety, damage assessment, priority restoration team and restoration crews. 5. Ensure adherence to the restoration priorities with all actions.	1. Ensure a proper demobilization of all restoration activities. 2. Initiate a post-emergency review to identify lessons learned. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event. 4. Ensure the development of an AAR when necessary and the implementation of resulting lessons learned.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
Planning and Intelligence Section Chief (PSC)	1. Participate in System-wide coordination conference calls and present any planning-related issues. 2. Organize, assign and brief your Planning team. 3. Aid the IC in determining the necessary amounts and types of resources needed for the anticipated event (make formal resource requests to the LSC once approved by the IC). 4. Communicate with the IC any staffing or planning-related issues.	1. Begin maintaining a detailed PSC activity log. 2. Manage and administer the overall effort of collecting, processing, and reporting emergency service restoration information for the event. 3. Compile, analyze and evaluate damage assessment and all other available trouble data to project an estimated number of resources, skills, and equipment required (and alter initial plans if required). 4. Make additional requests for crew resources, materials, and other needs through the LSC.	1. Ensure a proper demobilization of all planning restoration activities once notified. 2. Participate in post-emergency reviews to identify lessons learned, as instructed. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
Logistics Section Chief (LSC)	1. Ensure outreach to contractors, local vendors, and property owners on availability for resources. 2. Acquire outside resources including line, tree, damage assessment and support prior to a known event, as instructed by the IC and ensure the information is sent to the Regional Logistics Team(s). 3. Ensure stockrooms and equipment are adequately stocked to respond and prepare and pre-stage critical materials including storm kits when necessary. 4. Validate material stock levels against the damage predictive model and event classification 5. Establish contact with the Regional Logistics groups to ensure logistical processes and protocols are clear and there is no redundancy of efforts. Ensure responsibilities and hand-off of information for each group are understood and schedule periodic conference calls.	1. Receive and fulfill resource requests as received by the PSC (once approved by the IC) and ensure all responding resources have adequate lodging, meals, materials, and transportation, as needed. 2. Review current IAP for proposed tactics and track incident expansion/contraction due to restoration progress and changes in conditions. 3. Ensure that all personnel and equipment time records are complete and submitted to the Finance unit under the Administration Section at the end of each operational period.	1. Upon notification by the IC ensure a proper demobilization of the Logistics unit and all logistical-related activities. 2. Consider demobilization early enough during the incident that an adequate demobilization plan is in place prior to the need to release resources (review resource list to ensure accuracy and timely release). 3. Participate in post-emergency reviews to identify lessons learned, as instructed. 4. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
Finance/Admin Section Chief (FSC)	1. Participate in System-wide coordination conference calls and present any Admin/Finance-related issues. 2. Coordinate procurement card increases and purchase orders prior to a known event and ensure the release of financial policies and work order numbers for use. 3. Coordinate with the LEOC on any facility needs and ensure the delivery and setup of any special equipment or generators at the EOC's, as needed.	1. Ensure that all storm-assigned personnel available are mobilized, the Finance/Admin Section is staffed as appropriate. 2. Ensure that all personnel and equipment time records are complete and submitted to the Finance Section at the end of each operational period. 3. Oversee the receiving and coordination of all claims-related issues regarding the event. 4. Working closely with Logistics, oversee event costs and estimate the total cost of the event prior to completion of the restoration efforts.	1. When appropriate, ensure an orderly demobilization of the Admin/Finance Section and related activities. 2. Participate in post-emergency reviews to identify lessons learned, as instructed. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.
Public Information Officer (PIO)	1. As needed, oversee issuance of a Company statement concerning the activation of the LEOC and the necessity to release employees so that they can perform their emergency positions. 2. Oversee proactive communications.	1. Responsible for maintaining the unity of message before, during and after an emergency event to: employees, customers, and media outlets. 2. Responsible for overseeing the collection, development, and dissemination of employee, customer, and public messages and communications. 3. Coordinates with the EOCs to ensure consistent and accurate messaging for all emergency events. 4. Ensure all news releases are reviewed and approved by the IC. 5. Develop accurate and timely information for use during press/media briefings. 6. Develop daily messages and provide to the Planning Section Chief for inclusion in the IAP. 7. Monitor and forward media information that may be useful to the Planning Section.	1. When appropriate, ensure an orderly demobilization of the PIO support staff and related activities. 2. Participate in post-emergency reviews to identify lessons learned, as instructed. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.

Actions by Incident Command System Position			
Responsibility	**Pre-Event**	**During Event**	**Post-Event**
Liaison Officer (LNO)	1. Implement pre-event notifications to key stakeholders, including emergency planning officials, municipal officials, local government and non-government organizations, and others as required, in coordination with the PIO. 2. Disseminate information to the Liaison organization. 3. Ensure all required tools and technology are operating and available for use.	1. Notify and activate required Liaison support staff. 2. Ensure Liaisons are briefed on incident conditions and provide overall direction to regarding messaging for key stakeholders. 3. Inform the IC and General Staff of areas of concern and opportunities for coordination. 4. Deployment of LUMA liaison to serve in local municipal EOCs and ensure notifications are made to key stakeholders, including emergency management officials, municipal officials, local government and non-government organizations, and others as required, in coordination with the PIO.	1. When appropriate, ensure an orderly demobilization of the LNO support staff and related activities. 2. Participate in post-emergency reviews to identify lessons learned, as instructed. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.
Safety Officer (SOFR)	1. Ensure the staffing rosters for the Safety Officer's staff positions are up to date and ready to be used. 2. Participate in pre-event planning and operational conference calls and meetings. 3. Determine staffing needs based on the predicted or actual. 4. Event Classification Type or Event Level predictions. 5. Deploy Safety staff to various field locations as needed.	1. Provide regular reports and updates to IC. 2. Assign Safety staff as needed and ensure staffing level continues to be sufficient. 3. Ensure safety briefings are completed per the IAP for all personnel. 4. Notify IC about any safety related incidents. 5. Develop safety messages to be used during an event. 6. Facilitate Site Safety Inspections as appropriate. 7. Reiterate responsibility to all LUMA employees to stop unsafe acts if observed. 8. Ensure prompt investigation and documentation following a safety incident.	1. When appropriate, ensure an orderly demobilization of safety related activities. 2. Participate in post-emergency reviews to identify lessons learned, as instructed. 3. Ensure all documentation is submitted or stored appropriately and provide additional information as requested to aid in the development of the AAR for the event.

Table 1: EOC operations unit actions by role

VI. Restoration Strategy

A. Overview

The restoration strategy begins with the prioritized outages identified by the damage assessment teams and the outage management system (OMS). Restoration strategy takes into consideration outage information and identifies and compares that data to restoration protocols. System Emergency Restoration Teams (SERTs) must address emergency and life-threatening conditions such as public safety hazards or downed wires reported by first responders before any restorations begin.

Listed below and shown in Figure 3 is the prioritization of restoring power.

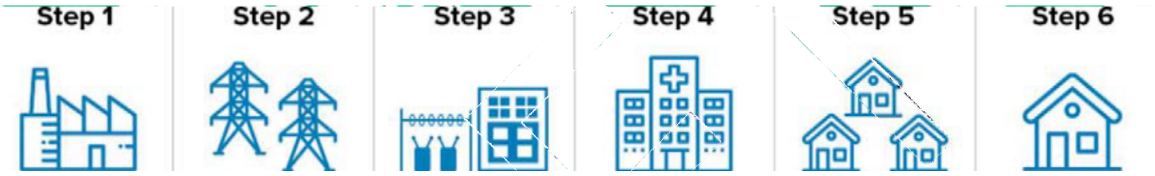


Figure 3: Prioritization of restoring power

1. Restore critical power assets – generation, micro grids and mini grids.
2. Repair key transmission lines – these lines transmit energy from generating stations to key substation.
3. Restore substations – energy can be distributed to the distribution network throughout communities.
4. Restore Community Lifelines – Hospitals, emergency shelters, water Systems, critical communication towers, ports, fire and police stations, and others (see Figure 4).
5. Restore large service areas – return service to the largest number of customers in the least amount of time. Services lines to neighborhoods, industries and businesses are restored systematically.
6. Restore individual homes.

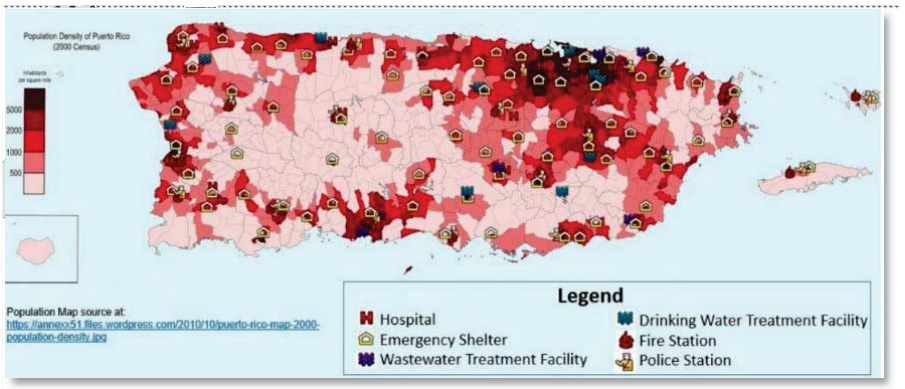


Figure 4: Map of Community Lifeline-related facilities

B. Mitigation Strategy

LUMA understands the importance of pre-planning, and its correlation to a timely and effective restoration response. LUMA undertakes a variety of initiatives to prepare its employees, infrastructure, emergency response partners, and the communities it serves. These initiatives include community awareness, training programs, employee training, drills, exercises, and system hardening projects. These pre-storm actions assist LUMA to respond to outages more effectively, while ensuring that customers, employees, and key stakeholder groups are better informed and prepared when disasters strike.

1. Community Outreach

LUMA's storm preparation initiatives focus on educating the community it serves on the importance of preparedness and safety. Public education is vital to an efficient and safe restoration effort, and LUMA will strive to inform its customers of what to expect before, during, and after large-scale events. Information is shared with the public through multimedia platforms such as LUMA's website, videos, social media, and its participation in community seminars, briefings, and exercises. LUMA believes that customer education is a year-round process.

2. First Responders

First Responders play an important role in an emergency or large-scale outage. These organizations will aid in responding to and protecting the public from unsafe conditions such as downed powerlines or vehicle collisions. LUMA will continue to build a partnership regarding preparedness and planning initiatives and support them when an event occurs.

3. Governmental Organizations

Governments are defined as including government officials, local, city, and state emergency management organizations. LUMA will continue to strengthen relationships with these critical stakeholders through information sharing and collaboration throughout the year.

Members of LUMA's Crisis Management Committee will participate in PREMB and local municipality training programs centered on emergency planning and response protocols (i.e., ICS, NIMS, Homeland Security Exercise and Evaluation Program (HSEEP), etc.) throughout the year. These collaborative initiatives expand upon planning efforts and further promote information sharing between participating organizations.

LUMA will practice their emergency preparedness and response plan through tabletop exercises and other relevant events. Companywide exercises center on planning and response activities during a large-scale restoration event and promotes open communication and collaboration between all affected and participating entities.

This alignment helps to ensure a clear and coordinated response when an emergency occurs and promotes dialogue and continuous improvement between organizations.

VII. Concept of Operations

In the event of a major outage, LUMA will respond and rapidly assess the impacts to the Transmission & Distribution (T&D) infrastructure, and take the necessary actions to mitigate cascading effects from a long-term power outage and restore service, minimizing the impact to the citizens of Puerto Rico. To ensure response integration, the Puerto Rico Emergency Management Bureau's (PREMB) Incident Levels and LUMA's Event Classification Types are utilized and located in the LUMA ERP – Base Plan.

A. Restoration Operations

Restoration Operations conducted in response to an event impacting LUMA's electric system will be the responsibility of the Dispatch and Field Operations Section within the LUMA Emergency Operations Center (LEOC). The directives from the LEOC will follow the LUMA Restoration Strategy identified in Section VI.

Approach

During emergencies, the Operations Section is responsible for safely and efficiently assessing the damage to the T&D infrastructure and restoring electric service. To accomplish this strategy, the East and West Division EOCs will report to the Operations Section Chief within in the LEOC.

The Incident Command System (ICS) is flexible depending on the level of decentralization for the event. Under the direction of the East or West Division Director the field teams will respond to the event as efficiently as possible.

- The System Emergency Restoration Teams (SERTs) are responsible for general restoration, vegetation clearing (tree removal) and repairs to the system.
- The Site Safety Branch is responsible for facilitating the response to downed wires (make safe or guard the site from the public) and other immediate Health, Safety and Environment situations.
- Priority Restoration Group (PRG) is responsible for the priority restoration for critical facilities. The PRG will operate in a centralized or decentralized environment as required.
- The Damage Assessment Teams are responsible for conducting and reporting on damage assessments.
- The Dispatch Center will support all emergency response and restoration requests for field teams and EOCs.

The transition from response operations to restoration operations will be considered the point in time when 1) field personnel are able to be dispatched without unacceptable safety risks from continued dangerous conditions (where

adverse weather conditions are applicable) and 2) when the potential additional damage to the electric system would be low in proportion to the expected level of damage already sustained. The start of the restoration period may be different for specific, local areas where the effect of an emergency limits access to facilities (e.g., severe flooding).

In any emergency, three vital pieces of information must be gathered to enable an effective restoration:

- Number of electric customers out of service.
- Amount of damage to the T&D Electric System.
- Manpower available (along with timing of availability) to repair damage.

Following an outage and activation of the ERP, restoration of electrical services is conducted following four basic steps:

- Make Safe
  - When in a damage state LUMA's T&D infrastructure presents an extreme risk to the public, Safety Teams will rapidly response to protect and correct any identified situation.
- Damage Assessment (Rapid Survey and Detailed Assessment)
  - Damage predictions assist with estimations of time needed to assess and complete restorations.
- Prioritization of restoration
  - SERT priorities are identified and sorted by highest customer count. PRG priorities continue to be sorted by municipality identified Level 2 Critical Facilities (CF2) and Level 3 Critical Facilities (CF3) priorities within the Restoration Priority Matrix.
- Execution of tactical restoration operations
  - LUMA's continually supports the "Safety Always" objective, specific tactical objectives include fire/public-safety priority assistance, timely restoration, and providing useful, timely and accurate information to all stakeholders.
  - To facilitate expedient restoration and to maximize the optimal use of workforce by focusing on making immediate, temporary repairs to restore power and postponing time-consuming permanent repairs until after the ERP activation is concluded and power has been restored.

A variety of factors and circumstances are considered when assigning work and may include, but are not limited to, the following:

- The type and availability of necessary resources to complete the repair.
- The proximity of available resources.
- The specific needs of the response.

- The type and/or number of customers affected by the repair, and the time necessary to complete each specific restoration.

2. Mobilization of Personnel

When an impending threat is known with reasonable certainty, precautionary deployment of personnel can facilitate a rapid response. The most critical component is the ability to be flexible in order to expand and retract to optimum levels as the threat becomes more certain. An anticipated and planned for impending major outage requires an appropriate mobilization of personnel to respond to and recover from an emergency event in an efficient and timely manner.

The Incident Commander has overall responsibility for notifying the Command Staff, which includes the Safety Officer, the Liaison Officer, and the PIO in the activation of the LEOC. The Incident Commander may activate other roles as necessary to serve the response based on incident developments and the Event Classification. These determinations affect the level of mobilization of personnel based on the estimated impact of the emergency event.

Upon notification, the Command and General Staff subsequently notify and mobilize the personnel from their respective sections and direct them to initiate their emergency restoration callouts.

In accordance with the LUMA Performance Metrics for the Mobilization of Personnel, Table 2 identifies LUMA's mobilization timeline.

Mobilization of Personnel	
Time After Damage Prediction	**Percentage of Crews Deployed**
Within 24 hours	50%
Within 48 hours	80%

Table 2: Mobilization of personnel

a) LUMA Resources

The Operations Section Chief makes notification to the T&D Operations Branch Director. The T&D Operations Branch Director has responsibility for making notifications to the T&D Operations Branch staff in their respective geographic region or SERT boundary.

Operational Managers are responsible for notifications to, and mobilization of, division personnel required for operational emergency response, proportionate with the size, scale, and complexity of the emergency. Subsequently, these elements notify and mobilize personnel from their respective branches, regions, and SERT teams, and direct them to initiate their emergency restoration activation protocol. Requested resources will report to their designated staging area(s) or dispatched response locations. Various crews may include:

- Troubleman Triage (One-Person Crews)
- Troubleman Overhead Line Crews (Two Men Crews)
- Troubleman Underground Crews (Two Men Crews)
- Powerline Construction Crew
- Damage Assessment Teams
- Wire Watcher Teams

b) *On-Island Contingency Contract Crews*

The activation and assignment of crews is a vital part of the restoration process. LUMA may activate contingency contract manpower, or contracts that have been pre-negotiated in accordance with LUMA and FEMA procurement policy. These contract crews support the restoration of the T&D System by increasing the capacity of the organization which is dependent on the severity of the emergency event and may include any of the following:

- Troubleman Triage (One-Person Crews)
- Troubleman Overhead Line Crews (Two Men Crews)
- Troubleman Underground Crews (Two Men Crews)
- Underground Splicing Crews
- Powerline Construction Crew
- Tree Crews
- Damage Assessment Teams
- Wire Watcher Teams
- Substation Workers/Techs
- Telecom Workers
- Transmission Line Workers
- Equipment Operators

The T&D Electric Operations West and East Divisions are routinely engaged, on a continual basis, in the type of work necessary to restore electric service. Traditional lines of communication exist between these divisions that facilitate the coordination of the day-to-day contractor work forces in all conditions of readiness to the degree necessary.

c) *Mutual Aid and Off-island Support*

Mutual aid assistance is an essential part of the electric power industry's service restoration process and contingency planning on the island of Puerto Rico where utility qualified resources are limited. As an operating utility in Puerto Rico, LUMA will be an active member in mutual aid agreements and have contingency contracts in place which will enable LUMA to access mainland utility resources more efficiently.

LUMA also has the support of Quanta Services where they have staged pieces of heavy utility equipment on the island. When requested, Quanta will fly in skilled resources from the mainland that will be deployed to

respond with the on-island fleet. This combination of personnel and equipment will greatly decrease LUMA's restoration time.

d) National Guard Assistance

The National Guard Support Program provides for power restoration support from National Guard personnel when a catastrophic event occurs, and the customary sources of supplemental personnel, such as mutual assistance, contractors, or internal staff cannot provide adequate personnel to address needs. In order for the National Guard to be available for deployment, the Governor of the Puerto Rico must declare a "State of Emergency." As warranted and available, the Incident Commander may initiate actions to secure additional support available through the National Guard.

The National Guard is frequently called on to conduct disaster response and domestic emergency missions. These missions are a specific subset of the National Guard Civil Support (NGCS) mission area. Puerto Rico National Guard forces can provide surge logistics, transportation, communication assistance, and general-purpose capability to areas identified by the Puerto Rico Emergency Management Bureau to supplement LUMA emergency response expediting power restoration during the initial response to an incident. If National Guard Domestic Operations (NGDO) resources are deemed necessary, the following is a summary of roles that they could fulfill:

1. Public Safety
   a) Wire guarding for down wires
   b) Flagging for traffic control
2. Logistics Support
   a) Points of Distribution – including transportation and distribution of ice, or water to teams
   b) Fueling – delivery of fuel to vehicles and equipment engaged in power restoration work
   c) Lighting – delivery and operation of portable light towers to support restoration crews (they can operate, transport, and refuel any light towers provided to them by the company, Mutual Assistance Crews, contractors, or equipment rental companies)
3. Emergency Transportation
   a) Short-haul transport of cargo or materials from staging areas to point-of-repair locations
   b) High-axle transport of Damage Assessment Teams or Restoration Crews
   c) Aerial assessments (only as "lift of opportunity," when combined with an existing National Guard mission); should National Guard assets be utilized for aerial

patrols, National Guard pilots will be required to attend LUMA's training to ensure compliance with internal safety requirements

4. Heavy Equipment
   a) Supply dozers and backhoes for clearing right of ways of debris, building road access to powerlines in remote area
   b) Specialize equipment to access mountainous areas
5. Security
   a) Provide temporary security for job sites, critical substations and laydown yard
6. Communications Support
   b) Provide assistance with temporary communications in critical areas to assist with high priority restoration operations

Damage Assessment

A Damage Assessment (DA) is a key component of the restoration operations. The damage assessment 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 Regional SERT and provide their report to the Regional Commander. The order of evaluation is based on the restoration priority list.

Post-event, the T&D System Control Center will monitor and develop an initial system status report. This report is used to compare the current level of electric demand on the system to the forecasted demand.

The DA report is disseminated to the Operations Section in the LEOC where resources and equipment requirements to make the repairs and restore service are identified. Additional information on specific Damage Assessment protocols is in development.

a) Major Outage Event (MOE) Preliminary DA

LUMA will begin a preliminary DA of the affected area(s) and/or T&D facilities when it is safe to do so. The preliminary DA will be completed within a "reasonable time" at the beginning of the Operation Response phase. Reasonable times are identified in Table 3 and are in accordance with the MOE Performance Metric. The preliminary damage assessment will be performed primarily by the helicopter patrol with targeted land patrols when additional information is needed.

Preliminary DA Reasonable Time	
Event Categorization	**Response Time**
3 to 5 days	36 hours
5 to 10 days	72 hours
> 10 days	120 hours

Table 3: Reasonable time for preliminary damage assessments

Restoration

LUMA will utilize processes safely and efficiently to repair damage and restore electrical service. These restoration protocols are designed to restore power to the largest number of customers, in the shortest amount of time, and in the safest way possible.

Field damage assessments and repairs may commence when:

- Field personnel can be deployed without unacceptable safety risks from continued dangerous conditions.
- The potential of additional damage to the electric system is low.

a) Prioritization

Outages are prioritized by considerations of safety conditions, type and amount of damages to the system, critical community lifelines, customer type, and the number of affected customers. LUMA will focus restoration efforts to restore service to critical facilities, such as hospitals, police departments, fire departments, and other public health and safety facilities on a priority basis, as warranted. LUMA must make prudent decisions that have the greatest gain for the overall T&D System stability and the greatest benefit for all customers.

Priority restoration cannot be guaranteed, therefore, LUMA will implement specific communication outreach programs to critical facilities, municipal governments, and key account customers to alert them to properly prepare for potential prolonged power outages, and to provide information and updates on LUMA's preparation and restoration activities.

LUMA must address emergency and life-threatening conditions (public safety hazards, downed wires reported by emergency responders) before restoration efforts can commence.

b) Situational Assessment

LUMA will complete a high-level system assessment through the System Operations Center's Supervisory Control and Data Acquisition (SCADA), Outage Management System (OMS) and reported outages from LUMA

customers. When an Event Classification Type has been determined, personnel will be assigned per the LUMA incident command structure.

All activities will be assigned, assessments will be documented, repairs will be performed, and service will be restored in accordance with the following set of general priorities:

- Eliminate Unsafe Conditions: the elimination of hazards to the public and takes precedence during emergencies. Safety Crew personnel are activated and required to:
  - Respond to reports of downed wires.
  - Cut, clear, and/or repair the primary and secondary hazards.
  - Clear wires so that service may be restored up to the location of the break.
  - Prioritize response to emergency calls based on the severity of risk for areas.
  - Additionally, at the initial stages of the restoration process, LUMA may be directly assigned to municipalities to “make safe” downed wires to remove trees and other debris from major roadways.
- Transmission Circuits and Substations: restoration is prioritized by the T&D System Operations Branch Director.
  - Determines the need for the bulk electrical system.
  - Damage assessment and repair of transmission lines and key substations.
  - Request personnel to support restoration of transmission service to substations.
  - Bulk distribution feeder circuits, not directly affecting substations, are assigned a priority, depending on the importance of the circuit and the effect of its loss on the bulk electrical system.
- Substation repairs are directed by the East or West Division Branch Director of the affected area in consultation with the T&D System Operations Branch Director.
- Primary Distribution Circuits and key feeder portions of ‘locked-out’ 3-Phase primary distribution circuits are restored by either cutting faulted sections clear or by opening sectionalizing devices (i.e. switches). Damages are repaired, restoring all 3-Phase primary distribution circuits.
- Secondary Distribution Lines and Services Areas where there is only damage to secondary distribution lines and services are restored simultaneously. Repair crews perform a final assessment of damage in the area and repair any additional damage found.
- Permanent Repairs - after all electric service has been restored, permanent repairs are made to any remaining temporary field

conditions. During restoration of service, if practical, permanent repairs are made to avoid hazardous conditions and eliminate duplication of effort.

B. LUMA Event Classification Type

All potential events, natural, man-made, and technological, with the potential to affect LUMA Operations are assigned a classification by the Incident Commander or designee. The IC is responsible for analyzing the severity and complexity of the incident, with the collaboration and input of the Command and General Staff.

This analysis will assist in identifying resource requirements and positions needed for an EOC activation at all levels of the ERO. This analysis typically begins in the pre-event stage and continues every operational period throughout the service restoration stage for restoration events.

It is during this analysis that the IC determines the Event Classification Type. These classification types are directly tied to the establishment of EOC activation levels. As such, an event classification of Type 1 will also result in the establishment of an EOC Activation Level 1.

The IC may also deem it necessary to escalate or de-escalate the Event Classification Type and EOC Activation Level depending on changes in circumstances or where actual conditions differ from expected conditions. The Event Classification Type will depend upon the analysis of the expected severity and complexity of an event and drawn from the consideration of numerous factors.

Five (5) event types have been established. Types Five (5) and Four (4) are considered Non-Emergency Events and are restoration events managed as normal operations and/or an isolated event that does not necessitate the activation of the EOC unless escalation occurs.

Types One (1), Two (2), and Three (3) are Emergency Events with Type Three (3) being the less severe and Type One (1) representing catastrophic emergency conditions. LUMA's Emergency Event Types (1-5) are described in detail in Tables 4-8.

Type		Anticipated LUMA Operating Conditions
Type 1 – Catastrophic Emergency	Viewpoint	A Type 1 event is a catastrophic event, historically resulting in significant damage to the electrical transmission and distribution system. Type 1 events are rare but are usually forecast in advance of the event. This event calls for the full implementation of ICS and all employees are assigned shifts and are scheduled in relation to their role in the ERP. All Branch Division and Regional Emergency Operations Centers (EOCs) are activated. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event and demobilization activities post event. Communication protocols are activated and discussion with local and Government of Puerto Rico officials occurs prior to impact and through the restoration stage.
	Characteristics	• The damage severity impacts the entire system such that restoration activities may require ten (10) days or more once it is safe to begin restoration activities • Typically, > 50% (>700,000) customer interruptions at peak • Typically, > 50,000 Outage Event at Peak • This type of event is anticipated to occur between 1 and 4 times in a ten-year period
	Response Organization	• System-wide Incident Command structure is activated • All Command and General Staff positions are activated • All EOCs are operational • Additional restoration support functions will be established at a Branch and/or Regional EOC level as directed by the PSC and OSC and approved by the IC • Remote Restoration Management Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • Liaisons are activated • Staging Areas may be required to support external crews and resources
	Resource Activation	• This response requires outside assistance from contractors and/or mutual assistance from other utilities outside of the region • System Emergency Restoration Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • LUMA will likely require a large increase in various staffing positions and teams • Additional restoration support functions will be staffed
	Communication / Coordination	• Federal resource coordination will likely be required • A written Incident Action Plan (IAP) is required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Municipalities, Elected Officials, and Regulators is performed • Restoration Phase Reporting is required • An After-Action Review is required • Post event meetings with the most severely affected communities will be held

Table 4: Type 1 – Catastrophic Event

Type		Anticipated LUMA Energy Operating Conditions
Type 2 – Emergency Conditions Event	Viewpoint	A Type 2 event is 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 territory. Type 2 events are usually forecast in advance. This is a full implementation of ICS and most employees are assigned shifts and scheduled related to their role in ERP. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event, and demobilization activities post event. All impacted Branch, Division, and Regional Emergency Operations Centers (EOCs) are activated. Communication protocols are activated and extended discussions with local and Government of Puerto Rico officials occurs prior to impact and through the restoration stage.
	Characteristics	• The damage severity within a specific region or spread across the system is such that restoration activities are generally accomplished within a 7-day period once it is safe to begin restoration activities • Typically, 25% to 50% (350,000 to 700,000) customer interruptions at peak • Typically, >25,000 Outage Events at Peak • This type of event is anticipated to occur between 2 and 4 times in a five-year period
	Response Organization	• The system-wide Incident Command structure is activated • All Command and General Staff positions are activated • All EOCs are operational • Additional restoration support functions will be established at a Branch and Divisional EOC level as directed by the Planning and Operations Section Chiefs and approved by the Incident Commander • System Emergency Restoration Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • Community Liaisons are activated to EOCs to serve communities as directed by the Liaison Officer and approved by the Incident Commander • Staging Areas may be required to support external crews and resources
	Resource Activation	• This response requires outside assistance from contractors and/or mutual assistance from other utilities outside of the region • LUMA Energy will likely require a large increase in various staffing positions and teams • Additional restoration support functions will be staffed
	Communication / Coordination	• Federal resource coordination will likely be required • A written IAP is required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Municipalities, Elected Officials, and Regulators is performed • Restoration Phase Reporting is required • An After-Action Review is required • Post event meetings with the most severely affected communities may be held

Table 5: Type 2 – Emergency Conditions Event

Type		Anticipated LUMA Energy Operating Conditions
Type 3 – High Alert Event (Moderate Regional Event)	Viewpoint	A Type 3 event represents the greatest range of uncertainty due to the severity of event being forecasted (Tropical Depression/Storm) but with low to medium confidence levels for the degree of impact and geographical area that is threatened. This type of event historically resulted in significant damage to district(s) or moderate damage to region(s). The approach is to prepare for multiple regions to potentially be impacted by activating the ICS structure and the opening of one or more EOCs. Employees will be assigned shifts and scheduled according to the threat, then moved to the areas with less impact to areas that received greater damage. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event and demobilization activities post event. Communication protocols are activated and extended discussions with local and state officials occurs prior to impact and through the restoration stage.
	Event Characteristics	• The damage severity within a specific district or region(s) is such that restoration activities are generally accomplished within a 48-72-hour period • Typically, 10% to 25% (70,000 to 350,000) customer interruptions at peak • Typically, >10,000 Outage Events at peak • This type of event generally occurs between 1 and 5 times per year
	Response Organization	• The Incident Command structure is activated at the System EOC level down to the local level • One or more of the EOCs may be activated to match the complexity of the event • Additional restoration support functions such as Decentralized Dispatching, Downed Wires and Damage Assessment may be established at a branch and/or divisional EOC as directed by the Planning and/or Operations Section Chiefs and approved by the Incident Commander • Community Liaisons are activated to operational EOCs as directed by Liaison Officer and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • Staging Areas may be required in an area if it has been severely impacted and requires a concentrated number of crews and resources
	Resource Activation	• This response may require outside assistance from contractors and/or mutual assistance from other utilities outside of the region • LUMA Energy may require a large increase in various staffing positions and teams • Additional restoration support functions may be staffed
	Communication/ Coordination	• A written IAP may be required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Life Support Customers, Municipalities, Elected Officials, and Regulators is conducted as necessary • Restoration Phase Reporting is required

Table 6: Type 3 – High Alert Event

Type		Anticipated LUMA Energy Operating Conditions
Type 4 – Non-Emergency Restoration Event (Heightened Alert)	Viewpoint	Type 4 events include (but are not limited to): system events that impact one or more district. Type 4 events may be due to thunderstorms, high winds, frequent and/or severe lightning, small to moderate winter storms or unanticipated events. Typically, these events are managed by System Operations with assistance from Field Operations. Control and management of the event typically remains centralized but may decentralize to one or more Emergency Operations Centers depending on the damage. The Incident Command Staff is notified, and specific sections may be activated depending on the impact of the event.
	Event Characteristics	• The damage severity within a specific district is such that restoration activities are generally accomplished within a 12-24-hour period • The incident is usually limited to one or two operational periods in the Event Restoration phase • Typically, 1 to 5% (14,000 to 70,000) customer interruptions at peak • Typically, >7,000 Outage Events at peak • This type of event generally occurs less than 5 to 10 times per year
	Response Organization	• Incident Command Structure may be activated • Command and General Staff positions activated as needed • One or more EOCs may be operational depending on the geographical threat and complexity • Community Liaisons may be staffed at the activated EOCs as directed by the Liaison Officer and approved by the Incident Commander
	Resource Activation	• Internal restoration resources normally available • Restoration is generally accomplished with local assets possibly with assistance from other regional distribution line assets • Typically, 2-50 personnel may be deployed to EOCs that have been activated at the discretion of the Planning and/or Operations Section Chiefs and approved by the Incident Commander to perform other functions
	Communication / Coordination	• No written IAP is required • The operations and maintenance department may have briefings or regional conference calls to ensure the complexity of the event is fully communicated to management and that response staff receive the appropriate level of support required for the event

Type		Anticipated LUMA Energy Operating Conditions
Type 5 – Normal Operations	Viewpoint	Type 5 events represent normal operations and are managed by the System Operations Dispatch Organization which is staffed 24/7/365. For small outages, system Operations will dispatch designated trouble resources to repair the outage. If upon arrival it is determined that additional resources are needed, a supervisor is assigned and will secure additional line crews from the Field Operations organization.
	Event Characteristics	• System activity is normal • Incidents are contained within the first operational period and last for less than 12 hours after resources arrive on scene • Typically, <1 % (14,000) customer interruptions at peak • Typically, <2,500 Outage Events at peak • Normal daily internal crew assignments
	Response Organization	• Incident Command Structure is not activated • Emergency Operations Centers are not activated
	Resource Activation	• Outage response is coordinated with local on-call personnel
	Communication/ Coordination	• No written IAP is required

Table 8: Type 5 – Normal Operations

TABLE NOTES

- Type 1, 2 and 3 events are “Emergency Events”. Types 4 and 5 are restoration events managed as normal operations unless escalation occurs.
- Expected percent of customers without service is based on the peak during the event period.
- “Outage Events” equates to outage events tracked and entered in the OMS. Some reported damage to the electrical infrastructure that requires repair may not cause an outage but may need to be addressed such as a low wire, tree limb on conductor or damaged equipment.
- For all Event Classification Types, evaluation and estimations of needed crews and resources are a result of several factors, including but not limited to:
    - The anticipated circumstances of the emergency condition(s).
    - The anticipated geographic impact of the emergency condition(s).
    - The level of availability of external or mutual aid resources.
    - Travel distance or other logistical considerations that increase or diminish the ability of external or mutual aid resources to assist effectively in the restoration effort.

C. Restoration Priority Matrix Guidelines

LUMA will strive to restore power to all customers in the safest timely manner possible. In support, LUMA Operations will utilize a Restoration Priority Matrix during both normal and emergency operations, which provides for the most efficient approach in restoring electrical outages.

All outages are prioritized using a variety of factors including, but not limited to the following.

- critical community lifelines
- customer type
- number of affected customers
- outages involving safety conditions

1. Downed Wires

The safety of the public is a primary concern of LUMA, and elimination of hazards takes precedence. The objectives of LUMA's Downed Wire Protocols include heightened tracking of downed wire incidents, accurate reporting of the response time to downed wire locations, and full documentation of the actions taken.

Response requires trained and qualified personnel to investigate reports of downed wires and conduct repairs. Incidents are created within the OMS system with one of the following conditions identified:

- downed wires - pole-to-pole or downed wires - pole-to-building
- downed wires and burning
- sparking wires

Response to downed wires for performing the initial investigation and for clearing the hazard is under the direction of the Operations Section. The Planning & Intelligence (P&I) Section will assist Operations with the prioritization and identification of teams for assignment.

Dispatchers will determine the appropriate resources to be assigned to both evaluate and guard downed wires or make the incident safe and will work with the Logistics Section regarding those resources.

When assigning and responding to downed wire reports, the LUMA Downed Wires Priority and Severity levels are utilized as a guideline (Tables 9 and 10). Non-outage emergency jobs during restoration activations include downed wires, burning/sparking wires, pole damage, and miscellaneous emergency calls.

Priority Level	Description of Downed Wires
1	Downed wire reports, where it is indicated that the wire is burning, arcing/sparking, or an immediate hazard, or energized primary or secondary downed wires in heavy pedestrian areas such as communities, schools, etc.
2	Non-service downed wire incidents where fire departments, police departments, or other municipal agencies are standing-by on the downed wire location or has been reported by municipal officials.
3*	Report of electric downed wire from an emergency organization: • Reported to be affecting traffic flow on a major public highway • Reported to be blocking/near a pedestrian walkway or driveway • Reported to be primary conductor • Reported to be secondary conductor
4	Report of electric downed wire from other sources: • Primary conductor is indicated • Secondary conductor is indicated
5	Report of downed wire where type of wire is not indicated, and it appears the wire is not likely an electric conductor.
* Priority 3 includes reports from members of the 911 call center, police, fire, EOC personnel, and emergency managers.	

Table 9: Priority levels of downed wires

Damage assessment and/or repair personnel are then dispatched from the region or district area, through OMS, to assess and/or safeguard downed wire incidents, in priority order. Upon arrival at the location of a downed wire report, and initial assessment of the situation, the severity will be determined. If necessary, the responder will either:

- Make the situation safe, so that wire is not a risk to the general public in the area.
- Standby the location, until relieved, or until the situation is made safe by a qualified crew.

Notification of a downed wire by a 911 agency that involves a hazard, such as a fire or situation where individuals are trapped by a downed wire, will result in the immediate dispatch of an Overhead Line Crew to the incident.

Remaining downed wire reports are then assigned to damage assessment and/or repair personnel, according to the downed wire priority, as referenced below (highest to lowest).

Damage assessment and/or repair personnel that are specifically dispatched to safeguard downed wire situations will respond to the location of the downed wire. After assessing the situation, the severity is determined based on the following guidelines (highest to lowest).

Severity Level	Description of Downed Wires
1	Downed wire conductor that *poses a high risk to public safety*, due to its location on a road or pedestrian-accessible area. These situations will require damage assessment and/or repair personnel to remain on-site and guard the wire until they can be relieved by a Wire Watcher or after a qualified employee or contractor has made the wire safe.
2	Downed wire is a *primary conductor* but is not on a main road or other easily accessible location. These situations will also require damage assessment and/or repair personnel to remain on-site until relieved by a Wire Watcher or the conductor can be verified deenergized by a qualified employee or contractor. Once the wire is known to be de-energized, the damage assessment and/or repair personnel will barricade or tape the area and then can move on to their next location.
3	Downed wire is a *secondary conductor*. Damage assessment and/or repair personnel will attempt to notify nearby customers and will barricade/tape off the area to clearly distinguish the hazardous area. If the wire is either open wire secondary or triplex service cable that has an exposed end (wire is broken), damage assessment and/or repair personnel will remain on-site until relieved by a Wire Watcher or a qualified employee or contractor has verified that the wire is not energized.
4	Downed wire is *not an electric conductor* and is *not in contact with an electrical conductor*, but is instead phone, cable, or other communications property. If the situation is safe, damage assessment and/or repair personnel will inform their coordinator of this and move on to the next order. Their coordinator may then provide this information to the appropriate company or liaison for communication to the responsible company.

Table 10: Severity of downed wires

Once the joint reporting and response process is established, LUMA will respond to all reported downed wires and take appropriate action within a reasonable time in accordance with the Performance Metrics, (per the event categorization, see Table 11) while working in conjunction with local authorities after a Major Outage Event.

Downed Wires Reasonable Time	
Event Categorization	**Response Time**
3 to 5 days	18 hours
5 to 10 days	36 hours
> 10 days	60 hours

Table 11: Reasonable time for response to downed wires

2. Road Closure Priorities

LUMA recognizes the importance of clearing emergency evacuation routes and main thoroughfares and understands the key role they play in helping to make areas safe to

clear by de-energizing and/or removing downed electrical wires that may be blocking roads or entangled in downed trees or roadway debris.

Once it is safe to commence the restoration process, LUMA will often deploy trained personnel comprised of trained high voltage line workers that have the proper skill sets to cut clear, and/or de-energize/ground downed wires. By completing this process transportation corridors become safely passible.

Where possible, a restoration crew will make the location safe. If required, a wire guard representative will be dispatched to the location to await SERTs. Restoration priorities are identified within the Restoration Priority Matrix, Table 12.

Priority Level	Description of Road Closures
1	Local and State roads and emergency service roads.
2	County roads and critical municipal identified locations.
3	Report of electric downed wire from an emergency organization: • Reported to be affecting traffic flow • Reported to be blocking/near a pedestrian walkway or driveway
4	Report of road closure from other sources where a downed wire may be the cause or ancillary to the primary cause of the road closure.
5	Report of road closure where the type of wire is not indicated, and it appears the wire is not likely an electric conductor.

Table 12: Road closures

3. Critical Facilities

Critical facilities identified as a Level 1 facility provide services that are critical to the health and safety of the public and are tied to at least one of the five critical community lifelines.

LUMA, also places additional emphasis on critical community lifeline facilities and other vital service locations. Critical facility customers, first responder organizations, and other vital sites, such as hospitals, evacuation centers, and water treatment plants are assigned the highest level of importance (as shown in Table 13).

Critical Facility Levels	
Critical Facility Level 1	These facilities provide services *critical* to public health and safety **(Critical Community Lifelines**): 1) Hospitals and Emergency Medical Facilities 2) Emergency Shelters and Cooling Centers and Rescue Facilities 3) Emergency Operations Centers (LUMA and Municipal) 4) Water pumping stations and Wastewater treatment plants 5) Fire, Police, Paramedics 6) Critical Utility and Communications Facilities 7) Fuel Transfer and Fuel Loading Facilities (ports) 8) Mass Transit (tunnels, electric drawbridges, ferry terminals, major rail facilities/rectifier stations) 9) Airports 10) Military Bases 11) Critical Flood Control Structures
Critical Facility Level 2	These facilities provide significant public services and may include some of the same type of facilities described in Level 1 depending on the event type, but are considered to some extent less critical by government agencies: 1) Nursing Homes and Dialysis Centers 2) Facilities to support other critical government functions 3) Prisons and Correctional Facilities 4) Communications (radio, TV, etc.)
Critical Facility Level 3	These facilities provide some public services and may include some of the same type of facilities described in Level 2 depending on the event type but are considered to some extent less critical by government agencies: 1) Event Specific Concerns 2) High-Rise Residential Buildings 3) Customers providing key products and services (food warehouse) 4) Managed Accounts, Large Employers, and Other Key Customers 5) Other Government Buildings, Schools, and Colleges

4. Emergency Event Conditions

The Restoration Priority Matrix and Critical Facility Level protocols are consistent in both normal and emergency operations. If the event damage is so severe that all available resources are expended or damaged, LUMA's restoration efforts will focus on the major prioritization objectives listed below until additional operational crews and other mutual aid arrives:

1) Responding with appropriate resources to address emergency and life-threatening conditions.
2) Clearing of downed wires to facilitate prompt clearing of public safety hazards and opening critical transportation corridors.
3) Restoration of LUMA's Transmission Lines and Substation Facilities.
    a. Focusing on restoring crucial Transmission Lines that allows strategic dispatch of energy from key generation assets to load centers.
    b. Emphasis is placed on restoration of service to a LUMA's Transmission Lines feeding substations experiencing a "loss of supply".
4) Restoration of feeder breaker lockouts to restore large numbers of customers.
5) Restoration to Critical Community Lifelines.
    a. Service will be restored to critical facilities as quickly as possible. These circuits and locations are placed at the top of the restoration priority.
6) Communications with Customers and Stakeholders.
    a. It is vital that early and accurate communication of system conditions be made known, and that continuous updating occurs as storm restoration activities continue.
7) Minimum Restoration Time.
    a. Plans will be formulated to complete restoration efforts on all interrupted customers, following a severe storm, as quickly as possible. Restoration efforts will be prioritized in the following manner:
        i. larger area outages
        ii. smaller area outages
        iii. individual house service

5. Make Safe Protocols

LUMA recognizes the importance of clearing emergency evacuation routes and main thoroughfares after a major weather event or other emergency events that may affect transportation corridors. LUMA understands the significant role they play in assisting to provide safe areas by de-energizing and/or removing downed electrical wires that may be blocking roads or entangled in downed trees or roadway debris.

During large-scale weather events, the number of internal resources that are trained and readily available is limited, and the demand could greatly exceed those available. LUMA will anticipate the need for additional personnel to ensure "make safe" actions are taken and acknowledges that, depending on the impact of the emergency event, it

may be necessary to contract for additional qualified resources or reassign other available internal resources to support these activities.

VIII. Estimated Time of Restoration Guidelines

Providing accurate Estimated Time of Restoration (ETRs) is a top priority of LUMA's overall restoration process. LUMA aims to better serve its customers, municipal officials, and emergency support organizations by providing professional ETR administration and timely communication of essential information.

The timing, magnitude, and impact of an event factors into the ETR times, therefore LUMA will establish a baseline of projections to assist when determining operational goals and timelines. An ETR provides an estimate of when service will be restored to a customer, location, and/or work assignment based on the conditions seen on site, in conjunction with supporting historical data. Specific priorities and tactical objectives are guided by the application of available resources weighed against the foregoing priorities to optimize the overall response.

ETRs are a predictor of outage lengths which assist with determining the operational resources and actions required. Due to every event's unique nature, subjective analysis as well as experience during similar events are required to estimate resource, material and equipment requirements based on weather or other known hazard conditions.

ETRs are segregated into three types: Global, Regional, and Local. These classification levels allow LUMA to provide its customers with more accurate restoration estimates, based on the current and anticipated conditions as well as the corresponding restoration efforts. The classifications are naturally interconnected and follow a top-down input methodology based on anticipated operational actions, results, and damage assessments. The ETR information will ultimately become more precise as additional data and information is obtained, on a local level, and as restoration efforts progress.

- 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 or a customer level basis.

Figure 4 provides a high-level overview of the typical ETR process during restoration efforts and includes a summary of targeted efforts and information availability during various stages of restoration.

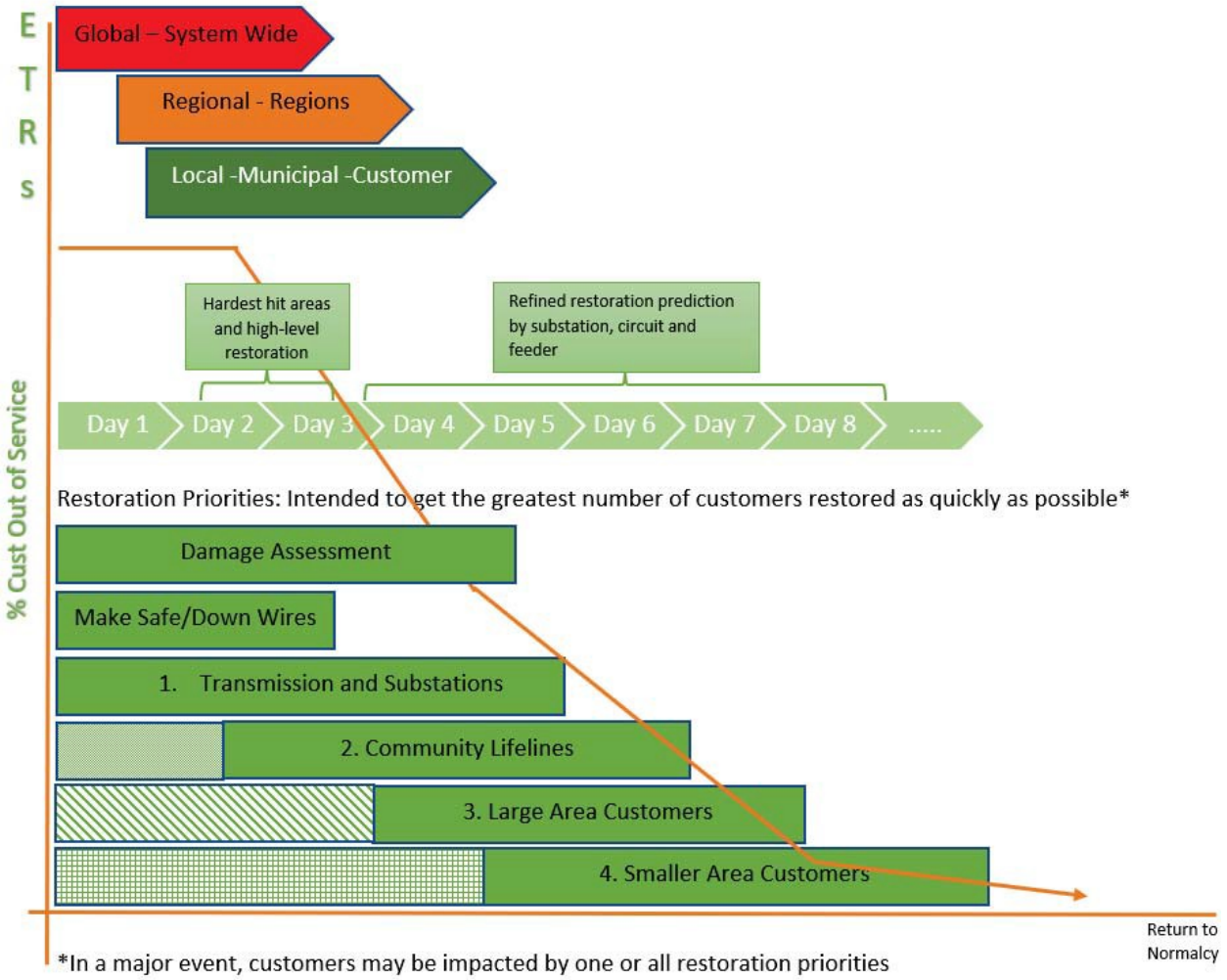


Figure 4: ETRs defined

The protocols are considered minimum requirements necessary to ensure all customers are adequately informed. During restoration, LUMA will continuously refine ETRs and update customer representatives, Interactive Voice Response (IVR) systems, and web sites in a timely manner as the situation changes. LUMA shall provide restoration information (customer outage counts, ETRs, etc.) to media outlets and public officials in affected areas during major outage events. Additionally, LUMA will issue at least one press release daily for all major outage events with an expected restoration period longer than 48 hours. Any additional information available now should be included in this notification even though notification may be required prior to the start of restoration. For widespread events, company-wide outage statistics should also be provided as part of the initial notification.

Estimated Time of Restoration	
Time After Damage Prediction	**Percentage of Service Restoration**
24 hours	90%
All ETRs should be updated every 24 hours	

Table 14: Estimated time of restoration for 90% of service outages

During an emergency event, the ability to reach a representative for non-outage or non-emergency requests may be suspended temporarily, and the automated system may be available for account information. ETR information is readily available and disseminated to LUMA, stakeholders, and associated employees through multimedia platforms and the Interactive Voice Response (IVR). Internal personnel updates on ETRs will be made through the LUMA Dispatch Team. The anticipated actions related to the assessment and identification of ETRs are detailed in Tables 15 and 16.

Type 3 Events expected to last 48 hours or less:

Within the first 6 hours of the restoration period
• Notify regulatory authorities of expectation that the event will last less than 48 hours. The notification to regulatory authorities will state what LUMA has defined as the start of the restoration period. For events expected to last less than 24 hours, notification may be via IVR. • Provide available information to the public via customer representatives, IVR systems, and web sites. • In certain situations (e.g., nighttime event), only limited information may be available within the initial six-hour window. In these situations, the expectation is that the companies will inform Staff 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 less than 48 hours (or less) 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.
Within the first 12 hours of the restoration period
• Provide regulatory authorities with a global ETR and any available regional ETRs. • Prepare a statement for the press that includes known ETRs for the next upcoming news cycle and communicate with affected municipal and governmental officials (may or may not be by way of a municipal conference call).
Within the first 18 hours of the restoration period
• Establish ETRs for each locality affected and make them available to the public via customer representatives, IVR systems, and web sites.
Within the first 24 hours of the restoration period
• Consider issuing a press release for the upcoming news cycle based on conditions.
Reporting requirements during the event
• Provide restoration information updates four times daily to regulatory authorities (7AM, 11 AM, 3 PM and 7 PM). Updates should continue until otherwise directed by Staff. • Notify regulatory authorities when all storm related interruptions have been restored.

Table 15: Restoration activities for events 48 hours or less

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). Notification shall be made to regulatory authorities and will state what the Company 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 event), 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.
Within the first 12 hours of the restoration period
• Prepare a press release for issuance in time for the next upcoming news cycle and communicate with affected municipal and governmental officials (may or may not be by way of a municipal conferencecall).
Within the first 18 hours of the restoration period
• Schedule municipal conference call(s), unless an alternative municipal contact method is more appropriate. The first scheduled municipal conference call itself does not necessarily have to fall within the first 18 hours but shall be within the first 36 hours.
Within the first 24 hours of the restoration period
• Notify regulatory authorities of what areas sustained the most damage to the electric system and ETRs, where known, on a general geographic basis. • Issue a press release(s) for upcoming news cycles with the information described in previous bullet.
Within the first 36 hours of the restoration period
• For storms with expected restoration periods five days or less, provide regulatory authorities a global ETR. • Establish regional/county ETRs for areas expected to be restored in five days, even if the total restoration period is expected to be over five days. • Identify any heavily damaged areas where large numbers of customers are expected to remain without service for more than five days. • The utilities must have completed the first scheduled municipal conference call. • Make ETR information available to the public via customer representatives, IVR systems, and web sites.

Within the first 48 hours of the restoration period
• For storms with expected restoration periods five days or less, provide regulatory authorities with ETRs by municipality. • Provide regulatory authorities with a global ETR (when outages are expected to less than five days, this is required within 36 hours). • Provide regional/county ETRs for heavily damaged areas where large numbers of customers are expected to remain without service for five or more days.
Beyond the first 48 hours of the restoration period
• For storms with expected restoration periods more than five days provide, estimated restoration times for each locality affected and make the information available via customer representatives, IVR systems, and web sites.
Reporting requirements during the event
• Provide restoration information updates four times daily to regulatory authorities (7AM, 11 AM, 3PM, and 7 PM), which shall continue until otherwise directed by Staff.

Table 16: Restoration activities for events greater than 48 hours

IX. Direction, Control, and Coordination

Whenever possible, emergency response procedures will parallel normal operational procedures to minimize the need for specialized training or work practices. This Annex provides the framework for the systematic response of resources when emergencies arise and defines a set of processes and protocols for determining the appropriate level of response during major emergencies for:

- Restoration of electric service.
- Emergency response progress notification of applicable government agencies, customers, public, and employees.
- Response to official requests for specific incidents, events, or actions.
- Response to natural or man-made events that involve LUMA's facilities.

For additional information related to direction, control, and coordination, refer to the ERP – Base Plan, Section VIII.

X. Communications

LUMA will strive to provide timely, accurate and consistent communications prior to and during an incident, as details become available. Emergency communications may include alerts and warnings from the National Weather Service, or other verified emergency notifications of events that may affect electric service. Communications may include information regarding evacuation, curfews, other actions for protective measures, LUMA response and restoration status, available assistance, and other matters that impact LUMA's response and recovery.

The Public Information Officer (PIO), through the LUMA Emergency Operations Center (LEOC), will communicate necessary and critical information. LUMA will communicate information through a variety of methods including:

- LUMA's website and Customer Outage Map
- Media Outlets
- Social Media (i.e. Twitter, Facebook, WhatsApp, etc.)
- Situational Reports to Local, Municipal and Government of Puerto Rico agencies
- Incorporation of Amateur Radio Operators (as needed)
- Joint Information Center (JIC)

A. Public Service Announcements (PSA)

When the PIO or other designee issues emergency PSAs for the purpose of updating customers, the general public, media, local elected officials, local municipal officials and employees, the Incident Commander (IC) must approve the final draft prior to its dissemination.

Public statements may include the following confirmed information:

- Number of customers affected
- Affected regions

- Numbers of crews
- Estimated time of restoration (ETR)
- Cause of the outage/event
- Warnings regarding hazardous conditions and public safety information
- Description of emergency response actions already taken
- Customer Service phone numbers for customers to report outages or damage, a Company website link to report outages and access restoration information, and links to relevant social media platforms

PSAs are distributed to the following stakeholders:

- Customer Service Team
- Employees
- Media outlets
- Elected Officials
- Local Municipal Officials
- Regulatory and State Governmental Agencies

B. Media Communications

Prior to and during an emergency event, a Public Information Officer (PIO) media team member will be available to media outlets for information regarding company activities in addition to regularly scheduled PSAs. In larger, more extensive emergencies, it may be desirable to schedule news media briefings and have an appointed spokesperson available for press conferences.

The PIO team is responsible for communicating with a full range of broadcast, news, and online and print media outlets ensuring timely and clear communication of all vital messaging. The PIO team formulates press releases and coordinates appropriate interviews, and provides periodic status updates, throughout an event and afterward.

In addition, the team maintains focus on storm related threats, including flooding, and shares all available safety and restoration information, recommendations for preparing for flooding or evacuation, safety precautions, and suggested steps to arrange for reenergization (if a home or area has been de-energized due to flooding or other conditions).

The goals are to:

- Provide accurate, timely information to the media, customers, local elected officials, local municipal officials and employees.
- Demonstrate preparedness by proactive and diligent communication.

C. Digital Communications

Prior to a known event, the PIO digital communications team member, will review and update the Company's website content. During the event, the designated member will

ensure that PSAs are posted on the website and that content is current. The website to be used is TBD at this time.

The Outage Map displays outage and restoration information in both geographically and in tabular format and will be provided by region or town including customers served and customers impacted on the tabular side.

Geographically, customers will also see outage information and an estimated outage location which a customer can view to access an estimated time of restoration (ETR) range. For example: ETR 5:15 PM to 7:15 PM.

D. Employee Communications

Internal communications are prepared and distributed before, during, and after an event, by the PIO team, through multimedia platforms, to ensure that all employees have the knowledge of the damages and impacts of the event. Information and updates, expectations for their support, the nature, scope, and status of LUMA's restoration response will be included. Messages include information consistent with that released to the general public, including safety tips regarding specific types of dangers so employees may prepare their families, for possible demanding assignments and extended shifts that come with a severe storm or other emergency.

Daily and overnight message notifications and postings are examples of typical communications and will be sent by the PIO employee communications team. All information released will be approved by the PIO and the IC.

Topics can include:

- Weather updates
- Safety information
- Company preparations and activities
- Restoration status
- PSAs
- Customer feedback
- Link to event photos and videography
- Links to outage center
- Important employee information

E. Regulatory Officials

The PIO will prepare information for the Puerto Rico Energy Bureau (PREB) and the Puerto Rico Public Private Partnerships Authority Liaison Officer (P3LNO) who is responsible for maintaining contact with appropriate regulatory officials. Contacts are initiated at the earliest time feasible. The P3LNO will communicate with regulatory and elected officials prior to and during an emergency event using email, conference calls, and individual phone calls or other means, as necessary.

The East and West Division Branch Directors are responsible to liaise with emergency management agencies during non-emergencies and prior to a known major emergency. Once a predicted emergency event is forecasted, the Regulatory Reporting Specialist will prepare and submit Pre-Event Stage Reports, Event Stage Reports, and Post-event Stage Reports, as required by the MOE Performance Metric, and submit to the appropriate agencies as required until outages occur. For additional information on reporting, refer to the ERP – Base Plan, Section X.A. Government of Puerto Rico and Federal Emergency Management Agency (FEMA) officials will provide contact information for contacting the LNO during an MOE.

F. Municipal Officials

During events where the Division EOC is activated, the Customer Experience Team will provide staffing in the Division EOC to facilitate communications between the LEOC and municipal officials prior to an event and during the restoration effort.

Supporting municipalities severely affected by emergency events aides in prioritizing the restoration of electric facilities and may improve access to company facilities by attaining municipal support services.

A dedicated line of communication will be established in each Division EOC for responding to local municipal inquiries. The Division EOC staff shall prepare and maintain a list of cities, towns, and key contact information.

Each electric distribution division, during an emergency event, shall provide periodic reports to municipal officials including, emergency managers or their designees, that contain detailed information related to emergency conditions and restoration performance for each affected city and town.

The content and format of these periodic reports (Pre-Event Stage Reports and Service Restoration Stage Reports) as required by the PREB and P3A regulatory agencies can be found in Appendix D to the ERP-Base Plan.

The following communications are carried out by the Division EOCs to satisfy the regulatory reporting requirements:

- Scheduled conference calls with municipal officials, including emergency managers.
- Community Liaison communications (telephonic, electronic and/or in person) with municipal officials, including emergency managers.
- Communicate with key account customers. (See Table 2)
- Provision of emergency conditions and restoration information, including but not limited to:
    - outage and restoration information.
    - priority wires-down locations.
    - critical facilities impacted by the emergency event, through a community website portal that may be accessed by municipal emergency managers.

XI. Demobilization

Demobilization is the orderly, safe, and efficient return of an incident resource to its original location and/or status. The Incident Commander is responsible to initiate the De-escalation/De-mobilization process. Demobilization planning for de-escalation/de-mobilization is an on-going process that begins as soon as the response begins to facilitate accountability and ensure efficient resource management.

Tracking resource requirements and releasing those resources that are no longer required to support the response is essential for accountability and managing control. This assists in reducing the misplacement of resources, reduces operating costs and ensuring resources are available for other activities and assignments as needed.

The Planning Section Chief will develop demobilization plans and ensure they are implemented as instructed by the IC.

The ERO may be fully demobilized when:

- All storm-related jobs are assigned.
- Centralized Dispatch is managing event.
- All non-regional crews are released.

XII. Annex Development and Maintenance

This Annex is a living document. Development and maintenance to this Annex will be in conjunction with the LUMA ERP. Proposed changes should be sent to the CMO for approval and inclusion.

Please reference the LUMA ERP – Base Plan, Section XII, Plan Development and Maintenance for additional information.

Attachment 1 – Explanation of Terms

Acronyms

CF	Critical Facilities
CLAL	Claims Unit Leader
CMO	Crisis Management Office
CSL	Corporate Security Unit Leader
DA	Damage Assessment
DOCL	Documentation Unit Leader
DSOC	Distribution System Control Center
DVML	Donations/Volunteer Management Unit Leader
EOC	Emergency Operations Center
ERO	Emergency Response Organization
ERP	Emergency Response Plan
ETR	Estimated Time of Restoration
FAQ	Frequently Asked Questions
FEMA	Federal Emergency Management Agency
FLUL	Food/Lodging Unit Leader
FSC	Finance Section Chief
FUL	Facilities Unit Leader
HAZUS	Hazards U.S.
HES	Hurricane Evacuation Study
HSEEP	Homeland Security Exercise and Evaluation Program
HVX	Hurrevac
IAP	Incident Action Plan
IC	Incident Commander
ICC	Incident Command Center
ICS	Incident Command System
IMT	Incident Management Team
IT	Information Technology Unit Leader
IVR	Interactive Voice Response

JIC	Joint Information Center
LRS	Lifeline Residential Service
LSC	Logistics Section Chief
MAA	Mutual Aid Unit Leader
MMS	Materials Management System
MOU	Memorandum of Understanding
NHC	National Hurricane Center
NIMS	National Incident Management System
NWS	National Weather Service
OMS	Outage Management System
P&I	Planning and Intelligence
P3A	Puerto Rico Public Private Partnerships Authority
PIO	Public Information Officer
PREB	Puerto Rico Energy Bureau
PREMB	Puerto Rico Emergency Management Bureau
PRG	Priority Restoration Group
PROC	Procurement Unit Leader
PSA	Public Service Announcement
PSC	Planning and Intelligence Section Chief
QPF	Quantitative Precipitation Forecast
RC	Road Closure
RESL	Resources Unit Leader
RSR	Restoration Status Report
SCADA	Supervisory Control and Data Acquisition
SERT	System Emergency Restoration Team
SITL	Situation Unit Leader
SMS	Short Message Service
SOG	Standard Operating Guide
SUL	Supply Unit Leader
T&D	Transmission & Distribution
TCUL	Time & Cost Unit Leader

TRUL	Transportation/Fleet Unit Leader
TSOC	Chief Transmission System Control Operator
WFO	Weather Forecast Office
WPC	Weather Prediction Center

Terms

Assumptions – Operationally relevant parameters expected and used as a context, basis, or requirement for the development of response and recovery plans, processes, and procedures.

Critical Facilities – Critical facilities identified as a Level 1,2, or 3 facility provide services that are critical to the health and safety of the public and are tied to at least one of the five critical community lifelines. Examples include hospitals, fire/police stations, restoration staging areas, and communications facilities.

Damage Assessment (DA) – A mechanism utilized to determine the magnitude of damage and impact of disasters.

Demobilization – The ongoing process of disengaging response resources as incident objectives are met and returning them to their normal function.

Disaster – An occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries and exceeds the response capability of the local jurisdiction and requires Government of Puerto Rico, and potentially Federal, involvement.

Emergency – Any event, whether natural or manmade, that requires responsive action to protect life, property, and/ or operational capacity.

Emergency Event – An event where widespread outages or Service Interruptions have occurred in the service area of the Company due to storms or other causes beyond the control of the company. An Emergency Event is an event classified at a Type I, II, or III event as described in this ERP.

Emergency Operations Center (EOC) – The physical locations at which coordination of information and resources to support incident management activities occurs.

Emergency Response Organization (ERO) – A structured organization with overall identified responsibilities for initial and ongoing emergency response and mitigation.

Emergency Response Plan (ERP) – A comprehensive plan that provides the concept of operations for response to emergency situations and other extraordinary events consistently and effectively.

Geographic Information Systems (GIS) – A framework that is used to map the distribution system with land base information.

Hurrevac (HVX) - National Hurricane Program's hurricane decision support tool used to assist in decision-making and responding to tropical cyclone threats and evacuations.

Joint Information Center (JIC) – A central point of contact for new media and interest parties to coordinate incident information activities.

Key Account Customers – Large industrial customers who may have their own electrical system that LUMA supplies power to.

Incident Action Plan (IAP) – Includes the overall incident objectives and strategies established by the Incident Commander. The Planning Section is responsible for developing and documenting the IAP.

Incident Commander (IC) – The individual appointed by the Company's executive management to have overall responsibility for LUMA's response during an Emergency Event.

Incident Command System (ICS) - Coordinated and collaborative incident management construct specifically designed and made a part of the National Incident Management System ("NIMS") under the Federal Emergency Management Agency ("FEMA").

Outage Management System (OMS) – System used to identify customer outages, assign trouble crews, and record outage event statistics.

Priority 1 Downed Wires: **Life Threatening/Imminent Danger** – An event in which utility equipment is preventing emergency response from performing rescue efforts and/or administering first-aid treatment to a person or persons who maybe injured or in danger of being injured.

Priority 2 Downed Wires: Hindering Emergency Operation – An event in which utility equipment is preventing emergency response personnel from responding to a situation which is not considered life threatening yet requires the attention of emergency response personnel.

Priority 3 Downed Wires: Non-Threatening Electrical Hazard – An event in which utility equipment creates the need for emergency response personnel and/or apparatus to remain on the scene in order to protect the public from the hazard created by the utility's equipment.

Supervisory Control and Data Acquisition (SCADA) – Electronic monitoring equipment that reports the status of distribution equipment.

Service Interruption – The loss of service to one or more customers connected to the electric distribution system.

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

SMART Objectives – The establishment of all objectives should be created using the Specific, Measurable w/Measurement, Achievable, Relevant, Time-Oriented.

System Level ERO – Multi-regional Emergency Response Organization

Attachment 2 – Employee Staffing Roster

[Redacted]

Attachment 3 – Event Classification Types and LEOC Activation Levels

LEOC Activation	Characteristics	LUMA Event Classification	Restoration Defined
Level 5 – Normal Operations	**Normal Day to Day Operations**	**Type 5 – *Non-emergency event**	***Non-Emergency Restoration Event –*** • **Response and Restoration efforts last for less than 12 hours**
Level 4 – Heightened Alert	• No worker injuries • No or low media interest • Corporate reputation not impacted • Spills and releases confined to site/lease • Public / employee health & safety not threatened • Pre-storm preparation activities also occur	Type 4 – *Non-emergency event (LUMA resources and localized Mutual Aid as needed)	*Non-Emergency Restoration Event –* • Response and Restoration efforts last for approx. 12-24-hour period • Locally assigned crews and contractors respond to any isolated incidents
Level 3 – High Alert	After an event occurs, at least 3 of the following are present: • First aid treatment required for worker(s) • Local and possible regional media interest • Public / employee health & safety or environment not threatened – perception of risk present • Spills and releases not contained on lease or potential extend beyond site/lease • Corporate reputation impacted • Pre-storm preparation activities also occur	Type 3 – *Emergency Event (All LUMA resources and multiple Mutual Aid Resources)	• Response and Restoration efforts last for approx. 24-48 hours • 70k to 350k customer interruptions at peak (represents between 10-25 percent of all LUMA customers) • 10k or more outages at peak • May require activation of ICS
Level 2 – Emergency Conditions	**After an event occurs, at least 3 of the following are present:** • **Multiple workers require hospitalization** • **Regional & national media interest** • **Spill or release not contained, extends beyond lease** • **Public / employee health & safety or environment could be jeopardized** • **Local and/or corporate reputation or company impacted**	**Type 2 – *Emergency (All LUMA resources and extensive Mutual Aid Resources)**	• **Response and Restoration efforts are accomplished in a 7-day period or less** • **350k to 700k customer interruptions at peak (represents between 25-50 percent of all LUMA customers)** • **Causes 25k or more outages at peak** • **Restoration is expected to take up to 7 days**
Level 1 – Catastrophic Emergency	**After an event occurs, at least 3 of the following are present:** • **Mass Fatality Incident** • **National & international media interest** • **Spill or release off site / not contained** • **Public / employee health & safety or environment jeopardized** • **Corporate reputation impacted**	**Type 1 – *Emergency (All company and contractor resources; extensive mutual assistance, federal Assistance)**	• **Response and Restoration efforts may require ten (10) days or more** • **700k or more customer interruptions at peak (represents at least half of all LUMA customers)** • **50k or more outages at peak** • **Restoration may take 10 days or longer** • **Will require mutual aid assistance**

Attachment 4 – Major Outage Metric

Table 17: Summary of Major Outage Event Performance Metrics

Description	Metrics	Comments	Location
1. Preparation Phase			
Completion of steps to provide timely and accurate emergency event preparation following an alert from U.S. National Weather Service or the company's private weather service, or the government of Puerto Rico has declared a state of emergency or when an event is known to be imminent or has occurred, in accordance with the Emergency Response Plan, for an event expected to affect the company's service territory.	Completion of each step counts separately: 1.1 Event-level categorization based on weather forecasts, system resiliency assessment and available resources. 1.2 Press releases issued/text messages/emails sent. 1.3 Municipal conference calls held. 1.4 Critical & essential customers alerted — based on established list with current information.[1] 1.5 Point of contact for critical facilities alerted — based on established list with current information. 1.6 Company compliance with training program as specified in the Emergency Response Plan. 1.7 Participation in all pre-event mutual assistance group calls. 1.8 Verify materials/stockpiles level based on forecast. If materials are not on hand, corrective steps taken in shortest reasonable time to correct the situation.		
2. Downed Wires			
Response to downed wires reported by municipal public officials.	Once the joint reporting and response process is established, LUMA will respond to all reported downed wires and take appropriate action within a reasonable time (per the event categorization) working in conjunction with local authorities after a Major Outage Event. Reported means that the situation is tracked in the Customer Information System (CIS) by the official contacting LUMA call centers or reported through the Municipal Emergency Operations Center (EOC) through LUMA's Municipal Emergency Operations Center (MEOC) Liaison. **Reasonable Time** **Event Categorization** — **Response Time** 3 to 5 days — 18 hours 5 to 10 days — 36 hours > 10 days — 60 hours	A reporting and response process on how these are managed needs to be put in place jointly with municipal public officials. Fire and Police training on how to handle downed wires will be provided as requested.	
3. Damage Assessment			
	After the beginning of the Major Outage Event and when it is safe to do so LUMA will begin a preliminary damage assessment of the affected area(s) or T&D facilities. The preliminary damage assessment will be completed within a "reasonable time" at the beginning of the Operation Response phase. The preliminary damage assessment will be		

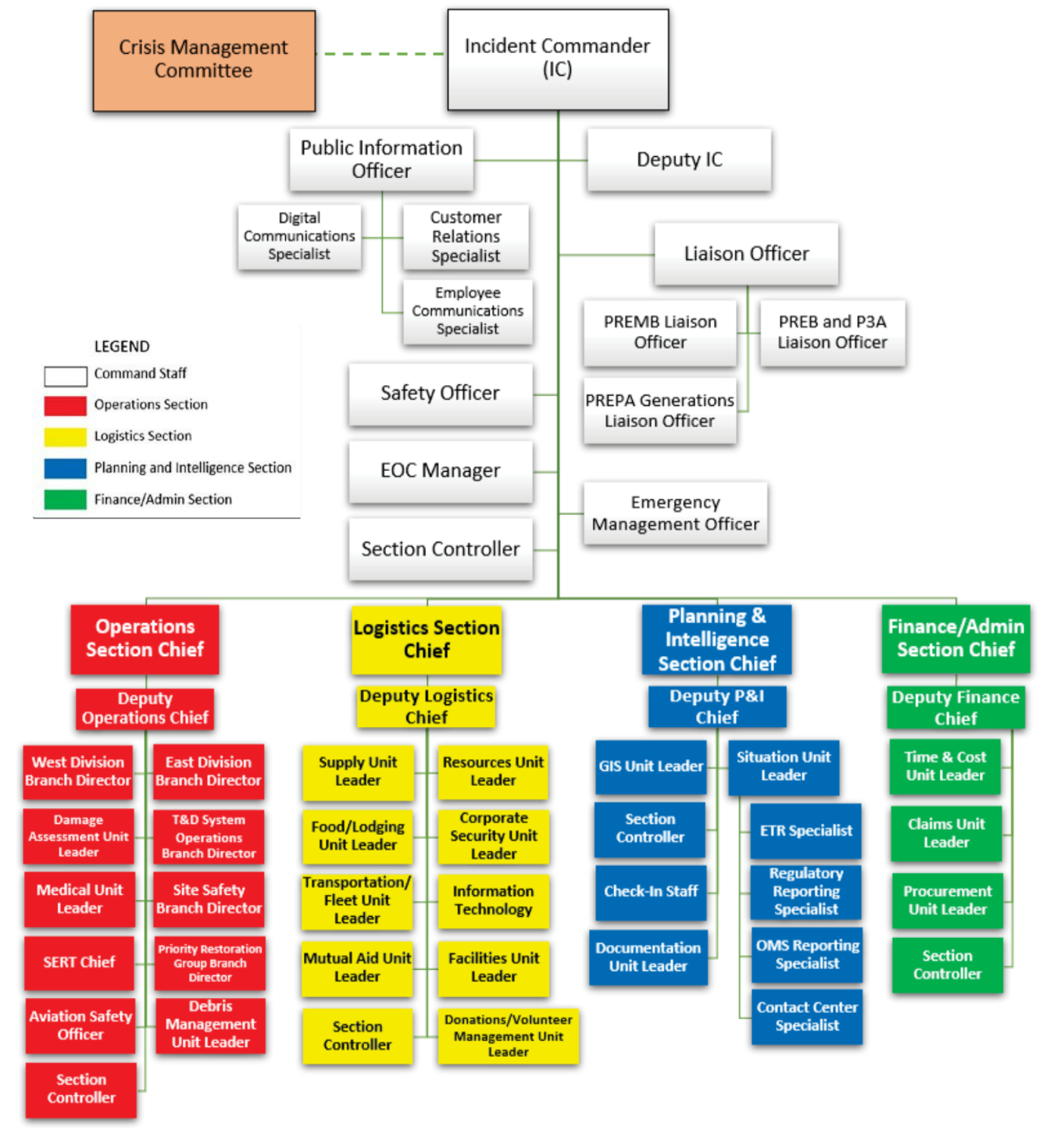
[1] This includes critical care customers (lifeline residential service customers).

	done primarily with helicopter patrol and very limited specific land patrol to address helicopter assessment questions. Concurrent with the start of the preliminary helicopter assessment, LUMA will begin a more thorough damage assessment. **Reasonable Time** **Event Categorization** — **Response Time** 3 to 5 days — 36 hours 5 to 10 days — 72 hours > 10 days — 120 hours		
4. Crewing			
50% of the forecast crewing [from mutual assistance] committed to the utility.	50% of the forecast crewing [from mutual assistance] committed to the utility. Three (3) days prior to a forecasted event occurring (when the event allows that much warning time), LUMA will complete a "damage prediction" to determine crew requirements. Based on this damage prediction, the number of mutual assistance crews will be determined. LUMA will stage materials, equipment and personnel at the required location prior to the weather event striking the area. Within 24 hours of the damage prediction, 50% of indicated internal crews and qualified contract crews will be deployed. Within 48 hours of the damage prediction, 80% of the indicated internal crews and qualified contract crews will be mobilized on island.		
5. Estimated Time of Restoration (ETR) for 90% of Service Outages			
Estimated Time of Restoration for 90% of service outages (made available by utility on web, IVR, to Customer Service Representatives (CSRs), etc.)	Publication of regional ETRs in accordance with guidelines.		
	Publication of municipal ETRs in accordance with guidelines.		
	A preliminary ETR for 90% service restoration will be made available on the Internet 24 hours after the preliminary damage assessment in pdf format.		
	ETRs on 90% service restoration to be made available on IVR and to CSRs by municipality or region.		
	All ETRs to be updated every 24 hours.		
6. ETR Accuracy for 90% Service Restoration			
Regional ETR accuracy Municipal ETR accuracy	Accuracy for 90% of service outage restoration and published in accordance with ETR requirement time. The ETRs used for this metric will be the ETRs posted after the thorough damage assessment is completed and not based on the preliminary damage assessment.		

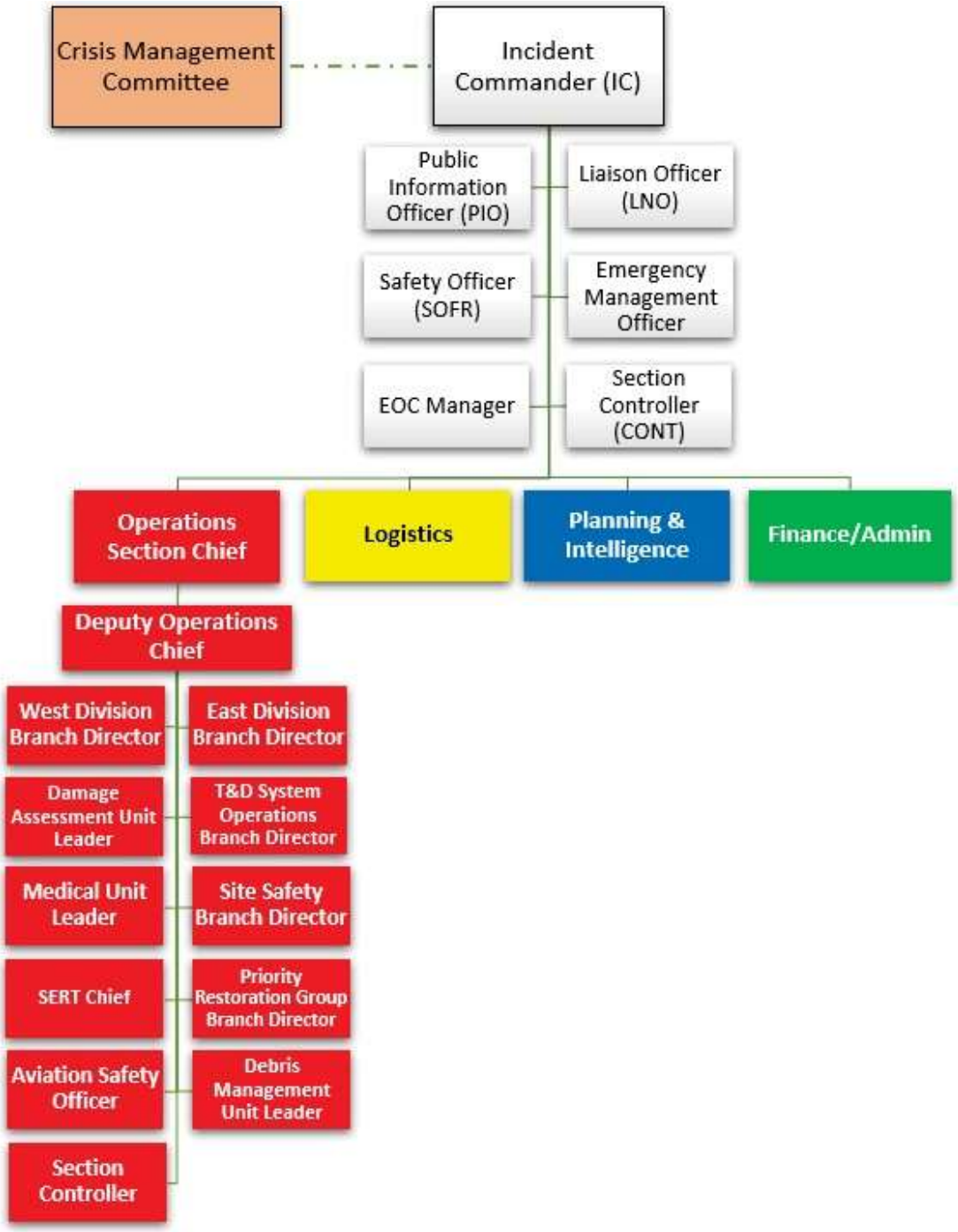
7. Municipality Coordination			
Coordination with municipalities regarding road clearing, downed wires, critical customers, etc.	Through the Municipal EOC the LUMA local Incident Command Center (ICC) Municipal Liaison will attend all scheduled Situation Report (SITREP) meetings. The Liaison will be the conduit for ICC information and requests. To track, the Municipal EOC must be activated so that all requests flow through it. LUMA's ICC Municipal Liaison will attend all scheduled SITREP meetings.		
8. Municipal EOC Coordination Puerto Rico Commonwealth/Federal EOC Coordination			
Coordination with municipal Puerto Rico Commonwealth and Federal EOCs.	Through the Commonwealth and Federal EOCs the LUMA Liaisons will attend all scheduled meetings. The Liaison will be the conduit for ICC information and requests. To track activity, the State and Federal EOCs must be activated and not a request from elected officials.		
9. Utility Coordination			
Coordination with other utilities (communications, water, etc.)	Establish contact points between utilities.		
10. Safety			
Measure of any employee or contractor injured doing hazard work during storm/outage and restoration.	Record safety incidents and include in safety report per LUMA Health Safety Environment & Quality (HSE&Q) standard.		
11. Mutual Assistance			
Crew requests made through all sources of mutual assistance or other pre negotiated contracts with utility service providers.	Three (3) days prior to a forecasted event occurring (when the event allows that much 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. After the initial damage assessment is completed, the requests for mutual assistance or other utility service provider crews will be made as follows: • Within 70 hours, 40% of crews • After 120 hours, 80% of committed mutual aid and other utility service provider crews will be requested		
12. Call Answer Rates			
Customer calls answered by properly staffed call centers (use of IVR and other technology is an acceptable solution).		TBD depending on size of major event.	
13. Web Availability			
Company's website, specifically the section pertaining to outage impact and restoration, must be available around the clock during a major storm event and information must be updated hourly until final restoration. In the event that no new information is available, the website must display the last time and date that information was			

updated. The website and/or section pertaining to outage impact and restoration may be taken offline for a short period during off-peak hours to perform system maintenance			
14. PREB and Administrator (P3A) Reporting			
Provide storm event information to PREB and Administrator in accordance with LUMA's Electric Outage Management System (OMS) guideline requirements to be established in the ERP for LUMA.	Information to be updated every 24 hrs.		
15. Customer Communications			
Availability of press releases, text messaging, email and social media.			
16. Outgoing message on telephone line			
Recorded message providing callers with outage information is updated within two hours of communication of press releases.		Available at Service Commencement Date. IVR will be managed in house	

Appendix A – LUMA ICS Structure

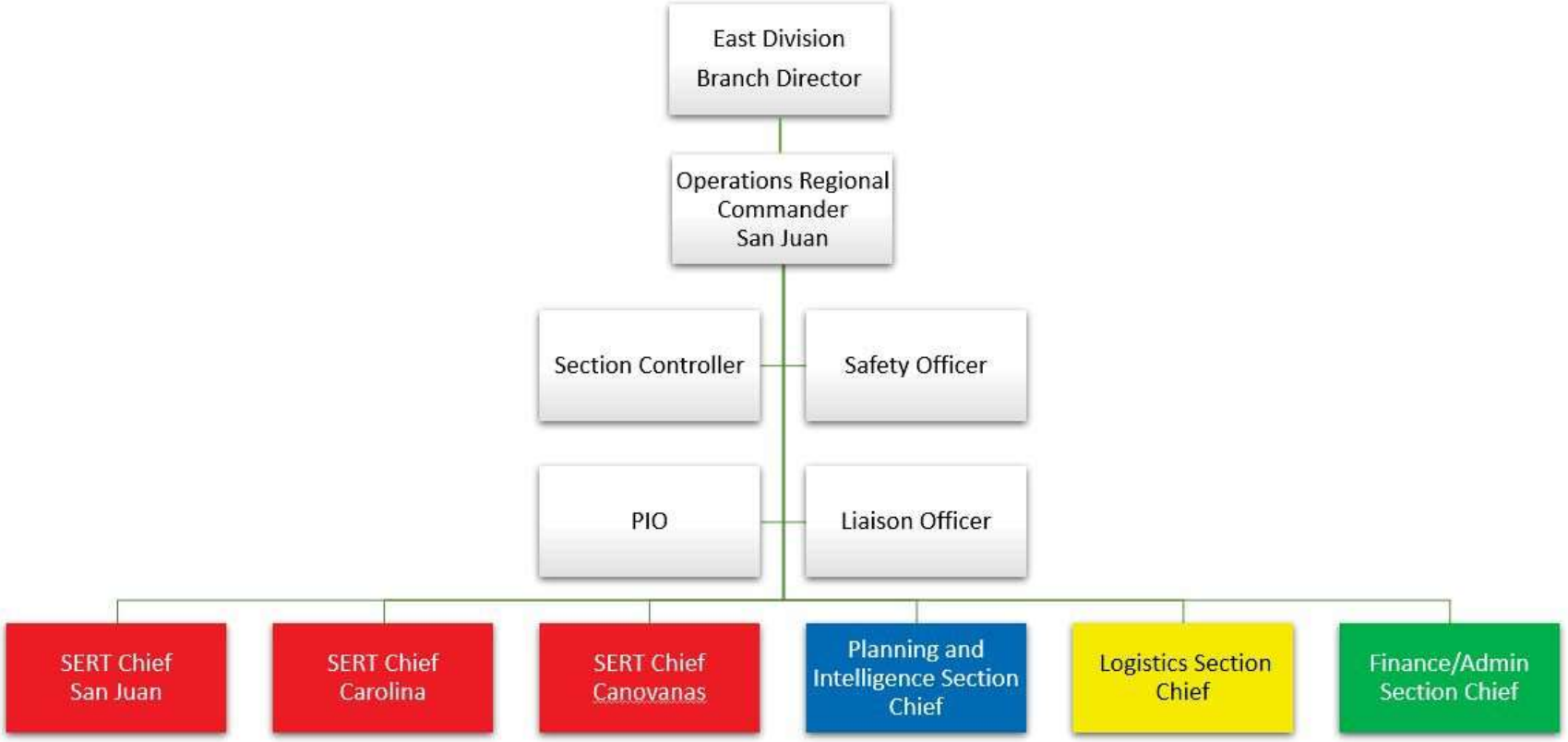


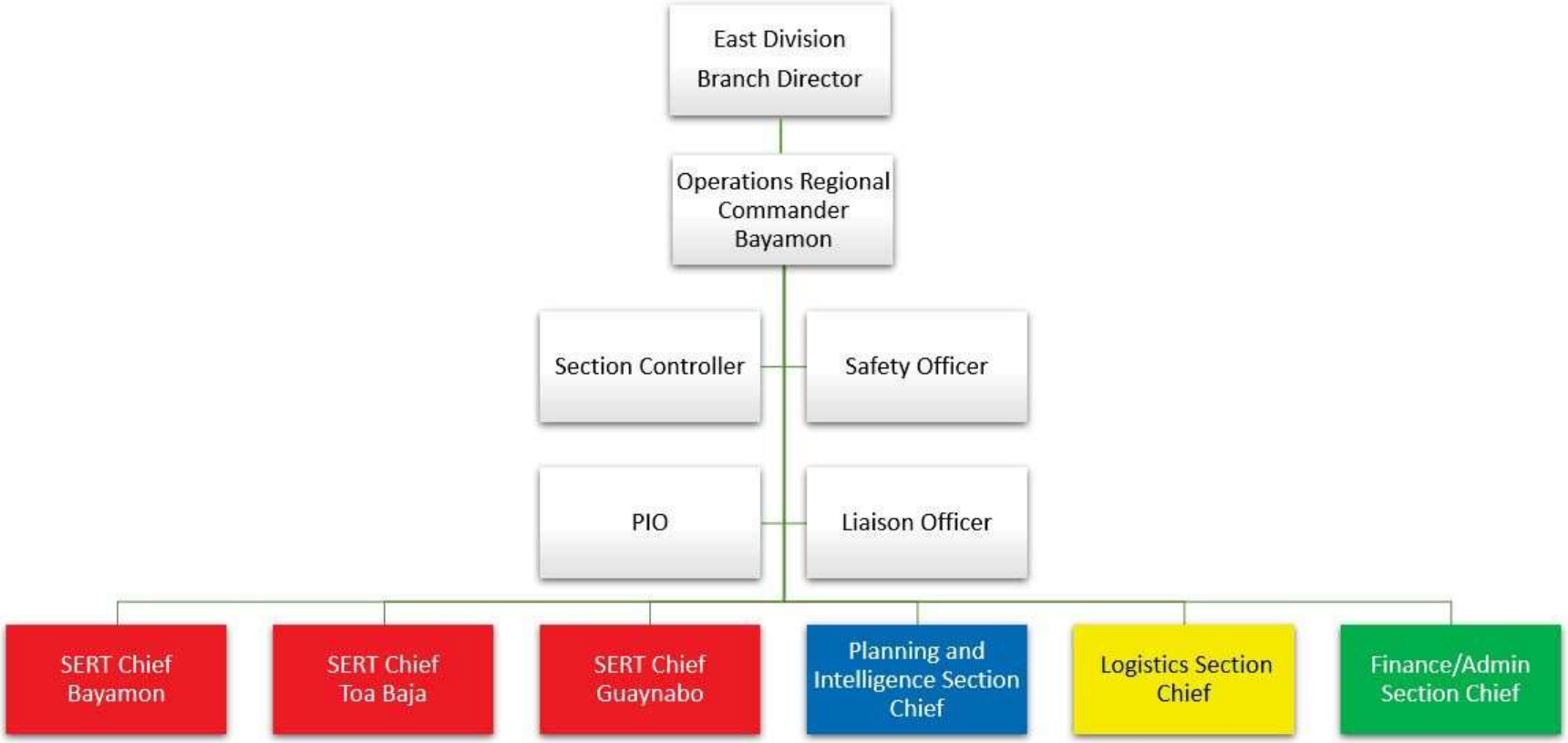
Operations Section

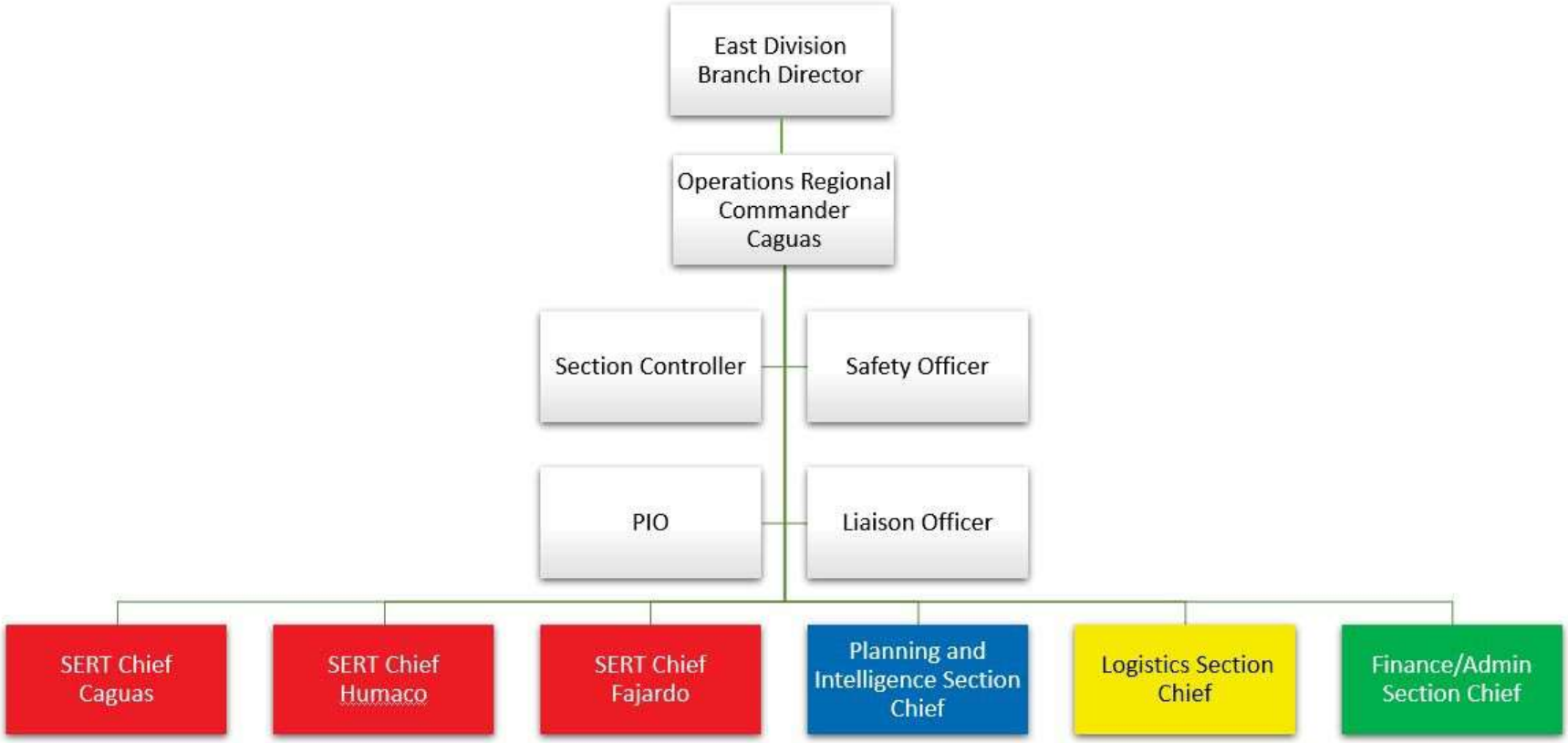


LUMA East Division Structure

East Division Regional Structures

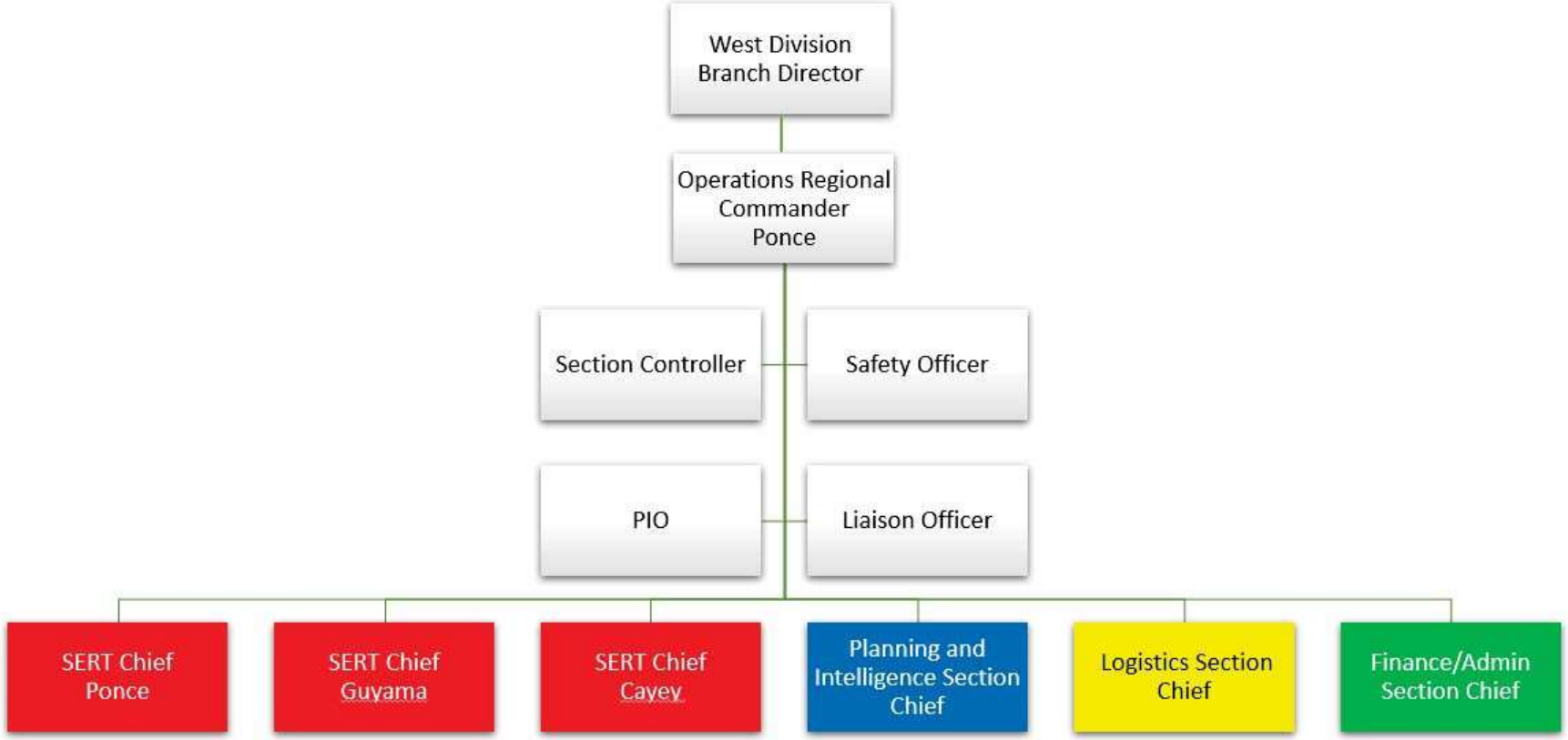



East Division
Branch Director
Operations Regional
Commander
Bayamon
Section Controller
Safety Officer
PIO
Liaison Officer
SERT Chief
Bayamon
SERT Chief
Toa Baja
SERT Chief
Guaynabo
Planning and
Intelligence Section
Chief
Logistics Section
Chief
Finance/Admin
Section Chief

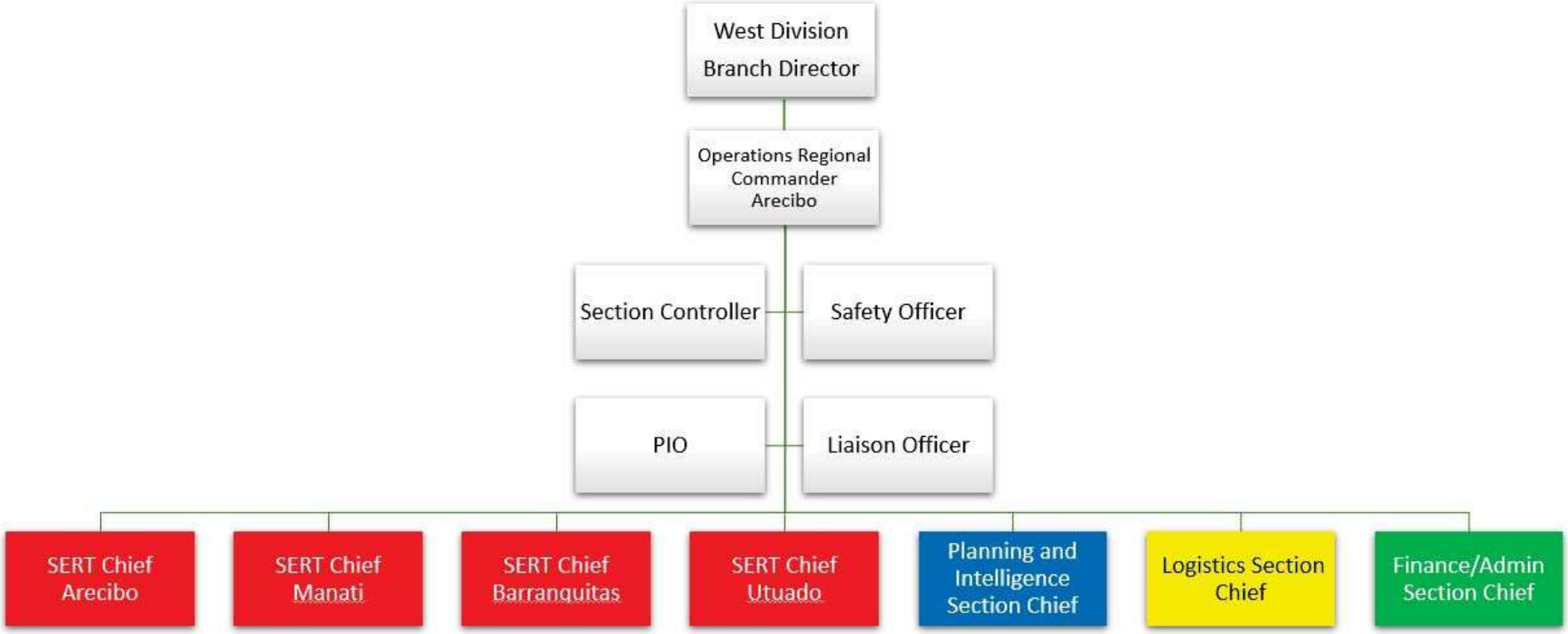

East Division Branch Director
Operations Regional Commander Caguas
Section Controller
Safety Officer
PIO
Liaison Officer
SERT Chief Caguas
SERT Chief Humacao
SERT Chief Fajardo
Planning and Intelligence Section Chief
Logistics Section Chief
Finance/Admin Section Chief

LUMA West Division Structure

West Division Regional Structures




West Division Branch Director
Operations Regional Commander Mayaguez
Section Controller
Safety Officer
PIO
Liaison Officer
SERT Chief Mayaguez
SERT Chief Aguadilla
SERT Chief Yauco
SERT Chief San Sebastion
Planning and Intelligence Section Chief
Logistics Section Chief
Finance/Admin Section Chief


West Division Branch Director
Operations Regional Commander Arecibo
Section Controller
Safety Officer
PIO
Liaison Officer
SERT Chief Arecibo
SERT Chief Manati
SERT Chief Barranquitas
SERT Chief Utuado
Planning and Intelligence Section Chief
Logistics Section Chief
Finance/Admin Section Chief

Appendix B – Area Restoration Prioritization Lists

Arecibo Region

Arecibo District SERT Team

Customer	76,119
Substation	8001, 8002, 8004, 8005, 8007, 8008, 8010, 8011, 8013, 8014, 8015, 8501, 8602,
Key Transmission Feeders	Cambalache Plant, Cambalache TC Hatillo TC, Mirador Azul Sect. 8004-02 (Arecibo Distric facilities)/ 8015-08 (Arecibo Regional Facilities)
Municipalities:	Arecibo, Hatillo, Camuy
Hospitals	Polyclynic Factor, Pavia Víctor Rojas Metro Hospital, Dr. Sussoni Hospital, Pavia Hospital former Regional Hospital, Arecibo Medical Center, CDT Villa Los Santos, CDT Marcano, CDT Marrero

Transmission and Sub-Transmission Critical Facilities		
Critical Facilities Level 1		
Line Number	Description	Customer
2300	Cambalache @Hospital District	Pavia Hospital (former Regional Hospital) sub 8059
2300	Cambalache @Hospital District	Water Pumping AAA sub 8091
2100	District Hospital - Hatillo TC	Pavia Hospital (Victor Rojas) sub 8082
2200	Factor @ Barceloneta TC	Wastewater treatment Super Acueducto sub 8096
2200	Factor @ Barceloneta TC	Water Pumping Super Acueducto sub 8064
6900	Cambalache TC @ Mirador Azul Sect.	Wastewater treatment AAA sub 8086
16300	Cambalche TC	Water Pumping Super Acueducto sub 8097
Critical Facilities Level 2		
Line Number	Description	Customer
2200	Factor @ Barceloneta TC	Correctional Facilities Sabana Hoyos Sub 8089
2100	District Hospital - Hatillo TC	Arecibo Coliseum (Military Vaccunation Center) sub 8063
Critical Facilities Level 3		
Line Number	Description	Customer
2200	Cambalache TC @ Factor	Abbott Santana (manufactures pacemakers sub 8061
2200	Cambalache TC @ Factor	EATON Manufactures Sub 8094/8069/8093-1 and 2/8073-1 and 2/8099
2200	Factor @ Barceloneta TC	MERCK Manufactures sub 8087-1 and 2
2100	District Hospital @ Hatillo TC	THERMO KING Manufactures sub 8085/8092

2100		District Hospital @ Hatillo TC	GE Sub 8050/8088
2100		District Hospital @ Hatillo TC	Luis Melendez School sub 7777
6900		Mirador Azul @ Hatillo Town	Interamericana University of Arecibo sub 8089
6900		Mirador Azul @ Hatillo Town	Plaza Norte Mall Sub 8067
13600		Distric Hospital @ Mirador Azul Sect.	Arecibo UPR sub 8080
2200		Cambalache TC @ Factor	Vocacional School sub 8095
2200		Cambalache TC @ Factor	Trofima sub 8070
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
8001	8001-01	Arecibo Municipal Police and Emergency Operatipn Center	Ave Manuel T Guillen, Arecibo
8001	8001-01	AAA water pumps	Road 651 El Juncos Arecibo
8001	8001-03	Arecibo State Police	Ave Rotario, Arecibo
8001	8001-03	Arecibo Fire Station	Ave Eugenio María de Hostos, Arecibo
8001	8001-04	Health Department Laboratory	Regional Hospital Facilities road 129 Zeno Gandia
8002	8002-01	Arecibo Dr Sussoni Hospital	Ave Victor Rojas int street Palmas Arecibo Town
8002	8002-02	Marcano CDT	Street Cristobal Colon Arecibo Town
8002	8002-05	Arecibo State Police	Ave Manuel T Guillen, Arecibo
8002	8002-05	Marrero CDT	Ave Constitucion Arecibo
8004	8004-02	Arecibo Distric Facilities (PREPA)	Road 681 sector Pasaje Islote
8004	8004-02	Fuel Transfer Cambalache Planta (PREPA)	Road 681 El Muelle Islote Arecibo
8004	8004-03	Water Pump of Cambalache Plant	Ave Domingo Ruiz Bajadera, Arecibo
8004	8004-04	Arecibo Municipal Airport	Road #2 Santana, Arecibo
8005	8005-01	Water Pumping Stations	Sec Dos Bocas Bo. Rio Arriba Arecibo
8007	8007-01	Villa Los Santos CDT	Road 653 Villa Los Santos Arecibo
8007	8007-03	SWAT Division PR Police	Street RW 14 Vista Azul Arecibo
8007	8007-04	Arecibo Medical Center	Road #2 Plaza Atlántico Arecibo
8008(portable subtation)	8008-01	Water Pumping Stations	Los Caños, La Planta, Jaguar, Calichoza, Bo. Hato Viejo (multiple station)

8010	8010-01	Quebrada CDT	Road 486 km 0.1 Quebrada
8010	8010-01	Water Pumping Stations	Road 134 Berrocal Hatillo, Road 455 Quebrada Camuy
8010	8010-02	Water Pumping Stations	Road 635 Cienegueta Arecibo/ Road 625 Las Marías Esperanza Arecibo
8010	8010-03	Water Pumping Stations	Road #2 Hato Arriba/ Road 490 Hato Arriba Arecibo
8011	8011-01	Water Pumping Stations	Street Landron Santana
8011	8011-02	Water Pumping Stations	Road 683 Garrochales Arecibo, Road 682 km 6.2 Road 682 km 9.1 Garrochales Arecibo
8011	8011-04	Water Pumping Stations	Road 650 Cercadillo Arecibo
8014	8014-06	Water Pumping Stations	Road 683 Garrochales Arecibo
8014	8014-08	Polyclynic Factor	Road #2 Factor Arecibo
8015	8015-08	Arecibo Regional Facilities (PREPA)	Ave Juan Rosado Arecibo Town
8602	8603-03	Water Pumping Stations	Road 628 Arrozal, Montaña Sabana Hoyos
Critical Facilities Level 2			
Substation	Feeder	Customer	
8001	8001-01	Super K radio	Road 651 El Junco
8001	8001-03	Arecibo Court	Ave Rotario, Arecibo
8002	8002-01	Arecibo Town Hall	Ave. Jose de Diego, Arecibo
8002	8002-01	WCMM radio	Street Ganzalo Marin Arecibo Town
8002	8002-01	San Rafael Geriatic Center Nursing Home	Street Antonio Barceló, Arecibo Town
8002	8002-03	Padre Anibal Nursing Home	Ave Rafael Rivera Aulet int. Street Garcia Arecibo Town
8004	8004-02	WMIA radio AM	Road 681 Islote
8007	8007-01	San Pablo Home Nursing Home	Street 22 Villa Los Santos Arecibo
8007	8007-03	Miramar Dialysis Center	Road #2 Miramar Arecibo
8007	8007-03	State Insurance Fund Corporation FSE Arecibo	Road #2 Miramar Arecibo
8008	8008-01	Hogar Mis Queridos Viejos Nursing Home	Road #10 Hato Viejo Arecibo
8011	8011-01	Miraflores Nursing Home	Road 638 Bo Miraflores Arecibo
8015	8015-09	Vista del Mar Elderly Nursin Home	Principal Street Jardines de Arecibo
8015	8015-09	Arecibo Observatory(close)	Road 625 Esperanzo Arecibo
Critical Facilities Level 3			
Substation	Feeder	Customer	
8001	8001-01	La Milagrosa School	Road 651 El Cotto Arecibo

8001	8001-03	Selectos Supermarker	Ave Eugenio María de Hostos, Arecibo
8001	8001-04	San Felipe School	Road # 129 San Felipe Arecibo
8002	8002-05	Pueblo Xtra Supermarker	Road # 10 Rodriguez Olmo, Arecibo
8004	8004-04	ECONO Supermarker	Road #2 Santana Arecibo
8004	8004-04	Federico Degetau School	Road 662 Santana Arecibo
8007	8007-01	Francisco Gonzale Pachin Marin School	Street 21 Urb Jardines Vista Azul, Arecibo
8007	8007-03	San Juan Bosco College	Street RW 14 Vista Azul Arecibo
8007	8007-04	Comercial Center Plaza Atlántico	Road #2 Plaza Atlántico Arecibo
8007	8007-04	US Postal Service	Ave Miramar Plaza Atlantico Arecibo
8008	8008-01	Enrique De Jesus Borras School	Road 6609 San Pedro, Hato Viejo
8010	8010-01	Padre Anibal School	Road 130 km 10.q Camp Alegre, Arecibo
8010	8010-01	Santiago R. Palmer School	Road 486 Quebrada Camuy
8010	8010-02	Manuel Ruiz Gandia School	Road 635 Int road 651 Dominguito
8011	8011-01	Dr. Cayetano Coll y Toste School	Road 638 km 6.1 Miraflores Arecibo
8011	8011-02	Eugenio m Hostos School	Road 682 Int Street Noriega Garrochales
8011	8011-04	Factor V School	Ave Princesa Paseo Reales Arecibo
8013	8013-01	Hatillo Cash & Carry Supermarker	Ave Interamericana Vista Azul Arecibo
8013	8013-01	Capitan Correa College	Road 493 Carrizales Hatillo
8013	8013-02	Comercial Center Plaza Norte Hatillo	Road #2 Carrizales Hatillo
8014	8014-08	Jose Ramon Rivera School	Road 639 Sabana Hoyos Arecibo
8014	8014-08	Sabana Hoyos Post Office	Road 639 Candelaria Sabana Hoyos Arecibo
8015	8015-09	Maria Cadilla Martinez School	Road 129 Hato arriba Arecibo

Utuado District SERT Team

Customer	26,834		
Substation	8101, 8104, 8103, 8202, 8203, 8301, 8302		
Key Transmission Feeders			
Municipalities:	Utuado, Adjuntas, Jayuya		
Hospitals	Metropolitan Mountain Hospital, CDT Caparros, Castañer Hospital of Adjuncts		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	2400	Treatment Plant	AAA Wastewater Bo Rio Abajo Utuado
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
8101	8101-5	Metropolitan Mountain Hospital	Utuado
8101	8101-01	CDT Caparro	Utuado
8202	8202-01	Hospital Pueblo	Utuado
8103	8103-02	Plant AAA Roncador	Utuado
8103	8101-03	Planta AAA Caonilla	Utuado
8104	8104-02	-Centro Gobierno -Comandancia -Tec Utuado	Utuado
7902	7902-03	Hospital Castañer	Adjuntas
8202	8202-01	-Hosp CDT -Centro Gobierno -Bombas AAA Lago Garza	Adjuntas
8203	8203-02	-Planta AAA Yahuecas	Adjuntas
8301	8301-01	-Planta Bombas AAA El Nudo -Hosp Urbano	Jayuya
Critical Facilities Level 2			
Substation	Feeder	Customer	
Critical Facilities Level 3			
Substation	Feeder	Customer	

Vega Baja District SERT Team

Customer	50,000		
Substation	9001, 9002, 9003, 9004, 9101, 9105, 9103, 9201, 9203, 9202, 9206, 9207		
Key Transmission Feeders	50200, 37400, 2200, 7800, 9400, 13200		
Municipalities:	Vega Baja, Vega Alta, Dorado		
Hospitals	Willma Vazquez, VEGA Baja CDT, Fresenius Diálisis Center, CDT Vega Alta, Vega Alta IPA Hospital, Diálisis Center, Golden CDT (Dorado)		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	2,200	Hospital	Wilma Vázquez
	7,800	Super Acueducto	AAA
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
9001	9001-1	CDT Vega Baja	
9105	9105-7	CDT Vega Alta	
9202	9202-2	CDT Dorado	
9001	9001-2	Manejo de Emergencia Vega Baja	
9105	9105-6	Manejo de Emergencia Vega Alta	
9206	9206-9	Manejo de Emergencia Dorado	
9001	9001-1	Planta Filtración AAA Río Abajo, Vega Baja	
9001	9001-2	Planta Tratamiento AAA Alm. Sur, Vega Baja	
9001	9001-2	Planta AAA Charco Azul Vega Baja	
9002	9002-2	Bombas AAA Tratamiento Puerto Nuevo, Vega Baja	
9003	9003-5	Bombas AAA Sector El Criollo Algarrobo, Vega Baja	
9003	9003-6	Bombas Súper Acueductos Sector Russe, Vega Baja	
9003	9003-6	Bombas Súper Acueductos PR 155 Pugnado, Vega Baja	
9003	9003-6	Bombas AAA PR 155 Las Granjas, Vega Baja	
9003	9003-6	Pozo Algarrobo PR 155 C/Manuel Vélez Itier, Vega Baja	
9004	9004-8	Bombas Sanitarias AAA Jardines Vega Baja	
9004	9004-8	Bombas Sanitarias AAA Camino del Sol, Vega Baja	
9004	9004-10	Bombas Tratamiento AAA PR 6690 Vega Alta	
9004	9004-11	Bombas Tratamiento AAA Pozo Pugnado,	

9101	9101-1	Bombas AAA PR 678 Pámpanos Vega Alta
9101	9101-3	Bombas AAA Bajuras Vega Alta
9101	9101-4	Planta Tratamiento AAA PR 676 Bajuras, Vega Alta
9101	9101-4	Bombas AAA PR 647 Candelaria, Vega Alta
9101	9101-4	Bombas AAA PR 677 Maricao, Vega Alta
9103	9103-1	Bombas AAA PR 679, Int. 820, Convento, Dorado
9103	9103-1	Bombas AAA PR 659, Los Bloises, Dorado
9103	9103-4	Bombas AAA PR 694 Santa Ana, Vega Alta
9105	9105-7	Bombas Sanitarias AAA Velomas, Vega Alta
9201	9201-1	Bombas AAA Beach East, Dorado
9201	9201-2	Bombas AAA Pozo PR 690 Sabana Hoyos Vega Alta
9202	9202-1	Bombas Tratamiento AAA Pueblo Dorado
9202	9202-1	Bombas AAA San Antonio, Dorado
9202	9202-2	Bombas AAA Mameyal, Dorado
9202	9202-3	Bombas AAA Dorado del Mar, Dorado
9202	9202-3	Bombas AAA Costa de Oro, Dorado
9202	9202-4	Bombas AAA Sector Arenas, Dorado
9202	9202-4	Bombas AAA Monte Elena, Dorado
9203	9203-4	Bombas AAA PR 694, Dorado
9206	9206-7	Bombas AAA PR 696 Los Paseos, Dorado
9207	9207-5	Bomba Súper Acueducto Maguayo, Dorado
9207	9207-5	Bombas AAA PR 693 Maguayo, Dorado
9207	9207-5	Bombas AAA Sabanera, Dorado
9401	9401-1	Bombas AAA Río Lajas Dorado
9002	9002-3	Bomberos Vega Baja
9105	9105-6	Bomberos Vega Alta
9206	9206-8	Bomberos Dorado
9001	9001-1	Cuartel de Vega Baja
9105	9105-6	Cuartel de Vega Alta
9202	9202-3	Cuartel de Dorado
9206	9206-8	Guardia Nacional Tortuguero Vega Baja

Vega Baja (Manatí) District SERT Team

Customer	90,953		
Substation	9001, 9002, 9003, 9004, 9101, 9105, 9103, 9201, 9203, 9202, 9206, 9207, 8001, 8015, 8007, 8013, 8004, 8002		
Key Transmission Feeders			
Municipalities:	Barceloneta, Manatí, Vega Baja, Vega Alta, Morovis, Florida, Ciales		
Hospitals	Willma Vázquez, VEGA Baja CDT, Fresenius Diálisis Center, CDT Vega Alta, Vega Alta IPA Hospital, Diálisis Center, Golden CDT (Dorado), Dr. Sussoni Hospital, Regional Hospital,		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer

Critical Facilities Level 2			
	Line Number	Description	Customer
	2200	Factor - Barceloneta	Super Aqueducts (AAA)
Critical Facilities Level 3			
	Line Number	Description	Customer
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
Critical Facilities Level 2			
Substation	Feeder	Customer	
Critical Facilities Level 3			
Substation	Feeder	Customer	

Caguas Region

Cayey/Barranquitas District SERT Team

Customer	13,500
Substation	3501,3502, 9601,9602, 9605, 9703, 9901, 9902, Bqtas. TC, Comerio TC
Key Transmission Feeders	39,000, 8500, 7700, 6500, 4800, 4100, 2900, 18400
Municipalities:	Barranquitas, Orocovis, Aibonito, Comerío, Coamo, Naranjito
Hospitals	Menonita Hospital Aibonito, Comerio, Baqtas and Orocovis Hospitals

Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
Hospital	4800	Medical Facilities	Hospital Menonita de Aibonito
Hospital	6500-7700	Medical Facilities	CDT de Comerio
Critical Facilities Level 2			
	Line Number	Description	Customer
Pharmaceutical	4800	Medical Products	Baxter Health Care
Critical Facilities Level 3			
	Line Number	Description	Customer
Industry	4800	Food Production	To- Ricos Corporation
Education	4800	School	Carmen D. Colon School
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
3501	3501-01	AAA	Water Plant Treatment, Water Dam
3501	3501-02	Hospital	Menonita Medical Facilities
3501	3501-03	Emerg. Shelter	José N. Gandara School, Military

3502	3502-01	AAA	Water Plant Treatment, Water Dam
3502	3502-02	AAA	Water Plant Treatment, Water Dam, Police, Municipal Emerg. Operation
9601	9601-01	AAA	Water Plant Treatment, Water Dam
9601	9601-02	Hospital, AAA	Bqtas. Hospital, Water Plant Treatment, Water Dam, Luma Emerg. Operation Center
9602	9602-03	Fire, Municipal	Fire Station, Municipal Emerg. Center
9602	9602-04	AAA	AAA, Facilities, Water dam
9605	9605-01	AAA	Water Plant Treatment, Water Dam
9605	9605-02	AAA	Wastewater treatment plant
9703	9703-01	AAA, Police,	Water Plant Treatment, Water Dam, Police, Municipal Emerg. Operation, Fire Station
9703	9703-02	Hospital	Comerio Hospital
9703	9703-03	AAA	Wastewater treatment plant
9901	9901-01	Communication	Police, Coastguard, TV and Radio Comm. Towers
9901	9901-02	AAA	Water Plant Treatment, Water Dam
9902	9902-02	Hospital, AAA	Water Plant Treatment, Water Dam, Police, Municipal Emerg. Operation, Fire Station
Critical Facilities Level 2			
Substation	Feeder	Customer	
9902	9902-03	Comm	Radio and TV, AEE Comm towers
Critical Facilities Level 3			
Substation	Feeder	Customer	
Included in level 1 & 2			

Cayey/Barrenquitas District SERT Team

Customer	46,329		
Substation	3401, 3402, 3403, 3405, 3406, 3601, 3602, 3603, 3604, 3701		
Key Transmission Feeders			
Municipalities:	Cayey, Cidra, Aguas Buenas		
Hospitals	Menonita Hospital, Menonitas Hospital (Clinics Building), Municipal Health Center Mariano Rivera Rios, Cidra's Municipal Hospital, Panamerican First Hospital, Aguas Buenas Municipal Hospital		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	0800	Cayey TC-COMSAT	Menonita Hospital
	3800	Cidra Sect-Cayey TC	Wastewater Treatment Plant (AAA) Cayey-Cidra
	3800	Cidra Sect-Cayey TC	Water Pumping Station Rincon Candela (AAA)
	0800	Cidra Sect-Cayey TC	Filtration Plant and Water Dam Lake (AAA)
Critical Facilities Level 2			
	Line Number	Description	Customer

Caguas District SERT Team

Critical Facilities Level 3			
	Line Number	Description	Customer
	0800	Cidra Sect-Cayey TC	Nikini
	0800	Cayey TC-COMSAT	University of Puerto Rico
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
3401 Cayey TC	3401-02	Water Pumping Stations (AAA)	
3401 Cayey TC	3401-03	Menonitas Hospital (Clinics Building), Municipal Health Center Mariano Rivera Rios, Emergency Operations Center (Pedr Montañez Stadium), Cayey Police Department	
3402 COMSAT	3402-05	Water Dam La Central (AAA), Filtration Plant Farallon-Carite (AAA)	
3403 Jajome	3403-01	Filtration Plant Culebra (AAA)	
3405 Cayey Rural	3405-01	Cayey Fire Station, AEE Operations Office, AAA Operations Office	
3405 Cayey Rural	3405-03	Filtration Plant Urbana Pasto Viejo (AAA)	
3406 COMSAT	3406-03	Water Dam Puente de Hierro Arenas (AAA)	
3601 Cidra	3601-01	Filtration Plant Sud (AAA), Cidra Police Department	
3601 Cidra	3601-02	Water Pumping Station Rabanal (AAA)	
3601 Cidra	3601-04	Cidra's Municipal Hospital, Cidra Fire Station	
3603 Sabanera I	3603-01	Panamerican First Hospital	
3701 Aguas Buenas	3701-02	Filtration Plant Jagueyes (AAA), Wastewater Treatment Plant Jagueyes (AAA), Urban Aqueducts, Aguas Buenas Fire Station	
3701 Aguas Buenas	3701-03	Aguas Buenas Municipal Hospital, Filtration Plant Minillas (AAA), Water Dam Minillas (AAA), Aguas Buenas Police Station,	
3701 Aguas Buenas	3701-04	Service Station Transformer Aguas Buenas GIS	
Critical Facilities Level 2			
Substation	Feeder	Customer	
3401 Cayey TC	3401-03	Cayey Municipal Hall, AEE Comercial Office	
3406 COMSAT	3406-02	Communications: La Santa, Doppler Radar	
3601 Cidra	3601-03	Cidra Municipal Hall	
3701 Aguas Buenas	3701-02	Communications: Marquesa, La Mesa	
3701 Aguas Buenas	3701-03	Aguas Buenas Municipal Hall	
Critical Facilities Level 3			
Substation	Feeder	Customer	
3403 Jajome	3403-01	Governor's Country House	
3405 Cayey Rural	3405-01	Comercial Centers	
3406 COMSAT	3406-01	Comercial Center Plaza Cayey	
3603 Sabanera I	3603-02	Comercial Center Plaza Cidra	
Customer	105,141		
Substation			
Key Transmission Feeders			
Municipalities:	Caguas, Gurabo, Juncos, San Lorenzo		
Hospitals			
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			

	Line Number	Description	Customer
	14400	Hospital	HIMA
	600	Hospital	Menonita
	3000	Police Academy	Police
	3000	Wastewater Treatment Plant	AAA
	5200	Wastewater Treatment Plant	AAA
Critical Facilities Level 2			
	Line Number	Description	Customer
	3000	City Courthouse	Centro Judicial de Caguas
Critical Facilities Level 3			
	Line Number	Description	Customer
	3000	Manufact. Plant	Medtronics
	9300	Manufact. Plant	Ethicon
	19400	Manufact. Plant	Janssen
	36200/41400	Manufact. Plant	AMGEN
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
3006	3006-05	PREPA	Emergency Operations Center
3103	3103-05	Caguas Municipality	Sanos Hospital
3101	3101-02	Gurabo Municipality	Gurabo Municipality Hospital
3201	3201-03	Juncos Municipality	Juncos Municipality Hospital
3301	3301-02	San Lorenzo Municipality	San Lorenzo Municipality Hospital
30006	3006-02	Caguas Municipality	Emergency Operations Center
3007	3007-03	AAA	Represa Borinquen
3007	3007-03	AAA	P/F Caguas Sur
3007	3007-03	AAA	E/B Beatriz I y II
3015	3015-05	AAA	E/B Altos de la Fuente
3010	3010-03	AAA	E/B Turabo Gardens
3004	3004-01	AAA	E/B La Pista
3008	3008-03	AAA	E/B La Princo
3014	3014-01	AAA	E/B San Luis
1908	1908-05	AAA	E/B San Pedro Estate
3013	3013-03	AAA	E/B Tomas de Casto I, Etapas 1
3013	3013-03	AAA	E/B Tomas de Casto I, Etapas 2
3013	3013-03	AAA	E/B Tomas de Casto I, Etapas 3
3013	3013-03	AAA	E/B Tomas de Casto II, Etapas 1
3013	3013-02	AAA	E/B Tomas de Casto II, Etapas 2
3010	3010-01	AAA	E/B Cañaboncito Caguas, Etapa 1
3010	3010-01	AAA	E/B Cañaboncito Caguas, Etapa 2
3014	3014-01	AAA	E/B La Barra
3014	3014-01	AAA	E/B La Mesa I
3014	3014-01	AAA	E/B San Salvador
3014	3014-01	AAA	E/B San Salvador Etapa I
3007	3007-03	AAA	E/B San Salvador Etapa II

3007	3007-03	AAA	E/B San Salvador Etapa III
3014	3014-03	AAA	E/B San Antonio (Pedro Pollo)
3008	3008-01	AAA	E/B Mirador de Bairoa
3004	3004-01	AAA	Represa Cagüitas
3014	3014-04	AAA	E/B Jagüeyes Pajilla Etapa 1
3014	3014-04	AAA	E/B Jagüeyes Pajilla Etapa 2
3014	3014-04	AAA	E/B Jagüeyes Pajilla Etapa 3
3205	3205-08	AAA	P/F Gurabo
3101	3101-04	AAA	E/B Jagual 2da Etapa
3101	3101-03	AAA	E/B Celada Etapa 2
3101	3101-03	AAA	E/B Celada Etapa 3
3102	3102-01	AAA	E/B Soterrada Rincón Etapa I
3102	3102-01	AAA	E/B Soterrada Rincón Etapa II
3205	3205-08	AAA	Pozo Mamey
3205	3205-08	AAA	E/B Mamey
3006	3006-03	AAA	E/B Reina de los Ángeles
1908	1908-05	AAA	E/B Jaguas Lomas Etapa I
1908	1908-05	AAA	E/B Jaguas Lomas Etapa II
3102	3102-01	AAA	Pozo #3 Estación Experimental
3302	3302-02	AAA	Represa Nueva Cerro Gordo
3302	3302-02	AAA	P/F Cerro Gordo
3302	3302-01	AAA	E/B Tanques Urbanos
3301	3301-01	AAA	E/B El Tamarindo (Quemados)
3301	3301-02	AAA	E/B Quebrada Etapa I y II
3302	3302-02	AAA	E/B Los Velázquez Etapa I, II y III
3302	3302-02	AAA	E/B Los Carrasquillos I
3301	3301-01	AAA	E/B Los Carrasquillos II
3301	3301-01	AAA	Represa Jagual
3301	3301-01	AAA	P/F Jagual
3301	3301-01	AAA	E/B Jagual 2da Etapa
3301	3301-01	AAA	E/B Tino Borges
3301	3301-01	AAA	P/F Espino
3301	3301-01	AAA	E/B Jacobo Pérez Etapa I
3301	3301-01	AAA	E/B Jacobo Pérez Etapa II
3301	3301-01	AAA	Planta Microfiltración Quebrada Arenas
3013	3013-02	AAA	E/B Soterrada Bo. Hato
3302	3302-04	AAA	E/B Florida (Masso)
3302	3302-04	AAA	E/B Florida Etapa II
		AAA	P/F Juncos Urbanas (KTP 90)
3201	3201-01	AAA	Represa Bombeo Pueblito del Río
3201	3201-04	AAA	P/F Ceiba Sur
3302	3302-04	AAA	Represa Ceiba Sur
3202	3202-02	AAA	Pozo 1, 5, 7 La Antigua Central Juncos (Remoción)
3102	3102-02	AAA	E/B Soterrada Canta Gallo (convertidor)
3202	3202-01	AAA	E/B Piñas Etapa I
3202	3202-01	AAA	E/B Piñas Etapa II
		AAA	E/B Campo Traviesa
		AAA	E/B El Ensanche
3201	3201-02	AAA	E/B Lirios Cementerio

3201	3201-02	AAA	E/B Lirios Jocelyn
3302	3302-04	AAA	E/B Valenciano I
3302	3302-04	AAA	E/B Pello Pomales
Critical Facilities Level 2			
Substation	Feeder	Customer	
3006	3006-05	Fresenius Kidney Care	Dialysis Center
Critical Facilities Level 3			
Substation	Feeder	Customer	
3005	3005-02	Caguas Tower	High-Rise Residential Building

Humacao District SERT Team

Customer	63,446		
Substation	2601, 2602, 2603, 2604, 2801, 2901, 2906, 2701, 2702		
Key Transmission Feeders			
Municipalities:	Yabucoa, Humacao, Naguabo, Las Piedras		
Hospitals	Ryder, HIMA, CDT Humacao, CDT Naguabo, CDT Yabucoa, Menonita		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	9900	Medical Facility	Ryder Hospital
	36300	SHELL	Fuel Distribution
	12600	AAA, Medical Services	Wastewater Treatment plant. PRAXAIR
	3000	AAA	Water Treatment plant
	3700	Yabucoa Govern Center	
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
	12500	Large employers	Medtronic, University Of PR, Lutron, General Electric
	5300	Lage Employers	Merck, Cristalia, MC Neil, To-Rico, Eaton, Carmela, Aspen, PRICH, Johnson @ Johnson
	12600	Large Employers, Food Warehouse	Bristol-Meyers, Microsoft, Marshalls, Walmart, Home Depot, BARD, Nelly Pack
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
2601	2601-03	Municipality Police Station, Municipality Government Center	Humacao Municipality
	2601-04	Water pumping station	AAA Caserio Roig
	2601-02	Medical Facility	HIMA San Pablo Hospital
2602	2602-01	Emergency Medical Facility, AEE Facilities	CDT Humacao, Humacao Technical Office AEE, Commercial Office AEE
	2602-03	AEE Facility Government Facility	Service Station Yabucoa TC Fire Station
2603	2603-08	Medical facility, Municipality facility	Menonita Hospital, CDT Las Piedras, Las Piedras City Hall, Las Piedras Municipal Police
	2603-09	Airport, Government office	Humacao Airport, Judicial Center

	2603-10		Humacao Police Command
2604	2604-01	AEE Facility	Service Station Yabucoa TC
2701	2701-03	Medical facility and Government offices	Naguabo Diagnostic and treatment Centre, Naguabo City Hall, Police Office, Fire station
2702	2702-01	Communication Facilities	El Yunque communications towers, Claro Tower
	2702-02	Communication facilities	Navy Communications services
2801	2801-01	Government Security	Police Station, Fire station
	2801-02	Water Pumping station	AAA Water Pump Las Piedras
2803	2803-02	Water Pumping station	AAA Water Pump Anton Ruiz Humacao, AAA Higuerilo Water Pumps
	2803-03	Water treatment	AAA Water Treatment Plant Quebrada Grande< las Piedras
2901	2901-02	Security	Municipal Police Station
	2901-02	Water Treatment	AAA water Treatment Plant La Pica Yabucoa
	2901-03	Medical facility	Yabucoa Diagnostic and treatment Centre
	2901-03	Security	Fire station
2906	2906-03	Security	FURA Yabucoa
Critical Facilities Level 2			
Substation	Feeder	Customer	
Critical Facilities Level 3			
Substation	Feeder	Customer	
2604	2604-01	Large residential complex	Palmas del Mar
2603	2603-09	Food warehouse, Large employers	Palma Real Shopping Center, Triumph Plaza Shopping Center, Econo Supermarket
2906	2906-.2	Food warehouse	Ralph Food Warehouse

Fajardo District SERT Team

Customer	37,585		
Substation	2001, 2002, 2003, 2005, 2006, 2101, 2201, 2501, 3801		
Key Transmission Feeders			
Municipalities:	Luquillo, Fajardo, Ceiba, Vieques, Culebra		
Hospitals	Hospital HIMA San Pablo Fajardo, Caribbean Medical Center Fajardo,		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	3100	Hospital	HIMA San Pablo
	3100	Aeropuerto	Autoridad de Puertos
	3100	Planta Tratamiento	AAA
	3100	Planta de tratamiento	AAA Sector Las Carolinas, C/3, Int.
	3100	Embalse	AAA Sector Las Carolinas, C/3, Int.

Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
	16500	Large Employer	Hotel El Conquistador
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
2005	10	Torre San Pablo, Carr. 194 Sector Luna, Fajardo	
2005	10	Caribbean Medical Center, Fajardo	
2005	10	Defensa Civil OMME Carr 194 Fajardo	
2005	09	Policía Garrido Morales, Esq. Calle Victoria, Fajardo	
2006	03	Defensa Civil OMME Detrás de la plaza de Recreo en Ceiba	
2201	02	Defensa Civil OMME Calle Soledad, en la Alcaldía - Luquillo	
2201	02	Policía – Calle Soledad – Luquillo	
2501	02	Centro de Tratamiento de Vieques, Bo. Las Marías	
2501	03	Defensa Civil OMME Calle Benítez Guzmán Vieques	
2501	03	Policía Carr 200 cerca del Pueblo, Vieques	
3801	02	Departamento de Salud C/ William Font, Culebra	
3801	02	Defensa Civil OMME, Barriada Clark, Culebra	
3801	02	Policía – Bo. Fulladoza, Culebra	
3801	01	Autoridad de Transporte Marítimo, Culebra	

2001	01	AAA EP Potable	C/ 987 Int. Ave. Osvaldo Molina frente a Burger King
2001	01	AAA EP Potable	C/987, Km 5, Bo. Las Croabas
2001	04	AAA EP Potable	Calle Unión, al lado Santa Isidra I
2002	01	AAA Tanque Reserva	Barriada Roosevelt
2002	01	AAA EP Potable	C/976 Sector Goya Flores Bo. Florencio
2002	01	AAA EB Alcantarillado	Sector Volantín
2002	01	AAA EP Potable	Curva Los Pomales, Bo. Paraíso
2002	01	AAA Tanque Reserva	Po Peñón, Tanque de 1 millón
2002	02	AAA EP Potable	C/3, Veve Calzado, lado Subest. 2002
2002	03	AAA EB Alcantarillado	C/194, Frente Garaje Texaco Int. Urb. Baralt
2003	01	AAA EP Potable	Ave. Conquistador, Esq. Ave. Hipólito Robles
2005	09	AAA EP Potable	Calle Hatillo, al lado de CVS
2005	09	AAA EB Alcantarillado	Bo. Jerusalén
2005	10	AAA EP Potable	C/194, al lado de Fajardo Community School
2005	10	AAA EP Potable	C/194, lado Caribbean Cinemas
2101	01	AAA EP Potable	C/3, Int. C/982, Bo. Demajagua
2101	01	AAA Planta Tratamiento	Ave. Lauro Piñero
2101	01	AAA Tanque Reserva	C/977, Bo. Rincón
2101	01	AAA EP Potable	C/978, Bo. Chupacallos
2101	01	AAA EP Potable	C/975, Bo. Río Abajo
2101	01	AAA EP Potable	C/975, Urb. Jardines Ávila
2101	01	AAA EB Alcantarillado	Desvío Felisa Rincón
2101	01	AAA Planta Tratamiento	Ave. Lauro Piñero
2101	01	AAA EP Potable	C/3, Bo. Quebrada Seca
2101	01	AAA EB Alcantarillado	C/3, Urb. Santa María
2101	01	AAA EP Potable	C/981, Sector Los Machos
2002	03	AAA EP Potable	C/940, después de Hacienda Margarita
2002	03	AAA EP Potable	Sector Cuesta del Tigre
2002	03	AAA Planta Tratamiento	Sector Cuesta del Tigre
2002	03	AAA EP Potable	Sector Los 48
2201	01	AAA EP Potable	C/991, Int. C/3, Centro Industrial
2201	01	AAA EP Potable	C/9990, Buena Vista Carrión, Bomba 1 y 2
2201	01	AAA EP Potable	C/983, Bo. Sabana
2201	01	AAA EP Potable	C/983, Int. 9983, Sector Santo Domingo
2201	01	AAA EP Potable	C/988, Bo. Sabana, Sector Las Viudas
2201	04	AAA EP Potable	C/992, Sector San Vicente

2305	02	AAA EB Alcantarillado	C/940, hacia Hacienda Margarita
2305	02	AAA EP Potable	Urb. Paisajes del Río
2305	02	AAA EB Alcantarillado	C/991 Int. C/992, lado Urb. River Edge
2305	02	AAA EP Potable	C/992, Mameyes, Entrada Hacienda Carabalí
2501	01	AAA EP Potable	C/ 200. Bo. Mosquito
2501	01	AAA Planta Tratamiento	C/ 200, Bo. Martineau
2501	01	AAA EB Alcantarillado	C/ 200, Bo. Martineau, Parque Industrial
2501	03	AAA EB Alcantarillado	Calle Germán Rieckehoff, Isabel II, Frente ATM
2501	03	AAA Agua Potable	C/100, Bo. Villa Borinquén
2501	02	AAA Agua Potable	C/997, Bo. Monte Carmelo
2501	01	AAA Agua Potable	C/ 995, Bo. Pilón
2501	01	AAA EB Alcantarillado	C/ 201, Bo. La Mina
2501	02	AAA EB Alcantarillado	Calle Lirios, Bo. Esperanza
2501	01	AAA Agua Potable	C/ 201, Bo. Florida
3801	02	AAA Alcantarillado y Desalinizadora	C/250
3801	02	AAA Estación de Bombas	C/251, Bo. Flamenco, frente Aeropuerto
3801	02	AAA Estación de vacío y bombas alcantarillado	C/250, Bda. Clark
3801	02	AAA Estación bomba Aux. Alcantarillado	C/250, Sector San Isidro
3801	02	AAA Tratamiento	C/250, Sector La Perla
3801	02	AAA Planta Desalinizadora	C/250, Sector San Isidro
Critical Facilities Level 2			
Substation	Feeder	Customer	
2005	10	Centro Envejecientes Carr 194 frente Escuela Superior Fajardo	
2005	09	Alcaldía Calle Muñoz Rivera, Esquina Dr. López	
2001	01	Comunicación WMDD AM, Carr. 987, Km 5, Las Croabas, Fajardo	
2002	01	Centro Gubernamental - Calle Garrido	

		Morales, esq. Calle Victoria Fajardo	
2003	01	Fajardo Inn. Parcelas Beltrán	
2101	01	Centro de Envejecientes Municipal Ceiba - Al lado complejo deportivo y Centro de Usos Múltiples	
2101	01	Centro de Envejecientes, Calle Severiano Fuentes No. 639, Ceiba	
2101	01	Centro de Envejecientes, Carr. 978, Urb. Celina, Ceiba	
2006	03	Alcaldía Ceiba – Detrás de la plaza pública Ceiba	
2101	01	Centro Gubernamental de Ceiba Carr 3, Km. 58, lado Cuartel de la Policía	
2101	01	Centro Industrial Aguas Claras Carr. 3 km 58.5 Ceiba	
2201	02	Centro de Envejecientes, Calle Garrido Morales, Luquillo	
2201	01	Centro de Envejecientes, Carr. 991, Bo. Sabana, Luquillo	
2201	04	Comunicaciones - Radio Sol, Carr. 992 Km. 1 Sector Torrens, Bo. Mata de Plátano, Luquillo	
2201	05	Centro Gubernamental Calle 14 de Julio, Luquillo	
2201	02	Alcaldía Calle 14 de julio, frente plaza pública	
2501	03	Alcaldía Vieques 449 Calle Carlos Lebrón	

2501	02	Comunicaciones – W.I.V.V. Bo. Esperanza, Vieques	
3801	02	Radio Línder, Villa Muñeco, Culebra	
3801	02	Antenas Redes de Celulares,	
3801	01	Antena Telefónica, Calle William Font, Culebra	
3801	02	Alcaldía – Calle Escudero #83, Culebra	
3801	01	Centro Industrial – R.D. Medical – Bo. Fulladoza, Culebra	
Critical Facilities Level 3			
Substation	Feeder	Customer	

Mayaguez Region

Mayaguez District SERT Team

Customer	110, 933		
Substation	6001,6002,6003,6004,6005,6007,6008,6010,6012,6014,6015,6101,6301,6303,6305,6306,		
Key Transmission Feeders	6401,6404,6406,6501,6601,6603,6702,6703,6704,6705,6801,6802		
Municipalities:	**Añasco, Mayagüez, Hormigueros, San Germán, Sabana Grande, Lajas, Cabo Rojo**		
Hospitals	Hospital Perea Mayagüez, Clínica Yagüez, Centro Médico Mayagüez, Hospital San Antonio, Hospital Bella Vista		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	L-9200		Zona Industrial de Añasco
	L-5600		Planta Tratamiento Aguas Usadas, Hospital Veteranos, Planta Bomba AAA
	L-1200	Sub 6479 Hospital	Hospital La Concepción
	L-13400/15700	Sub 6660 Water	PRASA (AAA)
	L-1500	Sub 6574 Wastewater	PRASA (AAA)
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
	L-1500		Colegio (RUM) de Mayagüez
	L-2000		Fresenius Kabi de Maricao
	L-1200		Universidad Católica, Super. Pueblo Extra de Mayagüez
	L-6100		Alimentos Federación, Universidad Albizu Mayagüez
	L-1600		Almacenes Mr. Special, Escuela Jose de Diego Mayagüez y Cervecería India
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
6101	6101-01	CDT de Añasco, Cuartel de la Policia Estatal	
6101	6101-02	Alcaldía de Añasco	
6101	6101-03	Planta de Tratamiento Aguas Usadas	
6301	6301-01	CDT de Maricao, Cuartel de la Policia	
6303	6303-01	Planta Tratamiento Aguas Usadas	
6305	6305-02	Planta AAA, Rio Prieto	
6305	6305-03	Bomba AAA	

6306	6306-02	Bomba AAA	
6001	6001-01	Hospital Perea de Mayagüez	
6002	6002-05	Clínica Yagüez de Mayagüez	
6003	6003-01	Cuartel de la Policia Estatal	
6004	6004-05	Centro Médico de Mayagüez	
6005	6005-02	Pista Aeropuerto Mayagüez	
6808	6808-02	Centro Médico y Guardia Nacional de Mayagüez	
6808	6808-04	Centro Médico de Mayagüez	
6010	6010-01	Hospital Bella Vista (amarre)	
6012	6012-02	Aeropuerto y Planta de Aguas Usadas	
6012	6012-05	Planta de Filtración AAA	
6014	6014-01	Hospital San Antonio, Oficina Manejo de Emergencia	
6014	6014-02	Planta AAA	
6015	6015-01	Centro de Trauma	
6015	6015-02	Comandancia de la Policia Estatal	
6802	6802-01	Pozo AAA	
6802	6802-02	Cuartel de la Policia Estatal, Centro Manejo de Emergencia y Pozo AAA	
6401	6401-01	Alcaldía de San Germán	
6401	6401-02	Cuartel de la Guardia Nacional	
6401	6401-04	Estación Bombeo AAA Las 40, Estación Bombeo AAA Sabana Eneas	
6404	6404-01	Estación Bombeo AAA San Marta, Estación Bombeo AAA Riverside	
6404	6404-02	Estación Bombeo AAA Salamanca, Estación Bombeo AAA L a Tea, Centro de Manejo de Emergencia	
6404	6404-03	Cuartel de la Policia, Estación Bombeo AAA-Guamá	
6406	6406-02	Hospital La Concepción, Planta de Filtración AAA y Estación Bomberos	
6406	6406-04	Hospital de Sabana Grande, Centro Manejo de Emergencia, Bombeo AAA	
6501	6501-01	Estación Bombeo AAA Machuchal y Pozo AAA Molinas	
6501	6501-02	Tres Estaciones de Bombeo AAA Santana	
6501	6501-03	Alcaldía de Sabana Grande, Cuartel de la Policia y Estación Bombeo AAA	
6501	6501-04	Estación Bombeo AAA de Rayo Guaras y Papayo	
6601	6601-01	Alcaldía de Lajas y Cuartel de la Policia	
6601	6601-03	Bombas AAA-La Plata, Lajas	
6601	6601-04	Pozo AAA y Bomba AAA Palmarejo y Parcelas Palmarejo de Lajas	

6603	6603-01	Estación Bombeo AAA La Parguera y Cuartel de la Policia de La Parguera, Lajas	
6702	6702-01	Estación Bombeo AAA, Carr. 101 Cabo Rojo	
6703	6703-01	Centro Operaciones de Emergencia, Planta de Filtración AAA y Bombas AAA-Monte Grande	
6703	6703-03	Hospital Metropolitano, Pozo AAA de agua potable, Cuartel Policia Estatal y Bombas AAA-Carr.312	
6704	6704-02	Estación Bombeo AAA Combate y Cuartel de la Policia	
6704	6704-02	Estación Bombeo AAA de Boquerón	
6705	6705-01	Estación Bombeo AAA de Puerto Real y Unidad Guardia Nacional	
6802	6802-02	CDT de Hormigueros, Policia Estatal, Centro Manejo Emergencia y Pozo AAA- Bo. Lavadero	
6802	6802-04	Pozo AAA- detrás Hotel Perichis de Joyuda	
6802	6802-05	Alcaldía de Cabo Rojo, Cinco Pozos AAA- Bo. Bajura	
Critical Facilities Level 2			
Substation	Feeder	Customer	
6303	6303-01	Centro Telecomunicaciones AEE y Radio Telecomunicaciones Radio, Televisión y Red Celular-Monte del Estado en Maricao	
6305	6305-03	Torre de Telecomunicaciones Bo. Carrizales	
6001	6001-01	Centro Judicial de Mayagüez	
6001	6001-03	Campamento El Limón (Correción)	
6008	6008-04	Antena Telecomunicaciones Emisora Radial Noti-Uno	
6012	6012-02	Centro Diálisis- El Maní	
6012	6012-03	Distrito Técnico-Services Station Transformer	
6802	6802-02	Antenas Telecomunicaciones Carr. 343	
6601	6601-03	Canales de Riego AEE- Lajas	
6702	6702-01	Antenas Telecomunicaciones-La 22 Cabo Rojo	
6704	6704-02	Antenas de Telecomunicaciones Cabo Rojo	
6802	6802-04	Antenas de Telecomunicaciones de Miradero	
Critical Facilities Level 3			
Substation	Feeder	Customer	
6101	6101-01	Casco Urban de Añasco	
6105	6105-05	Casco Urbano de Añasco	

6001	6001-01	Casco Urbano de Mayagüez	
6003	6003-01	Centro Gubernamental	
6007	6007-05	Zona Industrial de Mayagüez	
6014	6014-01	Casco Urbano de Mayagüez	
6015	6015-01	Oficina Regional AEE de Mayagüez	
6015	6015-02	CESCO, Fondo del Seguro del Estado	
6801	6801-01	Casco Urbano de Hormigueros	
6801	6801-03	Hogar de Ancianos San José	
6802	6802-02	Casco Urbano de Hormigueros	
6401	6401-01	Casco Urbano de San Germán	
6401	6401-02	Casco Urbano de San Germán	
6404	6404-03	Centro Gubernamental	
6406	6406-02	Distrito Técnico de San Germán	
6406	6406-4	Urbanización San José-Sabana Grande	
6501	6501-03	Casco Urbano de Sabana Grande	
6601	6601-01	Casco Urbano de Lajas y Centro Gubernamental	
6603	6603-03	Casco Urbano de Lajas	
6702	6702-03	Zona Turística, Poblado Boquerón y Unidad Marítima FURA de Cabo Rojo	
6706	6703-01	Depto. Obras Pública Municipal de Cabo Rojo	
6802	6802-05	Casco Urbano de Cabo Rojo	

Aguadilla District SERT Team

Customer	124,468		
Substation	7002,7003,7004,7005,7006,7008,7011,7012,7101,7104,7201,7301,7303, 7504		
Key Transmission Feeders			
Municipalities:	Aguadilla, Isabela, Quebradillas, Moca, Aguada, Rincón, San Sebastián, Las Marías, Lares		
Hospitals	Hospital Municipal de Las Marías, Hospital General de Castañer-Lares Hospital de Lares, Hospital San Carlos de Moca, Hospital Buen Samaritano de Aguadilla, Quebradillas Medical Center, Shalom Medical Care, Centros Integrados de Servicios de Salud, Hospital CIMA		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	L-2500		Hospital San Carlos de Moca
	L-5600		Planta Filtración Culebrinas- Aguada
	L-15900		Planta Tratamiento AAA- Aguada
	L-2800		Hospital Buen Samaritano,Aguadilla
	L-2100	Hatillo TC @ Quebradillas Sect	Coliseo Raymond Dalmau(FEMA)
Critical Facilities Level 2			
	Line Number	Description	Customer
	L-15900		Antena Navy-Aguada
	L-2700		Carcel Guerrero-Aguadilla
Critical Facilities Level 3			
	Line Number	Description	Customer
	L-2500		Zona Industrial Moca
	L-2800		Suiza Dairy- Aguadilla
	L-6000		UPR de Aguadilla
	L-2700		Zona Industrial Aguadilla
	L-2500		Escuela Manuel Méndez de San Sebastián y Supermercado Econo
	L-1900		Escuela Josefina Linares de San Sebastián
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
7003	7003-02	Centro Manejo Emergencia de Aguadilla	
7004	7400-001	Aeropuerto y Edificios Federales Base Ramey	
7005	7005-01	Aeropuerto y Edificios Federales Base Ramey	
7011	7011-01	Estación de Bomberos	
7011	7011-02	Planta Filtración AAA - La Montaña	
7011	7011-03	Estación de Bomba AAA- Lago Calero	

7504	7504-01	Estación de Bomba AAA	
7101	7101-04	Alcaldía de Moca	
7201	7201-02	Alcaldía de Aguada	
7301	7301-03	Cuartel Municipal y Estación de Bomberos	
7301	7301-04	Varias Bombas de Relevo AAA-PR 115	
7301	7301-05	Alcaldía, Cuartel de la Policía Estatal, Planta de Tratamiento Aguas Usadas.	
7402	-01	Quebradillas Medical Center	Quebradillas, Bo Cocos
7402	-02	Shalom Medical Care	Quebradillas, Bo Terranova
7402	-05	AAA(PF- Charcas)	Quebradillas, Bo Charcas
7402	-05	Policía Estatal	Quebradillas, Bo Pueblo
7403	-01	AAA(potable)	Quebradillas, Las Margaritas Bo Guajataca
7403	-02	AAA(potable)	Camuy, Bo Puertos
7403	-02	AAA(PF Guajataca)	Quebradillas, Bo Guajataca
7404	-07	AAA(sanitaria)	Quebradillas, Las Cuevitas
7404	-07	AAA(potable)	Quebradillas, Pozo del Rey
7404	-07	Policía Municipal y Manejo de Emergencias	Quebradillas, Terranova
7404	-07	Bomberos	Quebradillas, Pueblo
7404	-07	Centros Integrados de Servicios de Salud de Lares	Quebradillas, Pueblo
7404	-07	Alcaldía	Quebradillas, Pueblo
7502	-01	Alcaldía	Isabela, Pueblo
7502	-02	AAA(potable)	Isabela, Bo Llanadas
7502	-02	AAA(potable)	Isabela, Capiro, Bo Galateo Alto
7502	-03	Bomberos	Isabela, Bo Mora
7502	-03	Hospital CIMA	Isabela, Bo Mora
7502	-03	AAA(PF Isabela)	Isabela Sector La Curva, Bo Mora
7503	-02	Policía Estatal	Isabela, Bo Pueblo
7503	-03	AAA(sanitaria)	Isabela, La Corchado
7503	-04	Policía Municipal y Manejo de Emergencias	Isabela, Bo Mora
7503	-04	AAA(sanitaria)	Isabela, Carr 112 Bo Pueblo
7505	-05	AAA(PAS)	Isabela, Villa Pesquera, Bo Guayabo
7505	-05	AAA(potable)	Isabela, Sector Los Pinos, Bo Arenales Bajos
7505	-05	AAA(potable)	Isabela, Sector Rocha, Bo Arenales Bajos
7801	7801-01	Alcaldía de San Sebastián	
7801	7801-02	Cuartel de la Policía	
7801	7801-03	CDT de San Sebastián	

7802	7802-03	Planta Tratamiento AAA aguas usadas	
7802	7802-04	Centro Operaciones de Emergencia, Planta de Tratamiento AAA aguas usadas y Estación de Bomberos.	
7805	7805-13	Planta Tratamiento AAA Aguas Usadas	
6201	6201-01	Planta AAA, Hospital Municipal de Las Marías	
7901	7901-01	Centro Manejo de Emergencia y Estación de Bomberos.	
7901	7901-02	Planta Tratamiento AAA Aguas Usadas y Cuartel de la Policía de Lares.	
7902	7902-01	Planta de Acueductos	
7902	7902-03	Hospital General de Castañer, Cuartel de la Policía y Estación de Bomberos de Lares	
7903	7903-06	Hospital de Lares	
Critical Facilities Level 2			
Substation	Feeder	Customer	
7005	7005-03	Coast Guard Housing Base Ramey	
7008	7008-04	Centro Telecomunicaciones AEE	
7011	7011-01	Centro Telecomunicaciones Claro	
7301	7301-05	Centro Telecomunicaciones de Claro	
7303	7303-01	Centro Comunicaciones AEE, Centros Telecomunicaciones de Radio, Televisión y Red Celular en Pico Atalaya	
7801	7801-02	Tribunal Municipal	
7805	7805-13	Centro Renal y Diálisis.	
Critical Facilities Level 3			
Substation	Feeder	Customer	

7002	7002-01	Casco Urbano, Depto. Obras Públicas, Depto. Transportación y Obras Públicas y Residencial Público Aguadilla	
7002	7002-02	Casco Urbano de Aguadilla	
7002	7002-03	Casco Urbano de Aguadilla	
7008	7008-05	Casco Urbano, Distrito Técnico de Aguadilla	
7008	7008-07	Casco Urbano, Comercial AEE de Aguadilla	
7011	7011-01	Aguadilla Medical Plaza y Hotel Las Cascasdas	
7101	7101-04	Casco Urbano de Moca	
7104	7104-06	Casco Urbano de Moca (resguardo) y Zona Industrial	
7201	7201-02	Casco Urbano de Aguada	
7301	7301-02	Centros Comerciales Plaza Rincón, Banco Popular, Gasolineras	
7301	7301-03	Casco Urbano de Rincón y Health Center.	
7301	7301-04	Centro Envejecientes y Correo Servicios Postales	
7301	7301-05	Casco Urbano de Rincón, Hotel Villa Cofresi	
7801	7801-01	Casco Urbano de San Sebastián	
7801	7801-03	Comercial AEE de San Sebastián	
7801	7801-04	Distrito Técnico de San Sebastián	
7805	7805-11	Egida El jibarito, Centro Comercial, Centro Deportivo y Establecimientos de comida rápida.	

6201	6201-01	Hogar de Envejecientes de Las Marías	
6201	6201-02	Casco Urbano de Las Marías	
7901	7901-02	Casco Urbano de Lares	

Ponce Region

Ponce District SERT Team

Customer	98,901		
Substation			
Key Transmission Feeders			
Municipalities:	Ponce, Villalba, Juan Diaz		
Hospitals			
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
Sub 5092	0500	Ave Baramaya Sector La Cotorra Bo Canas	Planta filtración La Cotorra
Sub 5085	0500	Carretera PR 2 Km 257 Bo Canas Ponce	Planta tratamiento AAA
Sub 5075	0900	Ponce bypass 2213, Ponce	Hospital Damas
Sub 5876	7900	917 Ave. Tito Castro (PR14), Ponce	Hospital Distrito
Sub 5871	18000	Carretera PR 506 km 1.0 Coto Laurel, Ponce	Hospital San Cristóbal
	37000-36900	Carr 123 Canas Ponce	Suple Línea privada 17600
	7900	Barrio Amuelas. Carretera 532 Km 5.6, Juana Díaz	Casa del Veterano
	0200	Carr 149 Km 5.7, Juana Diaz	Base Fort Allen
	0300	Carr 149 Km 58.5 Bo Tierra Santa, Villalba	CDT Villalba
Sub 5974	4800	Carr 150 km 5.3 Bo Higuero Villalba	Bomba AAA
Critical Facilities Level 2			
	Line Number	Description	Customer
Sub 5081, 5277, 5060	0500	Bo. El Tuque Sector Las Cucharas Carr. #2	Centro Corrección Las Cucharas
Sub 5093	1800	2150 Ave Santiago de los Caballeros, Ponce	Centro Judicial
Sub 5876	7900	Carr. 14 KM 1.0 H 1.0, Distrito Ponce	Cárcel de Menores
Critical Facilities Level 3			

	Line Number	Description	Customer
Sub 5278	0500	4820 Calle Cándido Hoyos, Ponce	Instituto Tecnológico
	0900	2250 Ave Las Americas, Ponce	Universidad Católica
Sub 5014	1800	2151 Ave. Santiago de los Caballeros, (PR1) Ponce	Universidad UPR
Sub 5059	1800	#21 Ave. Santiago de los Caballeros, Ponce	Fondo del Seguro
Sub 5276	1800	2050 Ponce Bypass, Ponce	Plaza del Caribe
	10200	Punto Oro, Tuque Ponce	Zona Industrial El Tuque
	10200	PR 123 Int PR 500 Magueyes Urbano (Canas) Ponce	Línea spare para Ponce Cement
	11200	PR 1 Mercedita, 104 Turpeaux Ind Park, Mercedita, Ponce	Universidad Interamericana
Sub 5097	11200	Urb Villa del Carmen Avenida Caribe 1150, Ponce	Hotel Ponce Hilton
	11200	Urb. Industrial Sabaneta, Calle Húcar Ponce	Zona industrial Sabanetas
SUB 5018	37000-36900	PR 500 a PR 123 Magueyes Urbano Ponce	Ponce Cement
	7900	Carr.149 km 56.3 Tierra Santa, Villalba	Medtronics
	0300	Carr 5561 Km 1.6 Bo Jagueyes, Villalba	Escuela Salvador Busquets
	17900	500 Calle Desvio Victor Cruz, Juana Díaz	Cooper Vision
	17900	Cal Muñoz Rivera- PR 592 Sector Esperanza, Juana Diaz	Bellas Artes
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
5002	5002-01	Tanque de agua AAA – Baramaya	
5002	5002-04	Bombas AAA - Tierra Santa	
5004	5004-06	Bombas AAA Ondeo - La Vaquería	
5004	5004-06	Planta Compacta AAA - Tibes	

5004	5004-06	Planta Filtros AAA - Ponce Vieja	
5004	5004-06	Represa AAA - Tibes	
5004	5004-06	Tanque AAA - La Ferry	
5004	5004-06	Tanque AAA - Planta Vieja	
5004	5004-06	Represa Tibes	
5004	5004-06	Bombas AAA - El Paraiso	
5004	5004-06	Bombas AAA - La Yuca	
5004	5004-07	Bombas AAA - Valle Alto	
5005	5004-07	Ofic. Regional AAA	
5007	5004-07	Bomba AAA (T-2) detrás Camino del Sur	
5007	5007-05	Bombas AAA #1 - #8, #10 - Santa Cruz	
5011	5011-03	Bombas AAA – Caracoles	
5012	5012-03	Planta Compacta AAA-Hogares Seguros	
5012	5012-03	Represa Lago Cerillo	
5012	5012-04	Tanque AAA - Rio Chiquito	
5013	5013-01	Bombas AAA	
5013	5013-02	Planta Compacta - Real Anón	
5016	5016-01	Bombas AAA - Camino del Sur	
5016	5016-01	Bombas Aguas Usadas, Urb. Villa del Carmen	
5016	5016-02	Bombas AAA - La Guancha	
5016	5016-03	Bomba Pozo Nicole, Costa Caribe	
5018	5018-01	Bombas AAA Montemar Apartments	
5018	5018-02	Planta Filtración AAA – Magueyes	
5018	5018-04	Oficina Comercial AAA	
5018	5018-04	Oficina Comercial AAA - Calle Villa	
5019	5019-01	Compañía de Aguas – Ponce	
5019	5019-01	Taller mecánico Campañta de Aguas	

5019	5019-01	Tanque AAA - Brisas del Caribe	
5019	5019-02	Tanque AAA - Sector Caliche	
5021	5021-01	Bomba AAA - Lagrimas-2	
5021	5021-01	Planta Compacta AAA - Guaraguao	
5021	5021-01	Tanque AAA - Guaraguao/Lomas	
5021	5021-01	Tanque AAA - Iglesia Santas Pascuas	
5901	5901-01	Academia de la Policia	
5901	5901-01	Cuartel de Policía - Villalba	
5901	5901-02	Guardia Municipal Villalba	
5013	5013-02	EB EL LAGO	
5013	5013-03	EBAS JACAGUAS	
5013	5013-03	POZO CEIBA	
5013	5013-03	POZO PUENTE	
5013	5013-03	POZO RIOS	
5013	5817-02	POZO EXPERIMENTAL	
5013	5817-02	POZO LA FE	
5801	5801-01	EBAS POTALA PASTILLO	
5801	5801-02	POZO PASEO SOL Y MAR	
5801	5801-04	EBAS POTALA SERRANO	
5802	5802-01	EBAS ESTANCIAS DEL SUR -- AAA	
5802	5802-01	EBAS VALLE HUCARES	
5802	5802-03	EBTK EL QUEMAO	
5802	5802-03	EBTK GUAYABAL II "HER & AMY	
58020	5802-03	EBTK GUAYABAL III " EL CERRO "	
5802	5802-05	EBAS LEONARDO SANTIAGO	
5802	5802-05	EBAS LOMAS	
5803	5802-03	EBAS GUAYABAL I -- BO	
5803	5802-03	EBAS GUAYABAL II	
5803	5803-02	EB VILLAS DE RIO CAÑAS	
5803	5803-02	EBAS COLINAS VERDE AZUL	
5803	5803-02	EBAS MONTE SOL	

5803	5803-02	EBAS PASEOS DE LOS REYES	
5803	5803-02	EBAS SANTA MARTA	
5803	5803-02	POZO AMELIA I	
5803	5803-02	POZO AMELIA II	
5803	5803-02	POZO DAYAN	
5803	5803-02	POZO ESTANCIAS DEL SUR	
5803	5803-02	POZO LOS REYES	
5804	5804-01	EBTK CUEVAS I	
5804	5804-01	EBTK MAGAS	
5804	5804-02	EBTK PROVINCIA	
5804	5804-02	EBTK UBUEYES -- RIO CANAS	
5805	5803-02	EBTK CORRAL FALSO	
5805	5803-02	POZO AGUSTINILLO	
5817	5817-02	POZO ARUZ NUEVO (PARQUE)	
5817	5817-02	POZO ARUZ VIEJO (PUENTE)	
5817	5817-02	POZO VERTEDERO	
5901	5901-01	EB ROMERO	
5901	5901-01	EBAS JAGUEYES	
5901	5901-01	EBS JAGUEYES II	
5901	5901-01	PF JAGUEYES (VILLALBA)	
5901	5901-01	PF VILLALBA (ILUM)	
5902	5902-02	EB SISTEMA AEREACION REPRESA TOA VACA	
592	5902-02	EBTK CAMARONES	
5902	5902-03	CASETA LAGO TOA VACA	
5902	5902-03	EB CRUDA PF LAGO TOA VACA	
5902	5902-03	EB SISTEMA AEREACION REPRESA TOA VACA	
5902	5902-03	EBS HIGUERO	
5902	5902-03	EBTK PALMA SOLA II	
5902	5902-03	REPRESA TOA VACA (VALVULA DISTRIBUCION)	
5902	5902-03	TK CERRO GORDO	
9901	9901-02	EBTK TORO NEGRO	
5901	5901-02	Specialty Family Clinic	
5901	5901-03	Centro de Salud San Cristóbal	
Critical Facilities Level 2			
Substation	Feeder	Customer	
5803	5803-02	Emisora WCGB	

Critical Facilities Level 3			
Substation	Feeder	Customer	
5001	5001-02	Escuela Aguayo	
5001	5001-03	Escuela de Medicina-2	
5001	5001-03	Instituto Tecnológico	
5001	5001-04	Escuela Andrés Grillasca	
5001	5001-05	Escuela Ismael Maldonado	
5001	5001-05	Teatro U.P.R.	
5002	5002-01	Colegio El Ave Maria	
5002	5002-01	Escuela Julio Alvarado	
5002	5002-02	Colegio San Conrado	
5002	5002-02	Escuela Antonio Paoli	
5002	5002-02	Escuela Dr. Pila	
5002	5002-03	Escuela Joaquín Ferrán	
5003	5003-02	Caribbean School	
5003	5003-02	Academia Cristo Rey	
5003	5003-02	Colegio Sagrado Corazón	
5004	5004-06	Escuela Santa Teresita	
5004	5004-06	Escuela Simon Moret	
5004	5004-07	Colegio Ponceño	
5004	5004-07	Escuela Cerrillos	
5004	5004-07	Escuela Rehabilitación Vocacional	
5004	5004-07	Escuela Superior Jardines de Ponce	
5004	5004-09	Escuela de Cosmetología	
5004	5004-09	Escuela Ramos Antonini	
5005	5005-02	Escuela Lucy Grillasca	
5005	5005-04	Escuela Superior Vocacional	
5007	5007-01	Ponce Paramedical College	
5008	5008-01	Instituto de Banca	
5008	5008-01	Instituto de Banca (antes La Riviera)	
5008	5008-02	Colegio de Electricidad	
5008	5008-02	Metro College	
5010	5010-01	Escuela Abraham Lincoln	
5010	5010-03	Colegio Sagrada Familia	

5011	5011-03	Escuela de Medicina de Ponce	
5011	5011-03	Escuela de Urb. Starlight	
5011	5011-05	Escuela Ed. Especial Ramon Marín	
5013	5013-01	Escuela Llanos del Sur	
5013	5013-01	Escuela Pedro Juan Serrallés	
5016	5016-01	Escuela Josephine Bayon	
5016	5016-03	Escuela Angel A. Cordero Bernard	
5016	5018-01	Escuela Dr. Pedro Albizu Campos	
5018	5018-02	Escuela Aurea E. Rivera Collazo	
5018	5018-02	Escuela Betzaida Velázquez	
5018	5018-02	Escuela Las Delicias	
5018	5018-03	Escuela Eugenio Leconte	
5018	5018-04	Escuela Newman	
5019	5019-01	Escuela Pedro Albizu Campos	
5019	5019-01	Escuela Fernando L. Malavé	
5021	5021-01	Escuela Jose E. Betances	
5802	5802-02	Junta de Inscripcion Permanente	
5802	5802-01	Alcaldia - Juana Diaz	
5901	5901-02	Alcaldia - Villalba	
5901	5901-02	Junta de Inscripcion Permanente	
5901	5901-03	Centro de Gobierno - Villalba	
5902	5902-01	Recursos Naturales	
9901	9901-01	Repetidores Antenas-Cerro Punta	
5013	5013-01	Escuela Llanos del Sur	
5013	5013-01	Escuela Pedro Juan Serrallés	
5013	5013-03	Escuela Josefina Cangiano	
5803	5803-01	Escuela Elemental Bo. Amuelas	
5803	5803-02	Escuela Carmen Flores	
5805	5805-01	Head Start de El Trueno	

5817	5817-01	Head Start Bo. La Cuarta	
5817	5817-02	Esc. Santiago Collazo Pérez-Aguilita	
5901	5901-01	Escuela Norma Torres	
5901	5901-01	Escuela Francisco Zayas	
5901	5901-02	Escuela Emilia Bonilla	
5803	5803-02	Hotel El Eden	
5803	5803-02	Motel Marbella	
5802	5802-05	Plaza Juana Diaz Shopping	
5901	5901-03	Villalba Mini Mall	

Yauco District SERT Team

Customer	46,947		
Substation			
Key Transmission Feeders	37100		
Municipalities:	Guánica, Yauco, Guayanilla, Peñuelas		
Hospitals			
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
5401	04	Escuela Josefa Velez Bauza	Emergency Shelters
5602	01	AAA Aguas Usadas	Wastewater treatment plants
Critical Facilities Level 2			
Substation	Feeder	Customer	
Critical Facilities Level 3			
Substation	Feeder	Customer	
5401	01	Penuelas Plaza	Food Shopping Center

Guayama District SERT Team

Customer	87,793
Substation	4001, 4002, 4003, 4006, 4101, 4201, 4301, 4401, 4402, 46501, 4502, 4503, 4504, 4601, 4602, 4603
Key Transmission Feeders	100, 200, 3700, 4800, 15200, 36300, 37800, 40100, 40200, 40300
Municipalities:	Santa Isabel, Coamo, Salinas, Guayama, Arroyo, Patillas, Maunabo
Hospitals	Hospital Menonita Guayama, Hospital de Emergencias Santa Isabel, Hospital Menonita Coamo, Centro de Emergencias Salinas, Centro de Emergencias Patilla, Centro de Emergencias Arroyo, Centro de Emergencias Maunabo

Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
Guayama District	40100	Aguirre – Jobos TC	Jobos TC – Sub. 4003
	40200	Aguirre – Jobos TC	Jobos TC – Sub. 4003
	37800	Jobos TC – Cayey TC	Cayey TC
	36300	Jobos TC – Maunabo TC	Maunabo TC
	10900	Jobos TC	Glaxo Smirt-Klain - GSK
	10900	Jobos TC	Baxter
	10900	Jobos TC	ALPLA Caribe
	10900	Jobos TC	Correccional de Guayama
	10800	Jobos TC - GSK	Glaxo Smirt-Klain - GSK
	3700	Jobos TC 3750 - 3765	Planta Tratamiento AAA
	3700	3765 - 3760	AES Water System
	3700	3750 - 3769	Centro Comercial Guayama
	3700	3750 - 3731	Univ. Interamerica de PR
	3700	3750-3731	Hospital Menonita Guayama
	3700	3750 - 3797	Stryker
	3700	3797 - 3745	Sub. 4101
	3700	3745 - 3755	Sub. 4201
	3700	3755 - 3770	Maunabo TC
	100	0152 - 0140	Sub. 4001
	100	0152 - 0147	Wal-Mart Supercenter
	100	0147 - 0165	Sub. 4002
	100	0165 - 0169	Sub. 4006
	100	0150 - 0130	AES Ilumina
	15000	15010 - 15031	Sub. 4301

Santa Isabel District	40300	Aguirre 40330 – 40340 Santa Isabel TC	Sub. 4402
	40300	40350 - 40370	PATTERN WIND GENERATION
	40300	Pattern 40360 – 40310 Ponce TC	Ponce TC
	4800	4850 - 4825	Sub. 4601
	4800	4825 - 4840	Wal-Mart
	4800	4870 - 4885	Sub. 4603 y SJ-meet
	4800	4875 - 4861	EATON
	4800	4861 - 4805	Sub. 4602
	200	0260 - 0203	Bombas AAA
	200	0205 - 0205	Hamilton Sundstrand
	200	0250 Jobos TC – 0270 Salinas Sect.	Salinas SECT. HORIZON
	200	0280 Salinas Sect. - 0231	Camp. Santiago
	200	0280 Salinas Sect. - 0231	Sub. 4504
	200	0231 - 0265	Sub. 4502
	100	0150 Jobos TC – 0170 Salinas Sect.	Salinas SECT. HORIZON
	100	0170 Salinas Sect. - 0109	DOW Agroscience
	100	0109 - 0171	Pioneer
	100	0171 - 0145	Sub. 4501
	100	0171 - 0125	Hacienda Las Carolinas
Critical Facilities Level 2			
	Line Number	Description	Customer
Guayama District	100	Jobos TC – Horizon Sect.	
	200	Jobos TC – Horizon Sect.	
Santa Isabel District	4800	Santa Isabel TC – Toro Negro	Línea Averiada
	100	Santa Isabel Sect. – Pastillo Sect 5801	Línea Averiada
	200	Santa Isabel Sect. – Pastillo Sect 5801	Línea Averiada

	100	Salinas 4501 – Santa Isabel Sect.	Línea Averiada
	200	Salinas 4501 – Santa Isabel Sect.	Línea Averiada
Critical Facilities Level 3			
	Line Number	Description	Customer
	15200	Jobos TC	Fabrica (abandonada)
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
4001	4001-02	Bombas AAA	
	4001-03	Bombas AAA	
4002	4002-02	Bombas AAA	
	4002-03	Bombas AAA	
4003	4003-01	Bombas y planta AAA	
	4003-02	Comandancia de la Policia, Bomberos, Tribunal, COE Regional, Hospital Menonita	
	4003-03	Hospital Menonita, Centro Diálisis Fresenium, Centro Emergencia Pavia	
4006	4006-02	Zona Urbana Arroyo	
	4006-04	Centro Comercial de Guayama, Centro Diálisis	
	4006-05	Oficinas Distrito Técnico de Guayama	
4101	4101-01	Bombas AAA	
	4101-02	Hospital Laffayette (Menonita)	
	4101-03	CDT Hospital de Emergencias Arroyo, Cuartel de la Policia, Estacion de Bomberos y Bombas AAA	

4201	4201-01	Bomba y planta AAA	
	4201-02	Cuartel de la Policia, CDT Hospital de Emergencias Patillas, COE Municipal	
	4201-03	Bomba y Planta AAA, **Represa Patillas**	
	4201-04	Bomba de AAA y Represa Patillas	
4301	4301-01	CDT Hospial emergencias Maunabo, Cuartel de la Policía, Estación Bomberos COE Municipal y Planta AAA	
	4301-02	Bomba y planta AAA	
	4301-03	Bomba AAA	
	4301-04	Bombas AAA	
4401	4401-02	CDT Hospital de Emergencias Santa ISabelFamiliar	
	4401-03	Cuartel de la Policia, COE, Bomberos	
4402	4402-01		
	4402-02		
4501	4501-01	CDT Hospital SAlinas, COE Municipal	
	4501-02	Bombas AAA	
4504	4504-01	CDT Hospital Emergencias	
4602	4602-02	COE Municipal, Cuartel de Policia Bomberos, Hospital Menonita	
	4602-03	Hospital Municipal Coamo	

Critical Facilities Level 2			
Substation	Feeder	Customer	Comments
4001	4001-03	Police Antenna	
4002	4002-02	Antenna WIBS 1540 AM Radio	
4003	4003-01	Centro Sor Isolina Ferre	
	4003-02	WIBS 1540 AM Radio AM, WAPA Radio WXRF 1590	
	4003-03	Centro Dialisis Fresenium, ALCALDIA	
4006	4006-04	Centro de Dialisis, Centro de Envejecientes Santa Ana	
4101	4101-03	ALCALDIA	
4201	4201-02	ALCALDIA	
	4201-04	X-61 WEXS 610 AM Radio Patillas	
4301	4301-01	ALCALDIA	
	4301-02	Egida de la Policia	
4401	4401-01	ALCALDIA	
4501	4501-01	WHOY 1210 AM Radio Salinas , ALCALDIA	
4603	4603-01	WCPR 1450 AM Radio Coamo	
Critical Facilities Level 3			
Substation	Feeder	Customers	
4001	4001-01	Esc. Calimano	**433 Customers** - POSSIBLE SHELTERS
	4001-02		**795 Customers**
	4001-03	Esc. Guamani, Carite Head Star	**1950 Customers** - POSSIBLE SHELTERS
	4001-04	Esc. Carioca, Colegio Guamani	**1350 Customers** - POSSIBLE SHELTERS
4002	4002-01		**751 Customers**
	4002-02		**2132 Customers**
	4002-03	Esc. Costa Azul	**810 Customers** - POSSIBLE SHELTERS
4003	4003-01	Head Star Santa Ana, Esc. Puerto Jobos, Esc. Intermedio Puente Jobos,	**3454 Customers** - POSSIBLE SHELTERS

		Centro Sor Isolina Ferre	
	4003-02	Esc. Pales Mato, Fondo Seguro del Estado, Esc. Superior, Instituto Tecnológico, Academia San Antonio, Colegio Guamaní	**4222 Customers** - POSSIBLE SHELTERS
	4003-03	Colegio San Patrick, Esc. Simon Madera	**2208 Customers** - POSSIBLE SHELTERS
4006	4006-01		0
	4006-02	Esc. Superior Jardines de Arroyo	**1186 Customers** - POSSIBLE SHELTERS
	4006-03		0
	4006-04	Head Star Villa Rosa.	**217 Customers**
	4006-05	Colegio Cristiano Bautista	**469 Customers**
4101	4101-01	Esc. La Palma, Head Star La Palma	**2150 Customers** - POSSIBLE SHELTERS
	4101-02	Esc. Jardines de Arroyo	**944 Customers** - POSSIBLE SHELTERS
	4101-03	Esc. Superior Arroyo, Esc. Calle Morse, Head Star Arroyo, Colegio Mayor de Tecnología	**1715 Customers** - POSSIBLE SHELTERS
	4101-04	Esc. Yaurel, Esc. Pitahaya, Esc. Intermedia Bda. Marín, Esc. Las 500	**2910 Customers** - POSSIBLE SHELTERS
4201	4201-01	Esc. El Bajo, Esc. Los Pollos, Esc. Jacaboa, Head Star Jacaboa	**2736 Customers** - POSSIBLE SHELTERS
	4201-02	Esc. Superior de Patillas, Head Star El Mamey	**1465 Customers** - POSSIBLE SHELTERS
	4201-03	Esc. Zona Urbana, Esc. Marín	**1092 Customers** - POSSIBLE SHELTERS

	4201-04	Esc. Cacao Alto, Esc. La Mula, Esc. Quebrada Arriba, Esc. El Real	**2146 Customers** - POSSIBLE SHELTERS
4301	4301-01	Esc. Talante, Esc. Superior Urbana, Head Star Zona Urbana, Head Star Bo. Qda. Arriba	**1512 Customers** - POSSIBLE SHELTERS
	4301-02	Esc. Bordaleza	**1893 Customers** - POSSIBLE SHELTERS
	4301-03	Esc. Palo Seco, Esc. Calzada, Head Star Lizas, Esc. Matuyas	**1616 Customers** - POSSIBLE SHELTERS
	4301-04	Esc. Guardarraya, Esc. Recio	**1008 Customers** - POSSIBLE SHELTERS
4401	4401-01	Esc. Playita Cortada, Esc. Velazquez	**1720 Customers** - POSSIBLE SHELTERS
	4401-02	Esc. Elementar, Zona Urbana, Esc. Parcela Paso Seco	**2766 Customers** - POSSIBLE SHELTERS
	4401-03	Esc. La Playa, Esc. Superior	**781 Customers** - POSSIBLE SHELTERS
	4401-04	Esc. Jauca	**1303 Customers** - POSSIBLE SHELTERS
4402	4402-01		**339 Customers**
	4402-02	Esc. Rio Jueyes, Esc. Los Flores	**2342 Customers** - POSSIBLE SHELTERS
4501	4501-01	Esc. Superior, Esc. Intermedia Zona Urbana, Colegio, Head Star Urbano, Head Star La Margarita	**1199 Customers** - POSSIBLE SHELTERS
	4501-02	Head Star Monserrate	**1203 Customers**
	4501-03		**882 Customers**
	4501-04	Esc. Godreu	**1339 Customers** - POSSIBLE SHELTERS
	4501-05	Head Star, Esc. La Playa, Esc. La Playita	**1411 Customers** - POSSIBLE SHELTERS
4502	4502-01		**892 Customers**
	4502-02	Esc. El Coco	**1590 Customers**
4503	4503-01	Esc. Aguirre, Esc. El Coqui, Esc. San Felipe	**2243 Customers** - POSSIBLE SHELTERS
	4503-02		**312 Customers** - POSSIBLE SHELTERS

	4503-03		0
4504	4504-01	Esc. Parcelas Vazquez	**985 Customers** - POSSIBLE SHELTERS
	4504-02	Esc. La Plena	**781 Customers** - POSSIBLE SHELTERS
	4504-03	Esc. Sabana Llana	**600 Customers -** POSSIBLE SHELTERS
4601	4601-01		**1829 Customers**
	4601-02	Esc. Penuelas	**392 Customers** - POSSIBLE SHELTERS
	4601-03		0
	4601-04		**1807 Customers**
4602	4602-01	Esc . Cuyon, Esc. Santa Ana, Esc. Palmarejo	**2772 Customers** - POSSIBLE SHELTERS
	4602-02	Esc. Superior Urbana	**2133 Customers** - POSSIBLE SHELTERS
	4602-03	Esc. Zona Urbana (3), Esc. San Diego	**2536 Customers** - POSSIBLE SHELTERS
	4602-04	Esc. Intermedia Zona Urbana	**51 Customers** - POSSIBLE SHELTERS
	4602-05		**29 Customers**
4603	4603-01	Esc. Superior Zona Urbana II, Esc. Santa Catalina, Esc. Coamo Arriba, Esc. Pedro Garcia	**2496 Customers** - POSSIBLE SHELTERS
	4603-02	Esc. Los Llanos	**1048 Customers** - POSSIBLE SHELTERS

San Juan Region

San Juan (Monacillo & Río Piedras) Districts SERT Team

Customer	268,909		
Substation	1204, 1206, 1303, 1346, 1908, 1106, 1111, 1113, 1118, 1301, 1310, 1335, 1336, 1401, 1414, 1419, 1421, 1424, 1437, 1330, 1338, 1420		
Key Transmission Feeders	L37900, L36200, Monacillo TC, Llorens Torres SC, Martin Peña GIS, Berwind TC, Villa Prades SC, L8900, Tres Monjitas SC, Hato Rey TC, L8900, Baldrich SC, L7300, L6600		
Municipalities:	San Juan, Trujillo Alto		
Hospitals	Hospital Capestrano, CDT Trujillo Alto, Hospital Pavía, Hospital San Gerardo, Hospital Pavía Santurce, Hospital Pavía Hato Rey, CDT El Belavar, Hospital San Jorge, CDT Parcelas Falú, Clínica Las Américas , Torre Médica Auxilio Mutuo, Centro de diálisis, Centro para Tratamiento del Cáncer, Unidad Transplante de Riñón, CDT San José		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
1204	1204-03	Water	Represa Carraízo (resguardo)
1204	1204-05	Hospital	Hospital Capestrano
1206	1206-03	Hospital	CDT Trujillo Alto
1206	1206-04	Alcaldía	Alcaldía Trujillo Alto, Cuartel Policía
1303	1303-02	Hospital	Hospital Pavía
1346	1346-05	Hospital	Hospital San Gerardo
1908	1908-05	EOC	Oficina Manejo Emergencias Estatal
1106	1106-02	Flood Control	Bombas Recursos Naturales
1106	1106-04	Waste Water	Planta Filtración Las Margaritas
1111	1111-01	Hospital	Hospital Pavía Santurce
1111	1111-02	Hospital	Hospital Pavía Hato Rey
1113	1113-01	Hospital	CDT El Belavar
1118	1118-10	Hospital	Hospital San Jorge
1301	1301-03	Waste Water	Planta Filtración calle Neblin

1310	1310-05	Waste Water	Planta Filtración University Gardens
1335	1335-01	Hospital	CDT Parcelas Falú
1336	1336-08	Flood Control	Bombas Recursos Naturales Laguna San José
1401	1401-07	Hospital	Clínica Las Américas
1414	1414-02	Police	Cuartel Municipal Ave. Eleanor Roosevelt
1419	1419-13	Police, Waste Water	Cuartel General Policía, Planta Filtración Nemesio Canales, Correo General USPS
1421	1421-03	Water	Bombas AAA, Égida La Merced
1424	1424-06	EOC	Parque de Bombas c/Domenech y Canal 6
1424	1424-07	Hospital	Torre Médica Auxilio Mutuo, Centro de diálisis, Centro para Tratamiento del Cáncer, Unidad Transplante de Riñón
1437	1437-01	Hospital	CDT San José
Critical Facilities Level 2			
Substation	Feeder	Customer	
1421	1421-04	Banco	Banco Cooperativo
1330	1330-04	Radio	Estación de Radio NotiUno
Critical Facilities Level 3			
Substation	Feeder	Customer	
1346	1346-04	Comercial	Centro Comercial Plaza Olmedo
1303	1303-03	Comercial	Centro Comercial Los Paseos
1303	1303-04	Comercial	Centro Comercial Montehiedra
1338	1338-03, 1338-04	Comercial	Casco Urbano Río Piedras
1420	1420-03, 1420-04	Comercial	Centro Comercial Plaza Las Américas

San Juan (Carolina) District SERT Team

Customer	52,736		
Substation	1602, 1607, 1615, 1616, 1617, 1618, 1619, 1646, 1647, 1652, 1657, 1658		
Key Transmission Feeders			
Municipalities:	Carolina		
Hospitals	Hospital UPR Dr. Federico Trilla, Doctors Center Hospital, Metro Pavía Clinic		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	3100	Hospital	Hospital UPR Dr. Federico Trilla
	3100	Hospital	Doctors Center Hospital
	3600	Aeropuerto	LMM Int,l Airport
	3600	Planta Tratamiento Aguas Negras	AAA

Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
	3600	Food Warehouse	Econo
	3100	Large Employer	Lilly Del Caribe Pharmaceuticals
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
2402	03	Metro Pavía Clinic	
1657	03	Municipio Carolina	Centro de Mando Isla Verde, Palmar Norte
1646	05	Bomberos	Bomberos, Ave. Roberto Clemente, Villa Carolina
1647	08	Policía	Policía – Comandancia Carolina pueblo
1336	06	Policía	Policía - Carolina Oeste, Ave. Iturregui
1619	02	Policía	Policía – Carolina Norte Calle Andorra Urb. Vistamar
1336	06	FAA	Comunicación – Facilidades FAA marginal Baldorioty de Castro, Carolina
1646	02	Municipio Carolina	Comunicación s -Centro de Operaciones Municipal Carr. 877
1607	03	Municipio Carolina	Comunicación – Centro Gobierno Barrazas, Carr. 853 km. 11.0
1657	02	AAA	Bombas detrás Cond. Verde C/violeta Biascochea.
1118	02	AAA	Calle 7 Final Villa Mar
1619	01	AAA	Carr. 190 k0 H6 calle Evita Eq. Patty Urb. La Cerámica
1620	05	AAA	Carr. 860 KM 1.5 Residencial Los Mirtos
1602	05	AAA	Carr 860 K1 H1 Bo Martin González
1602	05	AAA	Carr 3 R860 K3 H2 Bo Martin González
1607	03	AAA	Carr 853 K 8 H 1 Bo. Barrazas
1646	02	AAA	Calle C Esq Calle D Urb. Jardines de Carolina
1646	01	AAA	Carr3 R887 K0 H9 Bo Martin González
1607	03	AAA	INT 852 (al lado puente pequeño)
1607	03	AAA	Carr 181 K15 H9
1607	03	AAA	Carr 3 R853 K11 H7 Bo Barrazas
1607	01	AAA	Carr 3 R857 K9 H5 Bo Carruzo
1602	04	AAA	Carr 859 K3 H6 BOMBAS 6 BO Trujillo alto
1607	01	AAA	Carr 3 R857 K9 H5 Bo Filipinas
1607	01	AAA	Carr 3 R857 K9 H5 Bo Carruzos
1607	01	AAA	Carr 185 K12 H4 Bo. Cedros

1602	01	AAA	Calle Agustín Cabrera Final Norte pueblo
1607	01	AAA	Carr 856 A 857 Bo Barrazas
1602	04	AAA	Carr Municipal Sector El Trompito Est. Bombas 7
1646	01	AAA	Carr 3 R887 K0 H6 Carolina
1646	02	AAA	Carr 3 R887 Victoria Ind. Park Bo. Martín González
2402	03	AAA	65 Infantería K11 H1
1602	03	AAA	Almendro final Bo Buenaventura
2404	07	AAA	Camino Cambute R857 K0 H9
1602	04	AAA	Carr 859 KO H1 Trujillo Bajo
1602	04	AAA	Carr 853 KM 3.5 Entrada izquierda, después de buzones
1602	04	AAA	Carr 3 R853 K0 H2 Bo Barrazas
1647	08	AAA	Cstt874 K2 H3 Bo Hoyo Mulas
1646	05	AAA	Ave. Roberto Clemente, Villa Carolina
Critical Facilities Level 2			
Substation	Feeder	Customer	
1647	08	Alcaldía de Carolina	
Critical Facilities Level 3			
Substation	Feeder	Customer	
1647	06	Large Employer	Plaza Carolina
1647	07	Large Employer	Plaza Carolina
1657	01	Large Employer	Hotel El San Juan Casino, Ave. Isla Verde, Carolina
1657	03	Large Employer	Hotel ESQ Tower Ave. Isla Verde, Carolina
1658	13	Large Employer	Hotel Ritz Carlton, Ave Isla Verde, Carolina
1658	15	Large Employer	Hotel Embassy Suite Ave. Isla Verde, Carolina
1657	01	Large Employer	Hotel Intercontinental, Ave. Isla Verde, Carolina
1658	14	Large Employer	Hotel Hampton, Ave. Isla Verde, Carolina
1658	14	Large Employer	Hotel Marriot Courtyard, Carr. 187, Ave. Isla Verde

Canóvanas District SERT Team

Customer	56,855		
Substation	2301, 2302, 2305, 2306, 2401, 2402, 2403, 2404		
Key Transmission Feeders			
Municipalities:	Canóvanas, Loiza, Rio Grande		
Hospitals	CDT Rio Grande - Community Health Center, Concilio de Salud Integral Loíza, Canóvanas CDT – Hospital Municipal Canóvanas		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	11100	AAA Planta de Tratamiento de Aguas Usadas Carr. # 874 final, Barrio Torrecilla Alta, Canóvanas	AAA
	3100	AAA Planta de Filtración Carr. # 3, Barrio San Isidro, Canóvanas	AAA
	3100	AAA Planta de Distribución (El Yunque) Carr. # 3 25.2, Ramal 955, KM 0.1 Río Grande	AAA
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
	10300	Food Warehouse	Econo
	3100	Large Employer	IPR Pharmaceutical
	10300	Large Employer	Hipódromo Camarero
	3100	Large Employer	Prime Outlets
	3100	Large Employer	Hotel
	3100	Large Employer	Rio Grande Town Center
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
2401	02	Canóvanas CDT – Hospital Municipal Canóvanas	
2402	02	Concilio de Salud Integral de Loíza	
2302	03	CDT Rio Grande - Community Health Center	

2401	02	Alcaldía - Canóvanas	
2403	01	Alcaldía – Loíza	
2301	03	Alcaldía – Rio Grande	
2401	02	Municipio Canovanas	Defensa Civil - Calle Autonomía Canóvanas
2402	02	Municipio Loiza	Defensa Civil – Municipio Loíza Antiguo Parque de bomba, La Cueva de María
2301	03	Municipio Rio Grande	Defensa Civil - Calle Soledad Antiguo CDT (emergencia) Rio Grande
2402	02	Bomberos	Calle Corchado (al lado cuartel policía), Canóvanas
2403	01	Bomberos	Carr. 187 Int. Carr. 188 Loíza
2301	03	Bomberos	Carr. 187 km 1.0 Urb. PH Hernández Rio Grande
2401	02	Policia	Calle Corchado Canóvanas
2403	01	Policia	Carr. 188 Esq Carr 187 Barrio Honduras Loíza
2301	02	Policia	Calle del Carmen, Rio Grande
2401	01	Municipio Canovanas	Obras Públicas – Carr 185 km 1.5 frente a entrada Hipódromo el Camarero, Canóvanas
2403	01	Municipio Loiza	Obras Públicas – Carr 187 km 10.2 Medianía Baja Loíza
2301	03	Municipio Rio Grande	Obras Públicas – Carr. 187 km 1.0 Urb. PH Hernández - Rio Grande
2702	01		Torres de Comunicación Carr. 191 km 13 El Yunque Rio Grande
2702	02		Facilidades FAA El Yunque, Pico El Este
2404-08	08	AAA	Bombas Campo Rico
2404	08	AAA	Bombas El Comandante
2401	01	AAA	Bomas Neumática
2401	01	AAA	Bombas Martín Rodríguez I y II
2401	01	AAA	Bombas Tanque Carruzo I
2401	01	AAA	Bombas Tanque Carruzo II
2401	01	AAA	Bombas La Condesa
2401	01	AAA	Bombas Cubuy

2401	01	AAA	Bombas Colinas de Cubuy
2402	01	AAA	Bombas Loíza Valley
2404	06	AAA	Bombas La Central II
2404	06	AAA	Bombas Torrecillas
2401	01	AAA	Bombas Peniel
2404	08	AAA	Bombas Alturas de Campo Rico
2404	08	AAA	Bombas Quintas de Canóvanas
2404	06	AAA	Bombas Brisas de Loíza
2403	02	AAA	Bombas Quintas de San Isidro
2403	02	AAA	Bombas Tierra Alta
2403	01	AAA	Bombas Alcantarillado
2402	02	AAA	Bombas Alcantarillado
2403	01	AAA	Bombas Alcantarillado
2403	01	AAA	Bombas Alcantarillado
2402	02	AAA	Bombas Alcantarillado
2403	01	AAA	Bombas Alcantarillado El Cabo
2402	02	AAA	Bombas Alcantarillado Vistas del Océano
2306	01	AAA	Bombas Alcantarillado Los Árboles
2301	03	AAA	Bombas Alcantarillado Hong Kong
2306	01	AAA	Bombas Alcantarillado Coco Beach
2306	01	AAA	Bombas Alcantarillado Río Grande Estates
2301	01	AAA	Bombas Alcantarillado Villas Río Grande
2306	01	AAA	Bombas Alcantarillado Río Grande Estates
2306	01	AAA	Bombas Potable Las 3T Etapa 2
2306	01	AAA	Bombas Potable TQ Las 3T, Etapa 4
2306	01	AAA	Bombas Potable TQ Las 3T, Etapa 3
2306	01	AAA	Bombas Potable TQ Las 3T, Etapa 1
2306	03	AAA	Bombas Potable Río Mar
2301	02	AAA	Bombas Guzmán Arriba

2301	02	AAA	Planta Tratamiento Guzmán Arriba
2301	02	AAA	Bombas Guzmán Arriba (Río)
Critical Facilities Level 2			
Substation	Feeder	Customer	
2201	04	Depto Correccion	Correctional El Zarzal
Critical Facilities Level 3			
Substation	Feeder	Customer	
2305	03	Windham Rio Mar	Large Employer
2302	03	Bahia Beach Resort	Large Employer

Bayamon Region

Bayamon(Guaynabo)District SERT Team

Customer	189,072
Substation	1579, 1359, 1374, 1367, 1584, 1589, 1368, 1583, 1365, 1365, 1366, 1582, 1987, 1996, 1995, 1162, 1572, 1571, 1599, 1578, 1973, 1992, 1988, 1964, 1166, 1013, 1014, 1100, 1114, 1115, 1117, 1119, 1120, 1359, 1529, 1531, 1709, 1907, 1909, 1911, 1118, 1519, 1011, 1116, 1512, 1520, 1901, 1924
Key Transmission Feeders	L8900, L10100, L3000, L3400, L7100, L5900, L3900, Isla Grande GIS, Covadonga GIS, Viaducto TC, L7100, Planta Santurce SC, L39200, Centro Médico SC, L15500, L16600, L38300, L10100, L37500, L3900, Llorens Torres SC, San Fernando SC, L6800, Sub Guaynabo SC
Municipalities:	Guaynabo, San Juan
Hospitals	Ciencias Médicas Río Piedras, Centro Médico, Hospital de Veteranos, Hospital Siquiátrico, Hospital Universitario Pediátrico, Hospital Universitario Adultos, Centro Cardiovascular, Hospital Universitario, Hospital Siquiatría Forense, Ciencias Forense, Hospital Metropolitano, CDT Guaynabo, Doctor's Center Hospital, San Juan Health Center, Hospital Pavía, Hospital PRESBY, Centro Médico de Puerto Rico, Hospital del Niño, Oficinas Médicas Hospital Metropolitano, Clínica Ciencias Médicas, Hospital Professional

Transmission and Sub-Transmission Critical Facilities

Critical Facilities Level 1

	Line Number	Description	Customer
	8900	Hospitals	Ciencias Médicas Río Piedras, Centro Médico, Hospital de Veteranos, Hospital Siquiátrico, Hospital Universitario Pediátrico, Hospital Universitario Adultos, Centro Cardiovascular, Hospital Universitario, Hospital Siquiatría Forense, Ciencias Forense
	10100	Hospital	Hospital Metropolitano
	3000	Water	Bombas AAA Piedras Blancas
	3000	Government	Centro Gobierno Guaynabo
	3400	Hospital	CDT Guaynabo
	7100	Hospital	Doctor's Center Hospital
	5900	Water	1572 Bombas AAA Puerto Nuevo
	3900	Militar	1793 Fort Buchannan
	3900	Fuel	1991 Texaco (Puma)
	3900	Fuel	1977 Standard Oil (Total)
	8900	Hospital	Centro Médico SC
	15500	Hospital	Centro Médico SC
	16600	Hospital	Centro Médico SC

Critical Facilities Level 2

	Line Number	Description	Customer
	5900	Transportation	1571 Navieras de PR (Toto)

	5900	Transportation	1599 Sealand
	5900	Transportation	1578 International Shipping
	3900	Carcel	1992 Carcel Federal
	3900	Prensa	1988 El Nuevo Día
	8000	Transportation	1166 Crowley
Critical Facilities Level 3			
	Line Number	Description	Customer
	3900	Services	1964 Centro Internacional Mercadeo
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
1002	1002-02	EOC	Estación Bomberos
1013	1013-13	Government	Coast Guard, Aduana Federal, Fortaleza y muelles de San Juan
1014	1014-18	Muelles	Comandancia de San Juan, Salvation Army, FDA y muelles 6, 8 y 10 (alimentador amarra con 1120-10), Casa Cuna, Aeropuerto de Isla Grande (Tribunal Supremo)
1100	1100-03	Water	Bombas colectoras de agua en la Ave. Fernández Juncos
1114	1114-01	Hospital	Hotel PRESBY, San Juan Health Center
1114	1114-03	EOC	Centro Gubernamental Minillas
1115	1115-05	Hospital	Hospital Pavía, NEOS (alimentador amarra con 1117-07)
1117	1117-11	Hospital	Hospital PRESBY
1119	1119-04	Police	Cuartel de la Policía, Dispensario HOARE, Hotel Excelsior, Departamento de Justicia Estatal
1120	1120-10	Airport	Aeropuerto de Isla Grande
1359	1359-01, 1359-02, 1359-03, 1359-04, 1359-05, 1359-06	Hospital	Centro Médico de Puerto Rico
1529	1529-12	Hospital, TV	Hospital del Niño, Estación de Televisión WAPA TV (alimentador amarra con 1711-07)
1529	1529-15	Hospital, AEE	Distrito Técnico de Guaynabo, Oficinas Médicas Hospital Metropolitano, Oficinas del 911 (alimentador amarra con 1909-09)
1531	1531-02	Hospital	Clínica Ciencias Médicas
1709	1709-03	Water	Infraestructura AAA Los Filtros
1907	1907-03	EOC	Manejo Emergencias, Complejo Deportivo (refugio)
1907	1907-04	Hospital	Hospital Professional

1907	1907-05	Comm Fac. EOC	Casco Urbano Guaynabo, Estación de Televisión y Radio de Univisión P. R., Alcaldía (alimentador amarra con 1907-04)
1907	1907-07	Water	Infraestructura AAA Los Filtros (alimentador amarra con 1709-03)
1911	1911-06	EOC	FEMA, Oficinas de Agencias Federales, Facilidades de Telecomunicaciones
Critical Facilities Level 2			
Substation	Feeder	Customer	
1115	1115-04	Comunications	Junta Reglamentadora de Telecomunicaciones
1118	1118-09	Comunicaciones	Edificio de Telecomunicaciones frente a Lloréns Torres
1519	1519-05	Comunicaciones	Vivienda Boriquen Towers,Edificio Periódico El Vocero
Critical Facilities Level 3			
Substation	Feeder	Customer	
1117	1117-08	Comercial	Comercios en la Avenida Ashford (alimentador amarra con 1116-04)
1117	1117-09	Comercial	Comercios en Avenida Juan Ponce de León
1529	1529-11	Comercial	Frigorífico
1909	1909-08	Services	Zona Industrial y Residencial
1911	1911-07	Comercial	Centro Comercial San Patricio Plaza
1011	1011-03	Comercial	Comercios Calle Fortaleza (alimentador amarra con 1011-04)
1011	1011-04	Comercial	Comercios del Viejo San Juan y Supermercado Plaza de Armas
1116	1116-01	Comercial	Edificio Cosmopólitan, área residencial grande (alimentador amarra con 1119-04)
1116	1116-02	Comercial	Centro Comercial Plaza Condado (alimentador amarra con 1115-04)
1116	1116-03	Comercial	Hoteles en el área de la Avenida Ashford (alimentador amarra con 1117-11 y 1117-08)
1116	1116-05	Comercial	Hoteles La Concha, Vanderbilt, Ventana al Mar (alimentador amarra con 1116-03 y 1116-08)
1512	1512-04, 1512-05	Comercial	Comercios de la Avenida John F.Kennedy
1520	1520-01, 1520-02, 1520-04, 1520-05	Comercial	Comercios Avenida Franklin D. Roosevelt
1901	1901-01	Comercial	Supermercado Pueblo
1901	1901-02	Comercial	Comercios Avenida Esmeralda

1924	1924-02	Comercial	Centro Comercial San Patricio Plaza

Bayamon (urban)District SERT Team

Customer	189,072		
Substation	1707,1710,1719,1704,1705,1711,1716, 1720, 1734, 9405, 9801		
Key Transmission Feeders			
Municipalities:	Bayamon , Toa Alta, Guaynabo		
Hospitals	Hospital San Pablo, Regional de Bayamon, Hermanos Melendez, Doctor Center, Bayamon Health Center, Mepsi Center y la Torre Medica San Pablo		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	36,100	Represa La Plata	Sub. BTC @ Sub. Piñas
	4,000	Sub. AEE	Sub. Magnolia @ Naranjito
	10,000	Sub. AEE	Lomas Verdes @ Sub. S. Linda
	9,100	Sub. AEE	BTC @ Sub. Guaraguao
	9,800	Súper Acueducto	Sub.BayPueblo@Sub.Guaraguao
	37,500	Sub. AEE	BTC @ Rio Bayamón
	36,100	Sub. AEE	BTC @ Rio Bayamón
	38,200	Sub. AEE	BTC @ Corredor La Cambija
	37,600	Sub. AEE	BTC @ Corredor La Cambija
	37,700	Sub. AEE	BTC @ Corredor La Cambija
	37,400	Sub. AEE	BTC @ Corredor La Cambija
	4,300	Hospital San Pablo	BTC @ Sub. Bayamón Pueblo
	4,100	Naranjito Pueblo	Sub. Guaraguao @ Comerío
Critical Facilities Level 2			
	Line Number	Description	Customer
Critical Facilities Level 3			
	Line Number	Description	Customer
	4,000	Kmart, Home Depot	Sub. Magnolia @ Naranjito
	9,800	Cadillac Unifor, Pan Pepín, Cotsco	Sub.BayPueblo@Sub.Guaraguao
	3,400	UPR Recinto Bayamón	Sub Guaraguao @ Sub.UPR Bay
	10,000	Universidad Central	Lomas Verdes @ Sub. S. Linda
	10,700	Universidad Central Bayamón	Sub.BayPueblo@Sub.Hnas Dávila
	4,900	Plaza del Sol	Bay Pueblo @ PSP
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	

Caná	1710-01	Hospital Regional Bayamón	
Caná	1710-01	Cuartel Policía Bayamón Sur	
Sierra Linda	1704-03	Cuartel Bayamón Oeste	
Hmnas Dávila	1705-03	Bomberos P.R.	
BTC 1711	1711-01	Defensa Civil Bayamón	
BTC 1711	1711-01	Hospital Hermanos Meléndez	
BTC 1711	1711-01	Hospital Doctor Center	
BTC 1711	1711-01	Bayamón Health Center	
BTC 1711	1711-04	Comandancia Bayamón	
BTC 1711	1711-04	Manejo de Emergencias Bayamón	
BTC 1711	1711-04	Cuartel Bayamón Norte	
BTC 1711	1711-05	MEPSI Center	
BTC 1716	1716-01	Torre Medica San Pablo	
PIÑAS 9405 13KV	9405-05	Bombas AAA Ave. Toa Alta Heights	
Interamericana	1719-18	Bombas AAA	
Caná	1710-05	Bombas AAA	
Caná	1710-03	Bombas AAA	
Caná	1710-04	Bombas AAA	
Naranjito	9801-01	Bombas AAA	
Caná	1710-05	Bombas AAA	
Buena Vista	1734-02	Bombas AAA	
Guaraguao	1707-03	Bombas AAA	
Rio Bayamón 2	1720-07	Bombas AAA	
Rio Bayamón 2	1720-07	Bombas AAA	
Critical Facilities Level 2			
Substation	Feeder	Customer	
BTC 1711	1711-01	Centro Judicial	
BTC 1711	1711-01	Centro Judicial	
BTC 1711	1711-05	Fondo del Seguro del Estado	
BTC 1716	1716-02	Centro Gobierno Bayamón	

PIÑAS 9405 13KV	9405-05	Oficina Técnica AAA Carr.861 Toa Alta	
Critical Facilities Level 3			
Substation	Feeder	Customer	
Caná	1710-03	Centro Comercial Rexville Plaza	
Caná	1710-03	Plazoleta Forest Hills	
Caná	1710-01	Escuela Medicina Ramón L. Arnáu	
Interamericana	1719-16	Universidad Interamericana Recinto Bayamón	
BTC 1711	1711-01	Coliseo Rubén Rodríguez	
BTC 1711	1711-01	Estadio Juan Ramón Loubriel	
BTC 1711	1711-01	Santa Rosa Mall	
BTC 1711	1711-01	Acuífero Municipio Bayamón	
BTC 1716	1716-01	Hotel San Miguel	
BTC 1716	1716-02	Hotel Hyatt Place	
BTC 1716	1716-02	Plazoleta Cantón	
BTC 1716	1716-02	Plaza Del Sol	

Bayamon (lower density) Toa Baja (Palo Seco) District SERT Team

Customer	98,907		
Substation	1801,1802,1803,1806,1703,1711,1713,1717,1718,9203,9207		
Key Transmission Feeders			
Municipalities:	Dorado, Toa Baja (Palo Seco), Cataño, Toa Alta, Naranjito, Corozal		
Hospitals	Centro Médico Correcional, CDT Pájaros, Centro Emergencia MOHICA, CDT Toa Baja		
Transmission and Sub-Transmission Critical Facilities			
Critical Facilities Level 1			
	Line Number	Description	Customer
	9500	Centro Médico Correcional, LINDE GAS, Planta Tratamiento AAA	PE Planta – Cataño PDS
	10700	Super Acueducto A.A.A.	Hato Tejas TC- Dorado TC
	6400	La Malaria AAA	Bay View Sect- Amelia
	9600	PUMA	Cataño PDS - BTC
	6200	Líneas Exclusiva PUMA	Cataño PDS - BTC
Critical Facilities Level 2			
	Line Number	Description	Customer
	9600	CSC Management de PR (Centro Detención Juvenil), Carcel de Mujeres	Cataño PDS - BTC
	9500	Cárcel Correcional Bayamón	PE Planta – Cataño PDS
Critical Facilities Level 3			
	Line Number	Description	Customer
	10700	Panamerican Grain Company, Pepsi, Sprint, Holsum	Hato Tejas TC - Dorado TC
	13300	Plaza del Sol	BTC – Hato Tejas Sect.
	13200	La Famosa	Hato Tejas TC - Dorado TC
	4900	Walmart, Home Depot (Plaza del Sol)	Bayamón Pueblo-Palo Seco
	8200	Switch Claro	Cataño PDS - Amelia
	9600	B. Fernández y Hnos, José Santiago Dist., Puerto Rico Supply	Cataño PDS - BTC

	9500	Almacenes V. Suarez	PE Planta – Cataño PDS
	9700	Bacardi	PS Planta-Bay View Sect
	6400	Recursos Naturales	Bay View Sect- Amelia
Distribution Critical Facilities			
Critical Facilities Level 1			
Substation	Feeder	Customer	
Cataño PDS	1801-02	Comandancia de Bayamón	
Cataño PDS	1801-03	CDT Cataño	
Cataño PDS	1801-03	Bombas AAA La Puntilla	
Cataño PDS	1801-03	Cuartel Estatal y Municipa Cataño	
Cataño PDS	1801-03	Bomberos	
Cataño PDS	1801-03	Bombas AAA El Coquí	
Bay View	1802-01	Bombas Aguas Negras	
Amelia	1803-05	Bombas Puente Wilson	
Palo Seco	1806-01	Bombas AAA Camino del Mar	
Palo Seco	1806-01	Bombas AAA Tercera Levitown	
Palo Seco	1806-02	Técnica de Toa Baja	
Palo Seco	1806-02	Cuartel Estatal de Levitown	
Palo Seco	1806-02	Bombas AAA Levitown	
Palo Seco	1806-03	Bombas AAA	
Hato Tejas	1703-01	CDT Pajaros	
BTC	1711-04	Bombas AAAA Quintas del Río	
BTC	1711-04	Bombas AAA Las Veredas	
Hato Tejas TC	1713-05	Bombas AAA Monte Claro	
Hato Tejas TC	1713-05	BOMBAS Comercial Bayamón	
Hato Tejas TC	1713-05	Bombas AAA Carr. 863	

CREA	1717-01	Centro Emergencia Mohica (CDT Privado)	
CREA	1717-01	Bombas AAA Rio Plantation	
CREA	1717-04	Bombas AAA Plaza del Parque	
Candelaria Arenas	1718-02	CDT Toa Baja	
Candelaria Arenas	1718-02	Bombas AAA Pabellones	
Candelaria Arenas	1718-02	Bombas AAA Las Gaviotas	
Candelaria Arenas	1718-02	Cuartel Municipal	
Candelaria Arenas	1718-03	Bombas AAA Bucarabones	
Candelaria Arenas	1718-03	Bombas Aguas Negras Maedleine	
Candelaria Arenas	1718-03	Bombas AAA Monte Casino	
Dorado TC	9203-02	Bombas de Aguas Negras Toa Baja	
Dorado TC	9203-03	Bombas AAA Campanillas	
Dorado TC	9207-08	Bombas AAA Walmart	
Dorado TC	9207-08	Bombas AAA Las Colinas	
Dorado TC	9207-08	Bombas AAA Las Fuentes	
Bay View Sect-Amelia	6400	Bombas AAA	
Bay View	1802-02	Bombas AAA	
PE Planta-Cataño PDS	LINE 9500	Bombas AAA	
Cataño PDS	1801-03	Bombas AAA	
Cataño PDS	1801-03	Bombas AAA	
Amelia	1803-05	Bombas AAA	
Palo Seco	1806-03	Bombas AAA	
Palo Seco	1806-02	Bombas AAA	
Rio Bayamón 2	1720-07	Bombas AAA	
Interamericana	1719-18	Bombas AAA	
BTC	1711-04	Bombas AAA	
Crea	1717-01	Bombas AAA	
BTC	1711-04	Bombas AAA	
Palo Seco	1806-01	Bombas AAA	

Hato Tejas TC-Dorado TC	10700	Bombas AAA	
Hato Teja	1713-05	Bombas AAA	
Hato Teja	1713-05	Bombas AAA	
Candelaria Arenas	1718-02	Bombas AAA	
Dorado TC	9207-08	Bombas AAA	
Dorado TC	9207-08	Bombas AAA	
Dorado TC	9203-02	Bombas AAA	
Dorado TC	9203-03	Bombas AAA	
Hato Tejas TC-Dorado TC	10700	Bombas AAA	
Dorado TC	9207-08	Bombas AAA	
Dorado TC	9207-08	Bombas AAA	
Dorado TC	9207-08	Bombas AAA	
Critical Facilities Level 2			
Substation	Feeder	Customer	
Amelia	1803-05	Egida Mundo Feliz	
BTC	1711-04	COE Bayamón	
Hato Tejas TC	1713-03	COE Toa Baja	
Candelaria Arenas	1718-01	Quest Diagnostics	
Candelaria Arenas	1718-02	Égida Golden Age Tower	
Critical Facilities Level 3			
Substation	Feeder	Customer	
Cataño PDS	1801-01	Almacen Baxter	
Cataño PDS	1801-01	Almacenes Burguer King	
Cataño PDS	1801-02	Industrial Luchetti	
Cataño PDS	1801-03	Esc. Francisco Oller	
Cataño PDS	1801-05	Industrial Palmas	
Amelia	1803-05	Alcaldia	
Palo Seco	1806-01	Radar Punta Salinas	
Palo Seco	1806-02	Esc. Pedro Albizu Campos	
Palo Seco	1806-02	Alcaldia (Centro AVOLI)	
Palo Seco	1806-03	Royal Industrial Park	
Palo Seco	1806-03	Central Industrial Park	
Hato Tejas	1703-02	Centro de Primates UPR	
Hato Tejas	1703-04	HUBB PRTC	
Hato Tejas TC	1713-03	Liberty	
Hato Tejas TC	1713-04	HUBB T-Mobile	

Crea	1717-01	Esc. Basilio Milan	
Candelaria Arenas	1718-01	Escuela Refugio Carr. 865	
Candelaria Arenas	1718-02	Centro de Gobierno	
Dorado TC	9203-02	Esc. Sup. Toa Baja	
Dorado TC	9203-02	Centro de Gob. Toa Baja	
Dorado TC	9203-03	Esc. Elem. Campanillas Toa Baja	
Dorado TC	9207-08	Centro de Alimentos Atunez	

Appendix C – Supplies

The vendors listed in this appendix are identified by region and the type of service they may provide to LUMA during response and restoration efforts.

Arecibo Region

Name	Number	Municipality	Mark the Type of Service			
Panchos Catering (Food)	(787) 646-2616	Arecibo	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Quality Sea Food (Food)	(787) 638-5897		Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
La Unión Cafeteria (Food)	(787) 881-6911		Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
David Coffee Shop (Food)	(787) 639-9331		Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Ice Plant Casellas	(787) 878-3135		Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Ice Plant Faria	(787) 881-6253		Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Riviera (Food)	(787)884-5366	Manatee	Materials	Equipment	Services	Tents
					X	
La Picadera (Food)	(939)238-9278	Manatee	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms

Name	Number	Municipality	Mark the Type of Service			
FERRETIA RIVERAS	787-869-3260	Naranjito	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
FERRETERIA LA MONTANA	787-869-3135	Naranjito	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
QUALITY CONCRETE	787-869-1387	Naranjito	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
ASTRO INDUSTRIAL	787-721-4041	SAN JUAN	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
MELOLAIKA	787-961-8282	gold	Materials	Equipment	Services	Tents
Rest. Balalaika	787-859-6277	Corozal			X	
THE GREAT COFFEE	787-802-1703	Corozal	Ice	Water	Gasoline	Bathrooms
TOA ALTA (Total)	787-246-4175	QBD CRUZ	Materials	Equipment	Services	Tents
COROZAL (Total)		Palmarejo				
	787-870-4216	Outline	Ice	Water	Gasoline	Bathrooms
					X	
Econo Vega Baja II Supermarket	787-858-0958	Vega Baja	Materials	Equipment	Services	Tents
					X	
Bakery Gardens	787-855-1959	Vega Baja	Ice	Water	Gasoline	Bathrooms

Econo Mendez Class Supermarket	787-883-2340	Vega Alta	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Golden Ice & Water Plant	787-278-2279	Vega Alta	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X	X		
St. James Security Services, LLC	787-754-8448	St. John's	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
						X
Total, Golden Total, Vega Alta Total Vega Baja	787-270-0903 787-883-0999 787-855-1069	gold Vega Alta Vega Baja	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	
Grainger Caribe Inc. Astro Industrial	787-275-3555 787-721-4041	Cataño St. John's	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
3C Woods Hardware Store	787-474-3333	St. John's	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Grainger Roger Electric Grekory Equip.	787-275-3500 787-786-3361 787-272-4333	Caguas Bayamón St. John's	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms

Island Center	787-869-0877	Naranjito				
Santos Bakery	787-857-1916	Orocovis	Materials	Equipment	Services	Tents
Orocovis Ice Plant	787-298-4955					
Hannibal Rios	787-377-7847		Ice	Water	Gasoline	Bathrooms
			X			
Carlos Rodriguez	787-857-7625	Barranquitas	Food	Equipment	Services	Tents
Juan Bonilla	787-991-2964	Aibonito			X	
Carlos I. Pacheco	787-385-1858	Naranjito	Ice	Water	Gasoline	Bathrooms
Junir Gulf		Barranquitas	Materials	Equipment	Services	Tents
Tavín Tire Center		Barranquitas				
		(Barrancas)	Ice	Water	Gasoline	Bathrooms
					X	
Carlos J. Bonilla Esparra		Aibonito	Food	Equipment	Services	Tents
Javielo BBQ			X			
			Ice	Water	Gasoline	Bathrooms
Jacqueline Ríos González	787-735-7200	Aibonito	Food	Equipment	Services	Tents
Chino Criollo			X			
			Ice	Water	Gasoline	Bathrooms
Miguel A. Torres Rivera	787-857-2960	Barranquitas	Food	Equipment	Services	Tents
Kikis Pizza			X			
			Ice	Water	Gasoline	Bathrooms
Luis Collazo	787-867-2248	Orocovis	Food	Equipment	Services	Tents

La Cobacha Restaurant			X			
			Ice	Water	Gasoline	Bathrooms
David Crespo Crespo BBQ Coffee Shop	787-939-325-3267	Comerío	Food	Equipment	Services	Tents
			X			

Mayaguez Region

Name	Number	Municipality	Mark the Type of Service			
Select Supermarket (food)	787-830-7800 787-519-7086	Isabela	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Bakery El Cafetal (food)	787-544-6025 787-370-1454	Camuy, Quebradillas and Hatillo	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Creole Sandwich (food)	787-830-1385	Isabela	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Bakery El Trigal (food)	787-830-3488	Isabela	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Naturagua, Inc.	787-262-8168	Hatillo	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				X		
Agua Lemarie, Inc.	787-307-2342	The Marys	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				X		
Popeyes Ice Factory	787-307-2342	The Marys	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Ice Factory	787-896-8914	San Sebastian	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Bakery and Pastry La Pepiniana	787-833-1648	Mayagüez	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms

Ricomini Bakery and Pastry	787-832-0565	Mayagüez	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Franco Pastries	787-0070	Mayagüez	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Don Quixote Pizzeria and Restaurant	787-265-1045	Mayagüez	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Nadal Ice	787-834-7400	Mayagüez	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
HIELERA NAZARIO	787-382-3207	Aguada	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
SANTOS COMMERCIAL	787-891-1270	Aguadilla	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
ALL CONTRACTOR	787-378-4406	Ponce	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
						X
EFRAIN SANTIAGO ELECTRICAL CONTRACTOR	787-877-1817	Moca	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms

ICE FACTORY	787-896-8914	SAN SEBASTIAN	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
MOCA CONCRETE POLE	787-818-0720	Moca	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Toro Commercial	787-851-1570 787-851-1510	Cape Red	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Roger Electric	787-265-7575	Mayagüez	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
			Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Lechonera Figueroa	787-873-1080	Sabana Grande	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Mr. Special	787-851-1334	Cape Red	Materials	Equipment	Services	Tents
					X	

			Ice	Water	Gasoline	Bathrooms
			Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Rest. The Mariachi	787-280-4187	San Sebastian	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Cucumber Ice		San Sebastian	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Docho Garage		San Sebastian	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	
Garage		San Sebastian	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	

Bayamon Region

Name	Number	Municipality	Mark the Type of Service			
Golden Ice & Water Plant	787-605-3256	gold	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X	X		
Bakery La Borinqueña	787-779-0707	Bayamón	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
OUTEK	787-644-9085	St. John's	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
Grainger	787-692-6347	St. John's	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
MENACO	787-463-2125	St. John's	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
The Ice Maker	787-795-2665	Levittown	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			

Roger Electric Hardware Store	787-786-3360	Bayamón	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
El Cable Hardware Store	787-795-7025	Toa Baja	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
QUALITY CONCRETE	787-869-1387	Naranjito	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
ASTRO INDUSTRIAL	787-721-4041	SAN JUAN	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
Grainger	(787) 275-3500	Cataño	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
3C Woods	(787) 783-8260	St. John's	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
By Diego Rental	(787) 781-3320	Guaynabo	Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
BBQ sources	(787) 783-4582	Guaynabo	Materials	Equipment	Services	Tents

					X	
			Ice	Water	Gasoline	Bathrooms
Guiken	(787) 961-9292	Guaynabo	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Manchego	(939) 338-3226	Guaynabo	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
All Contractors & Serv.	(787) 378-4406		Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
			X	X		
Econo Rial Supermarkets	(787) 707-0112	Guaynabo	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms

Caguas Region

Name	Number	Municipality	Mark the Type of Service			
Rest. The Two Mangoes	787-73-98619	Citron	Food	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Victor Barreto	787-642-7094	Cayey	Materials	Equipment	Services	Tents
			X	X	X	
			Ice	Water	Gasoline	Bathrooms
Freddy Ice Planet	787-739-3133	Citron	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X	X		
Roger Electric Grainger Electrical Island Commercial Berríos	787-746-7272 787-275-3500 787-761-7355 787-739-2831	Caguas Cataño St. John's Citron	Materials	Equipment	Services	Tents
			X	X	X	
			Ice	Water	Gasoline	Bathrooms
Hacienda el Josco Vic-Mar	787-737-2737 787-743-9124	Gurabo Caguas	Food	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Lord Electric Bermúdez and Longo	787-758-4040 787-999-3030	St. John's St. John's	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
José A. Baranda Ismael Rosa	787-746-2699 787-743-6958	Caguas	Materials	Equipment	Services	Tents

José A. Cruz Rafael Beltran	787-746-0282 787-734-2877		Ice	Water	Gasoline	Bathrooms
					X	
My Berjouri	787-243-0940	Humacao	Food	Equipment	Services	Tents
The Ikokal	787-640-9654	Humacao	X			
Delicias Cafe	787-285-3190	Humacao	Ice	Water	Gasoline	Bathrooms
Doredmar's Rest. Cafetería Revival Café	787-893-5189 787-216-2976	Yabucoa Naguabo				
Punta Santiago Recreation Center		Humacao	Lodging	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Plamas del Mar Resort Hotel Playa Lucia and Costa del Mar	787-893-4423					
C Prince	787-640-9524		Materials	Equipment	Services	Tents
Best Work	787-597-3566			X		
Esmo	787-764-4687		Ice	Water	Gasoline	Bathrooms
Electrical Comm.	787-733-0230					
DH Products	787-889-5118	Luquillo	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				X		
The Ice Plant Flowers	787-887-2450	Rio Grande	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Econo Rial II	787-801-8030	Fajardo	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Misc.

						X
Caribbean Point	787-860-3845	Fajardo	Materials	Equipment	Services	Tents
Pan Rico	787-863-0774	Fajardo	Ice	Water	Gasoline	Bathrooms
Pascual Commercial	787 863-1538		Materials	Equipment	Services	Tents
			X			
Grainger	(787) 275-3500		Ice	Water	Gasoline	Bathrooms
Hilti Caribe	787-963-7060		Materials	Equipment	Services	Tents
			X			
Maderera Don Esteves	787-750-2000		Ice	Water	Gasoline	Bathrooms
Rober Electric	787-888-8950		Materials	Equipment	Services	Tents
			X			
Tecno-Lite	787-750-4344		Ice	Water	Gasoline	Bathrooms
National Lumber	787-863-2424		Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms

San Juan Region

Name	Number	Municipality	Mark the Type of Service			
DH Products	787-889-5118	Luquillo	Materials	Equipment	Services	Tents
Water The Mountain	787-760-5146	Trujillo Alto	Ice	Water	Gasoline	Bathrooms
				X		
The Ice Plant Flowers	787-887-2450		Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Econo Rial II	787-701-8030	Canóvanas	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Misc.
						X
The Bakery Family	787-876-9497	Loíza	Materials	Equipment	Services	Tents
Kike Cash & Carry	787-876-3295	Loíza	Ice	Water	Gasoline	Food
						X
Pascual Commercial	787-863-1538		Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Grainger	787-275-3500		Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms
Hilti Caribe	787-936-7060		Materials	Equipment	Services	Tents
				X		
			Ice	Water	Gasoline	Bathrooms

Lord Electric Bermúdez and Longo	787-758-4040 787-999-3030	Rio Piedras	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Candelaria Electric Services	787-502-4597		Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Castellanas Restaurant Cafeteria	787-257-7795	Carolina	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
Chinese Paradise Restaurant	787-257-7950	Carolina	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
ECONO Supermarket	787-768-8379	Carolina	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
Roger Electric Grainger	787-776-0202 787-275-3500	Carolina Carolina	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms

Supplies Island Lord Electric	787-761-7355 787-758-4040	Trujillo Alto	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
Bermúdez and Longo Raul Dominguez	787-999-3030 787-505-6434	Trujillo Alto	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Ricardo Zapata	787-240-5054	Trujillo Alto	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
All Contractors	787-407-1620 787-378-4406	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				20th		
Eddie's Water Supply	787-783-6073 787-597-1399	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				20th		
Cristalia	787-680-8888	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				20th		

Blue Fountain, Inc	787-163-3070 787-759-8210	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				20th		
El Señorial Bakery	787-701-4040	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
May Flower Bakery	787-768-3995	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms
The House of Taste	787-624-6061	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms
Borincatering Services	787-697-6110	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Meals	
			Ice	Water	Gasoline	Bathrooms
Micky & Sweet Catering	787-753-1182	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Meals	
			Ice	Water	Gasoline	Bathrooms
Fior Cafe	787-528-2806	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms

Faccio Pizza	787-755-5415	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms
The Criollo Banana	787-768-8072	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms
Angelito's Café	787-725-6766	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms
				20th		
Raíces Restaurant	787-705-9333	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Food	
			Ice	Water	Gasoline	Bathrooms
Morales Supermarket	787-720-2990	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Purchase	
			Ice	Water	Gasoline	Bathrooms
Econo Rial Supermarket, Altamira	787-707-0112	SAN JUAN/RP	Materials	Equipment	Services	Tents
					Purchase	
			Ice	Water	Gasoline	Bathrooms
Cupey Alto Ice Plant	787-292-6862 787293-1085	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			20th			

San Juan Ice Plant Inc.	787-728-4045 787-726-5171	SAN JUAN/RP	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			20th			

Ponce Region

Name	Number	Municipality	Mark the Type of Service			
Ponce ICE		Ponce	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Rene BBQ La Barquita De Fiesta	787-612-2792 787-866-8115	Guayama Salinas Guayama	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Septic		Juana Díaz	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
						X
Puma American Petroleum		Guayama	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	
Electric Service	787-864-5035	Guayama	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Coke		Cayey	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
				X		
Environics	787-781-7891	Caguas	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
La Hielera	787-938-7528	Ponce	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X			
Tropical City	787-842-4251	Ponce	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
			X	X		

JQ Maintenance	787-238-7959	San Germán	Materials	Equipment	Services	Tents
					X	X
			Ice	Water	Gasoline	Bathrooms
Grainger	787-275-3500	Cataño	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
Outek	787-644-9085	Guaynabo	Materials	Equipment	Services	Tents
			X	X		
			Ice	Water	Gasoline	Bathrooms
Creole Delights	787-214-7994	Ponce	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Pizza Heaven	787-412-8253	Ponce	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
Puma Garage	787-259-1569	Ponce	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	
Septix	787-840-9090	Ponce	Materials	Equipment	Services	Tents

			Ice	Water	Gasoline	Bathrooms
						X
Rentals M. Barrio	787-840-4740	Ponce	Materials	Equipment	Services	Tents
						X
			Ice	Water	Gasoline	Bathrooms
Gulf Garage	787-260-0289	Bo. Jacaguas	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	
General Gases	787-843-0425	Ponce	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Environics	787-281-7891	St. John's	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
Santos Olivieri Hardware Store	787-845-3940	St. Elizabeth	Materials	Equipment	Services	Tents
			X			
			Ice	Water	Gasoline	Bathrooms
Electric Cowboy	787-825-1792	Coamo	Materials	Equipment	Services	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
La Barquita	787-612-2792	Salinas	Materials	Equipment	Services	Tents

					X	
			Ice	Water	Gasoline	Bathrooms
Pichi's Hotel	787-835-7070	Guayanilla	Materials	Equipment	Meals	Tents
					X	
			Ice	Water	Gasoline	Bathrooms
				X		
AEE Mechanics Workshop	787-521-8540	Yauco	Materials	Equipment	Services	Tents
			Ice	Water	Gasoline	Bathrooms
					X	
AEE Monacillo	787-521-5966	Coordination of the Chief Technical Operations	Materials	Equipment	Services	Tents
						X
			Ice	Water	Gasoline	Bathrooms
						X
Café Bakery	787-856-8269	Yauco	Materials	Equipment	Meals	Tents
					X	
			Ice	Water	Gasoline	Bathrooms

Emergency Response Plan

Annex B
Fire Response

LUMA ENERGY

CRISIS MANAGEMENT OFFICE

May 10, 2021

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Handling Instructions

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Crisis Management Office
LUMA Energy

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Approval and Implementation

LUMA Energy Emergency Response Plan

Fire Response Annex

[redacted] _____ May 23, 2021
Date

Director, Emergency Operational Response and Readiness

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I. Purpose

The purpose of LUMA's Fire Response Annex ("Annex") is to describe the key functions that LUMA will implement to address fire specific events that affect 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 service throughout the electric grid when affected by any minor or major fire related incident or event. 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.

A.NIMS and the Incident Command System

LUMA has adopted the National Incident Management System (NIMS), a consistent, nationwide framework and approach that enables government at all levels (federal, state, local, tribal), the private sector and non-governmental organizations to work together to prepare for, respond to, and recover from the effects of incidents, regardless of cause, size, or complexity.

By ensuring the key elements of the Incident Command System (ICS) are implemented at each level within the organization, LUMA can accommodate municipal, regional, and system level emergencies. These key elements are easily replicated utilizing common roles and responsibilities.

II. Scope

This Annex applies to emergency events caused by a fire event or fire related hazards that result in, or could result in, a major impact to the integrity of LUMA's Transmission and Distribution (T&D) system and/or any other disruption of electrical service to LUMA customers. Execution of coordinated decisions, appropriate responses, and actions to activate resources contributes to a rapid and safe recovery and depends upon the scalability of this Annex.

A.Guiding Principles

LUMA's Guiding Principles are primary mechanisms to coordinate LUMA's preparedness, response and recovery actions when faced with any type of minor or major emergency event. In accordance with the Guiding Principles, LUMA will:

- Treat all LUMA personnel, customers, and contract personnel with consideration and respect.
- Assess damage and relay information promptly. A high-level Company damage assessment will be provided within a reasonable timeline depending on the level of damage.
- Provide estimated times of restoration as the affected geographic area is assessed.
- Follow all safety protocols creating the ability to respond to sites that pose a risk to public safety (such as downed energized conductors) with the highest priority.
- Maintain environmental stewardship by complying with all environmental work practices and regulations.

- Maintain a focus on critical community lifelines throughout the response and restoration operations as defined in the LUMA ERP – Base Plan.

III. Situation and Assumptions

A. Situation

LUMAs ability to respond to an emergency fire event or fire-related hazards to lessen the effects of power outages to customers depends upon a combination of coordinated decisions internally and externally with regards to local emergency services personnel and resources. Uncontrolled fire events have the potential to expand into a major emergency and can negatively affect the safety of others, property, and the ability for LUMA to provide continuous electric service to its customers.

The effectiveness of this Annex is based on LUMA's commitment to prepare and implement guidance and best practices outlined within this Annex and the ERP – Base Plan. Execution of the appropriate responses to affect rapid and safe recovery is dependent upon the scalability of this Annex. The number of customers affected and the magnitude of a major outage event vary, but the operational concept stays consistent. The level of recovery resources can be adjusted as needed.

Additional natural or man-made hazards may require a change in the Event Type which requires flexibility of this Annex. There are five (5) Event Types described in the Event Classification and LUMA Emergency Operations Center (LEOC) Activation Table, located in this Annex, Attachment 3.

B. Assumptions and Considerations

LUMA's ability to respond to and recover from any type of incident that may affect the Transmission and Distribution system is critical. The concepts for response, restoration, and recovery are outlined within the LUMA ERP – Base Plan and Annex A, Major Outage Restoration. Identified below are additional assumptions and considerations regarding response to emergency incidents, such as fire, which include, but are not limited to the following:

- Damage assessment(s) determines the impact and magnitude of damages and should be conducted within a reasonable timeline.
- Damage assessment reports identify affected geographic area(s) which contribute to the estimated time of restoration baseline projection.
- Normal resources and processes for support to impacted areas for power restoration may not be enough due to the severity and duration of the outage and extent of the damage.
- 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.

- Minor or major emergency events, disasters, and acts of terrorism may adversely impact local available public safety personnel, equipment, facilities, and communications systems.
- Mutual Aid Agreements (MAA) or Memorandum of Agreements are maintained and activated when the scope of the incident requires additional resources beyond LUMA's capabilities.
- Potential weather conditions may affect the response and restoration actions.
- Assessment, prioritizing and scheduling of repairs are conducted throughout the response and restoration process.

IV. Concept of Operations

In the event of a major outage due to an emergency event that results in, or may result in damages to facilities or power outages, LUMA will respond and rapidly assess the impacts to the Transmission & Distribution (T&D) infrastructure and take the necessary actions to mitigate cascading effects from continual power outages and implement restoration protocols.

To ensure response integration, the Puerto Rico Emergency Management Bureau's (PREMB) Incident Levels and LUMA's Event Classification Types are utilized and identified in the LUMA ERP – Base Plan.

A. Restoration Operations Strategy

The Dispatch and Field Operations Section within the LUMA Emergency Operations Center (LEOC) is responsible for the restoration operation strategies implemented by LUMA. In response to an event that affects the electric system's ability to provide power throughout Puerto Rico, directives from the LEOC will follow the LUMA Restoration Strategy identified in the LUMA ERP – Annex A, Major Outage Restoration ("Annex A"), Section VI.

1. Approach

Under the direction of the East or West Division Branch Director, the field teams will respond to the event as safely and efficiently as possible. The Incident Command System (ICS) is flexible and adaptable to the Event Type and EOC activation level identified in Attachment 2 of this Annex.

The ICS establishes:

- Lines of supervisory authority.
- Formal reporting relationships.
- Maintains reasonable spans of control at each level.
  - At a minimum, all Command Staff, General Staff, and Director ICS positions are responsible for primary and secondary staffing requirements within the incident command structure.

The transition from response operations to restoration operations will be considered when the following are addressed.

- Mobilizing/demobilizing their organization and resources as directed by the IC.
- Overseeing the deployment and direction of their staff in the performance of the specific tasks associated with their respective function.
- Making available a well-trained workforce to staff their respective function.
- Adhering to all applicable environment, health and safety rules, regulations and procedures.

2. Mobilization of Personnel

Most fires typically occur with little to no warning, therefore LUMA may be required to institute a rapid deployment of resources in the safest manner possible depending on the Event Type.

The most critical component to mobilizing personnel is the ability to be flexible in order to adapt to optimum levels as the threat becomes more certain.

- The IC is responsible for notifying the Command Staff of LEOC activations.
- The IC may activate other roles based on incident developments and the Event Type.
- Notifications are made in accordance with the LUMA Performance Metrics for the Mobilization of Personnel located within the LUMA ERP-Annex A.

3. Damage Assessment

A Damage Assessment (DA) is a key component of the restoration operations. Assessment personnel are managed through the System Emergency Restoration Teams (SERT) and will provide their report to the Regional Commander. The order of evaluation is based on the Restoration Priority Matrix Guidelines which is identified within the Annex A., Section VII.E.

- The T&D System Control Center will monitor and develop an initial system status report. This report is used to compare the current level of electric demand on the system to the forecasted demand.
- The DA report is disseminated to the Operations Section in the LEOC where resources and equipment requirements are identified.
- Regional SERT teams execute restoration operations as identified by the LEOC and Regional Commanders.

4. Restoration

In accordance with the safety protocols and priorities established for emergency events identified within the LUMA ERP, response and restoration crews will be dispatched to pre-identified staging areas.

a) Prioritization

Outages are prioritized by:

- Considerations of safety conditions.
- Amount of damages to LUMA facilities and/or infrastructure.

- Critical Community Lifelines, customer type, and the number of affected customers.
    - LUMA identifies a summary of Major Outage Event Performance Metrics located within the LUMA ERP, Annex A.

b) Assessment

LUMA will complete an assessment of the electrical system by dispatching SERTs to determine and conduct emergency repairs.

5. 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 minor or 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 life-threatening conditions regarding electrical services.
- Restoration to affected Critical Community Lifelines as outlined in Annex A.
- Disseminate timely and accurate communications of system conditions.

6. Make Safe Protocols

During a minor or major event, the number of resources that are trained and readily available may be limited, and the demand could greatly exceed those available. LUMA will ensure "make safe" actions are taken and acknowledges it may be necessary to contract for additional resources to support "make safe" and restoration activities.

B. LUMA Event Classification Type

All potential fire incidents, either natural or man-made, have the potential to affect LUMA operations outside of the daily operational boundaries. If the incident triggers the activation of the LEOC, the IC is responsible for analyzing the severity and complexity of the incident with the collaboration and input of the Command and General Staff and determines the Restoration Event Type.

These classification types are directly tied to the establishment of LEOC activation levels. The IC may also deem it necessary to escalate or de-escalate the Event Type and LEOC Activation Level depending on changes in circumstances or where actual conditions differ from expected conditions.

- Event Types 4 and 5 are Non-Emergency Events.
- Event Types 1, 2, and 3 are Emergency Events.
    - Type 1 is the most severe.
- Event Type 1 represent catastrophic emergency conditions.

- LUMA's Emergency Event Types are described in this Annex in Attachment 2.

V. Estimated Time of Restoration

Damages that cause electric system failure due to fire, and considerations regarding fire-related hazards(s) which may impede restoration operations, must be investigated upon notification of an impending or immediate emergency event.

Subsequently, timely and accurate Estimated Times of Restoration (ETR) must be provided to all LUMA customers and stakeholders. Providing accurate ETRs is a top priority of LUMA's overall restoration process.

The flexibility of an event requires a strategic, deliberate, planning-oriented posture which allows a utility to plan resource needs, operational periods, strategic objectives, staff fatigue, and external communications. The expected actions related to ETRs are found in Annex A of the ERP, Section VIII, Tables 15 and 16.

VI. 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
- 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 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.

VII. Communications

LUMA will strive to provide timely, accurate and consistent communications prior to and during an incident. During a fire related event that requires the activation of the LUMA Emergency Operations Center (LEOC), the Public Information Officer (PIO), through the LEOC, will communicate necessary and critical information through a variety of methods that may include, but are not limited to the following:

- LUMA's website and Customer Outage
- Media Outlets
- Social Media (i.e. Twitter, Facebook, WhatsApp, etc.)
- Situational Reports to Local, Municipal and Government of Puerto Rico agencies
- Incorporation of Amateur Radio Operators (as needed)
- Joint Information Center (JIC)
  - LUMA is responsible for establishing a JIC and/or provide a liaison to the PREMB pre-established JIC.

LUMA has established a consistent messaging platform that is flexible to allow for expansion internally or externally, depending on the Event Classification Type which is identified within Attachment 2 of this Annex.

VIII. Demobilization

The Incident Commander (IC) has the responsibility to initiate the De-escalation/Demobilization process. Demobilization is the orderly, safe, and efficient return of operations, facilities and resources to its pre-incident status. Demobilization planning is an on-going process that facilitates accountability and ensures efficient resource management.

Tracking resource requirements and releasing those resources that are no longer required to support the response is essential for accountability and managing incident control. This assists in reducing the loss of resources, limiting operating costs and ensuring retention and availability of resources for other activities and assignments as needed.

The Planning and Intelligence Section Chief (PSC) will develop demobilization plans and ensure they are implemented as instructed by the IC.

The emergency response operations may be fully demobilized when:

- All event related jobs are assigned.
- Centralized Dispatch is managing the event.
- All non-regional crews are released.

IX. Annex Development and Maintenance

This Annex is a living document. Development and maintenance to this Annex will be in conjunction with the LUMA ERP – Base Plan. Proposed changes should be sent to the Crisis Management Office (CMO) for approval and inclusion.

Please reference the LUMA ERP – Base Plan, Section XII, Plan Development and Maintenance for additional information.

Attachment 1 – Explanation of Terms

Acronyms

CMO	Crisis Management Office
DA	Damage Assessment
EOC	Emergency Operations Center
ERO	Emergency Response Organization
ERP	Emergency Response Plan
ETR	Estimated Time of Restoration
FEMA	Federal Emergency Management Agency
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
JIC	Joint Information Center
LEOC	LUMA Emergency Operations Center
MAA	Mutual Aid Agreement
NIMS	National Incident Management System
P&I	Planning and Intelligence
PIO	Public Information Officer
PREMB	Puerto Rico Emergency Management Bureau
PSC	Planning and Intelligence Section Chief
SERT	System Emergency Restoration Team
T&D	Transmission & Distribution

Terms

Assumptions – Operationally relevant parameters expected and used as a context, basis, or requirement for the development of response and recovery plans, processes, and procedures.

Damage Assessment (DA) – A mechanism utilized to determine the magnitude of damage and impact of disasters.

Demobilization – The ongoing process of disengaging response resources as incident objectives are met and returning them to their normal function.

Disaster – An occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries and exceeds the response capability of the local jurisdiction and requires Government of Puerto Rico, and potentially Federal, involvement.

Emergency Event – An event where widespread outages or Service Interruptions have occurred in the service area of the Company due to storms or other causes beyond the control of the company. An Emergency Event is an event classified at a Type I, II, or III event as described in this ERP.

Emergency Operations Center (EOC) – The physical locations at which coordination of information and resources to support incident management activities occurs.

Emergency Response Organization (ERO) – A structured organization with overall identified responsibilities for initial and ongoing emergency response and mitigation.

Incident Action Plan (IAP) – Includes the overall incident objectives and strategies established by the Incident Commander. The Planning Section is responsible for developing and documenting the IAP.

Incident Commander (IC) – The individual appointed by the Company's executive management to have overall responsibility for LUMA's response during an Emergency Event.

Incident Command System (ICS) - Coordinated and collaborative incident management construct specifically designed and made a part of the National Incident Management System ("NIMS") under the Federal Emergency Management Agency ("FEMA").

Joint Information Center (JIC) – A central point of contact for new media and interest parties to coordinate incident information activities.

System Level ERO – Multi-regional Emergency Response Organization.

Attachment 2 – Event Classification Type

Type		Anticipated LUMA Operating Conditions
Type 1 – Catastrophic Emergency	Viewpoint	A Type 1 event is a catastrophic event, historically resulting in significant damage to the electrical transmission and distribution system. Type 1 events are rare but are usually forecast in advance of the event. This event calls for the full implementation of ICS and all employees are assigned shifts and are scheduled in relation to their role in the ERP. All Division and Regional Emergency Operations Centers (EOCs) are activated. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event and demobilization activities post event. Communication protocols are activated and discussion with local and Government of Puerto Rico officials occurs prior to impact and through the restoration stage.
	Characteristics	• The damage severity impacts the entire system such that restoration activities may require ten (10) days or more once it is safe to begin restoration activities • Typically, > 50% (>700,000) customer interruptions at peak • Typically, > 50,000 Outage Event at Peak • This type of event is anticipated to occur between 1 and 4 times in a ten-year period
	Response Organization	• System-wide Incident Command structure is activated • All Command and General Staff positions are activated • All EOCs are operational • Additional restoration support functions will be established at a Division and/or Regional EOC level as directed by the PSC and OSC and approved by the IC • Remote Restoration Management Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • Liaisons are activated • Staging Areas may be required to support external crews and resources
	Resource Activation	• This response requires outside assistance from contractors and/or mutual assistance from other utilities outside of the region • System Emergency Restoration Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • LUMA will likely require a large increase in various staffing positions and teams • Additional restoration support functions will be staffed
	Communication/ Coordination	• Federal resource coordination will likely be required • A written Incident Action Plan (IAP) is required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Municipalities, Elected Officials, and Regulators is performed • Restoration Phase Reporting is required • An After-Action Review is required • Post event meetings with the most severely affected communities will be held

Table 1: Type 1 - Catastrophic Event

Type	Anticipated LUMA Energy Operating Conditions	
Type 2 – Emergency Conditions Event	Viewpoint	A Type 2 event is 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 territory. Type 2 events are usually forecast in advance. This is a full implementation of ICS and most employees are assigned shifts and scheduled related to their role in ERP. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event, and demobilization activities post event. All impacted Division, and Regional Emergency Operations Centers (EOCs) are activated. Communication protocols are activated and extended discussions with local and Government of Puerto Rico officials occurs prior to impact and through the restoration stage.
	Characteristics	• The damage severity within a specific region or spread across the system is such that restoration activities are generally accomplished within a 7-day period once it is safe to begin restoration activities • Typically, 25% to 50% (350,000 to 700,000) customer interruptions at peak • Typically, >25,000 Outage Events at Peak • This type of event is anticipated to occur between 2 and 4 times in a five-year period
	Response Organization	• The system-wide Incident Command structure is activated • All Command and General Staff positions are activated • All EOCs are operational • Additional restoration support functions will be established at a Divisional EOC level as directed by the Planning and Operations Section Chiefs and approved by the Incident Commander • System Emergency Restoration Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • Community Liaisons are activated to EOCs to serve communities as directed by the Liaison Officer and approved by the Incident Commander • Staging Areas may be required to support external crews and resources
	Resource Activation	• This response requires outside assistance from contractors and/or mutual assistance from other utilities outside of the region • LUMA Energy will likely require a large increase in various staffing positions and teams • Additional restoration support functions will be staffed
	Communication / Coordination	• Federal resource coordination will likely be required • A written IAP is required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Municipalities, Elected Officials, and Regulators is performed • Restoration Phase Reporting is required • An After-Action Review is required • Post event meetings with the most severely affected communities may be held

Table 2: Type 2 - Emergency Conditions Event

Type	Anticipated LUMA Energy Operating Conditions	
Type 3 – High Alert Event (Moderate Regional Event)	Viewpoint	A Type 3 event represents the greatest range of uncertainty due to the severity of event being forecasted (Tropical Depression/Storm) but with low to medium confidence levels for the degree of impact and geographical area that is threatened. This type of event historically resulted in significant damage to district(s) or moderate damage to region(s). The approach is to prepare for multiple regions to potentially be impacted by activating the ICS structure and the opening of one or more EOCs. Employees will be assigned shifts and scheduled according to the threat, then moved to the areas with less impact to areas that received greater damage. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event and demobilization activities post event. Communication protocols are activated and extended discussions with local and state officials occurs prior to impact and through the restoration stage.
	Event Characteristics	• The damage severity within a specific district or region(s) is such that restoration activities are generally accomplished within a 48-72-hour period • Typically, 10% to 25% (70,000 to 350,000) customer interruptions at peak
	Response Organization	• The Incident Command structure is activated at the System EOC level down to the local level • One or more of the EOCs may be activated to match the complexity of the event • Additional restoration support functions such as Decentralized Dispatching, Downed Wires and Damage Assessment may be established at a Divisional EOC as directed by the Planning and/or Operations Section Chiefs and approved by the Incident Commander • Community Liaisons are activated to operational EOCs as directed by Liaison Officer and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • Staging Areas may be required in an area if it has been severely impacted and requires a concentrated number of crews and resources
	Resource Activation	• This response may require outside assistance from contractors and/or mutual assistance from other utilities outside of the region • LUMA Energy may require a large increase in various staffing positions and teams • Additional restoration support functions may be staffed
	Communication/ Coordination	• A written IAP may be required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Life Support Customers, Municipalities, Elected Officials, and Regulators is conducted as necessary • Restoration Phase Reporting is required

Table 3: Type 3 - High Alert Event

Type		Anticipated LUMA Energy Operating Conditions
Type 4 – Non-Emergency Restoration Event (Heightened Alert)	Viewpoint	Type 4 events include (but are not limited to): system events that impact one or more district. Type 4 events may be due to thunderstorms, high winds, frequent and/or severe lightning, small to moderate winter storms or unanticipated events. Typically, these events are managed by System Operations with assistance from Field Operations. Control and management of the event typically remains centralized but may decentralize to one or more Emergency Operations Centers depending on the damage. The Incident Command Staff is notified, and specific sections may be activated depending on the impact of the event.
	Event Characteristics	• The damage severity within a specific district is such that restoration activities are generall accomplished within a 12-24-hour period • The incident is usually limited to one or two operational periods in the Event Restoration phase • Typically, 1 to 5% (14,000 to 70,000) customer interruptions at peak • Typically, >7,000 Outage Events at peak • This type of event generally occurs less than 5 to 10 times per year
	Response Organization	• Incident Command Structure may be activated • Command and General Staff positions activated as needed • One or more EOCs may be operational depending on the geographical threat and complexity • Community Liaisons may be staffed at the activated EOCs as directed by the Liaison Officer and approved by the Incident Commander
	Resource Activation	• Internal restoration resources normally available • Restoration is generally accomplished with local assets possibly with assistance from other regional distribution line assets • Typically, 2-50 personnel may be deployed to EOCs that have been activated at the discretion of the Planning and/or Operations Section Chiefs and approved by the Incident Commander to perform other functions
	Communication / Coordination	• No written IAP is required • The operations and maintenance department may have briefings or regional conference calls to ensure the complexity of the event is fully communicated to management and that response staff receive the appropriate level of support required for the event

Table 4: Type 4 - Non-Emergency Restoration Event

Type		Anticipated LUMA Energy Operating Conditions
Type 5 – Normal Operations	Viewpoint	Type 5 events represent normal operations and are managed by the System Operations Dispatch Organization which is staffed 24/7/365. For small outages, system Operations will dispatch designated trouble resources to repair the outage. If upon arrival it is determined that additional resources are needed, a supervisor is assigned and will secure additional line crews from the Field Operations organization.
	Event Characteristics	• System activity is normal • Incidents are contained within the first operational period and last for less than 12 hours after resources arriv on scene • Typically, <1 % (14,000) customer interruptions at peak • Typically, <2,500 Outage Events at peak • Normal daily internal crew assignments
	Response Organization	• Incident Command Structure is not activated • Emergency Operations Centers are not activated
	Resource Activation	• Outage response is coordinated with local on-call personnel
	Communication/ Coordination	• No written IAP is required

Table 5: Type 5 - Normal Operations

TABLE NOTES

- Type 1, 2 and 3 events are “Emergency Events.” Types 4 and 5 are restoration events managed as normal operations unless escalation occurs.
- Expected percent of customers without service is based on the peak during the event period.
- “Outage Events” equates to outage events tracked and entered in the OMS. Some reported damage to the electrical infrastructure that requires repair may not cause an outage but may need to be addressed such as a low wire, tree limb on conductor or damaged equipment.
- For all Event Types, evaluation and estimations of needed crews and resources are a result of several factors, including, but not limited to:
  - The anticipated circumstances of the emergency condition(s).
  - The anticipated geographic impact of the emergency condition(s).
  - The level of availability of external or mutual aid resources.
  - Travel distance or other logistical considerations that increase or diminish the ability of external or mutual aid resources to assist effectively in the restoration effort.

Attachment 3 – Event Classification and LEOC Activation Levels

LEOC Activation	Characteristics	LUMA Event Classification	Restoration Defined
Level 5 – Normal Operations	**Normal Day to Day Operations**	**Type 5 – *Non-emergency event**	***Non-Emergency Restoration Event –*** • **Response and Restoration efforts last for less than 12 hours**
Level 4 – Heightened Alert	• No worker injuries • No or low media interest • Corporate reputation not impacted • Spills and releases confined to site/lease • Public / employee health & safety not threatened • Pre-storm preparation activities also occur	Type 4 – *Non-emergency event (LUMA resources and localized Mutual Aid as needed)	*Non-Emergency Restoration Event –* • Response and Restoration efforts last for approx. 12-24-hour period • Locally assigned crews and contractors respond to any isolated incidents
Level 3 – High Alert	After an event occurs, at least 3 of the following are present: • First aid treatment required for worker(s) • Local and possible regional media interest • Public / employee health & safety or environment not threatened – perception of risk present • Spills and releases not contained on lease or potential extend beyond site/lease • Corporate reputation not impacted • Pre-storm preparation activities also occur	Type 3 – *Emergency Event (All LUMA resources and multiple Mutual Aid Resources)	• Response and Restoration efforts last for approx. 24-48 hours • 70k to 350k customer interruptions at peak (represents between 10-25 percent of all LUMA customers) • 10k or more outages at peak • May require activation of ICS
Level 2 – Emergency Conditions	**After an event occurs, at least 3 of the following are present:** • **Multiple workers require hospitalization** • **Regional & national media interest** • **Spill or release not contained, extends beyond lease** • **Public / employee health & safety or environment could be jeopardized** • **Local and/or corporate reputation or company impacted**	**Type 2 – *Emergency (All LUMA resources and extensive Mutual Aid Resources)**	• **Response and Restoration efforts are accomplished in a 7-day period or less** • **350k to 700k customer interruptions at peak (represents between 25-50 percent of all LUMA customers)** • **Causes 25k or more outages at peak** • **Restoration is expected to take up to 7 days**
Level 1 – Catastrophic Emergency	**After an event occurs, at least 3 of the following are present:** • **Mass Fatality Incident** • **National & international media interest** • **Spill or release off site / not contained** • **Public / employee health & safety or environment jeopardized** • **Corporate reputation impacted**	**Type 1 – *Emergency (All company and contractor resources; extensive mutual assistance, federal Assistance)**	• **Response and Restoration efforts may require ten (10) days or more** • **700k or more customer interruptions at peak (represents at least half of all LUMA customers)** • **50k or more outages at peak** • **Restoration may take 10 days or longer** • **Will require mutual aid assistance**

Emergency Response Plan

Annex C
Earthquake Response

LUMA ENERGY

CRISIS MANAGEMENT OFFICE

May 10, 2021

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Crisis Management Office
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Approval and Implementation

LUMA Energy Emergency Response Plan

Earthquake Response Annex

May 23, 2021
Date

Director, Emergency Operational Response and Readiness

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I. Purpose

The purpose of LUMA's Earthquake Response Annex ("Annex") is to describe 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 service throughout the electric grid when affected by any minor or major earthquake or earthquake-related incident or event. 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.

A. NIMS and the Incident Command System

LUMA has adopted the National Incident Management System (NIMS), a consistent nationwide framework and approach that enables government at all levels (federal, state, and local), the private sector and non-governmental organizations to work together to prepare for, respond to, and recover from the effects of incidents, regardless of cause, size, or complexity.

By ensuring the key elements of the Incident Command System (ICS) are implemented at each level within the organization, LUMA can accommodate municipal, regional, and system level emergencies. These key elements are easily replicated utilizing common roles and responsibilities.

II. Scope

This Annex applies to emergency events caused by earthquakes and earthquake-related hazards that result in, or could result in, a major potential impact to the integrity of LUMA's Transmission and Distribution (T&D) system and/or a disruption of electrical service to LUMA customers. Execution of coordinated decisions, appropriate responses, and actions to activate resources contributes to a rapid and safe recovery and depends upon the scalability of this Annex.

A. Guiding Principles

LUMA's Guiding Principles are primary mechanisms to coordinate LUMA's preparedness, response and recovery actions when faced with any type of minor or major emergency event. In accordance with the Guiding Principles, LUMA will:

- Treat all LUMA personnel, customers, and contract personnel with consideration and respect.
- Assess damage and relay information promptly. A high-level Company damage assessment will be provided within a reasonable timeline depending on the level of damage.
- Provide estimated times of restoration be as the affected geographic area is assessed.

- Follow all safety protocols associated with responding to sites that pose a risk to public safety (such as downed energized conductors) with the highest priority.
- Maintain environmental stewardship by complying with all environmental work practices and regulations.
- Maintain a focus on Critical Community Lifelines throughout the response and restoration operations as defined in the LUMA ERP – Base Plan.

III. Situation and Assumptions

A. Situation

Puerto Rico experiences hundreds of earthquakes of varying magnitude every year. The island is located above two congruent tectonic plates: the Northern American and Caribbean Tectonic plates. Pressure buildup between the plates results in a release of energy causing frequent earthquakes. Between December 2019 and January 2020, a string of earthquakes with magnitudes of five (5) or higher impacted the island (Figure 1) and severely damaged electrical infrastructure and the island's largest power plant, Costa Sur. Power outages impacted nearly the entire island and took over a week to restore.

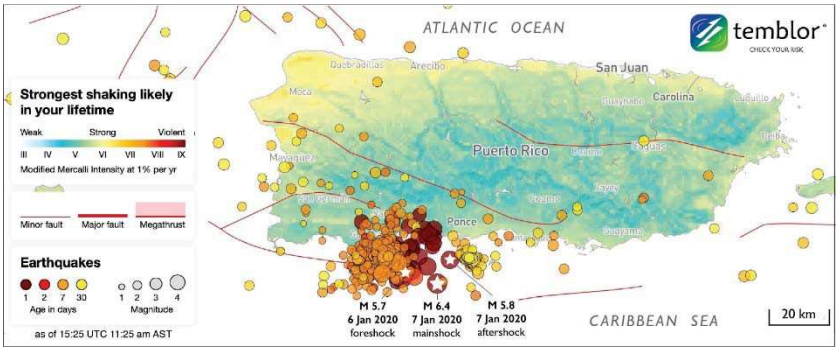

Figure 1- Puerto Rico Earthquakes. Dec. 2019- Jan. 2020 (Source: Temblor)

Earthquakes have the potential to expand into a major emergency and can affect the 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; Figure 2 illustrates the location of fault lines in relation to Puerto Rico's power generating facilities. 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.

Figure 2- Major Geographical Faults Overlapping the Power Generation Layout of Puerto Rico (Source: LUMA ERP- Base Plan)

The effectiveness of this Annex is based on LUMA's commitment to prepare and implement guidance and best practices outlined within this Annex and the ERP – Base Plan. Execution of the appropriate responses to affect rapid and safe recovery is dependent upon the scalability of this Annex. The number of customers affected, and the magnitude of a major outage event vary, but the operational concept stays consistent. The level of recovery resources can be adjusted as needed.

Additional natural or man-made hazards may require a change in the Event Type which requires flexibility of this Annex. There are five (5) Event Types described in the Event Classification and LUMA Emergency Operations Center (LEOC) Activation Table, located in this Annex, Attachment 3.

B. Assumptions and Considerations

LUMA's ability to respond to and recover from any type of minor or major event that may affect the electric service to its customers and related actions are outlined within the LUMA ERP – Base Plan and Major Outage Restoration Annex A. Identified below are additional assumptions and considerations regarding response to earthquakes which should include, but are not limited to the following:

- Earthquakes of high magnitude can inflict serious structural damage on electrical infrastructure and facilities. Cascading effects of earthquakes may include additional damages, large quantities of debris and simultaneous fires.
- Earthquakes can trigger earthquake-related hazards, such as aftershock earthquakes, tsunamis, surface faulting liquefaction, and/or landslides. For more information on these hazards, refer to the Hazards Assessment, Attachment 4.
- Damage assessment(s) determines the impact and magnitude of damages and should be conducted within a reasonable timeline.
- Damage assessment reports identify affected geographic area(s) which contribute to the estimated time of restoration baseline projection.
- Normal resources and processes for support to impacted areas for power restoration may not be enough due to the severity and duration of the outage.
- Earthquakes and earthquake-related hazards may present issues that may 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.
- Minor or major emergency events, disasters, and acts of terrorism may adversely impact local available public safety personnel, equipment, facilities, and communications systems.
- Mutual Aid Agreements (MAA) or Memorandum of Agreements are maintained and activated when the scope of the incident requires additional resources beyond LUMA's capabilities.
- Potential weather conditions may affect the response and restoration actions.

- Assessment, prioritizing and scheduling of repairs are conducted throughout the response and restoration process.

IV. Concept of Operations

In the event of a major outage due to an earthquake or earthquake-related hazard that results in, or may result in damages of facilities or power outages, LUMA will respond and rapidly assess the impacts to the Transmission & Distribution (T&D) infrastructure and take the necessary actions to mitigate cascading effects from continual power outages and implement restoration protocols.

To ensure response integration, the Puerto Rico Emergency Management Bureau's (PREMB) Incident Levels and LUMA's Event Classification Types are utilized and identified in the LUMA ERP – Base Plan.

A. Restoration Operations Strategy

The Dispatch and Field Operations Section within the LUMA Emergency Operations Center (LEOC) is responsible for the restoration operation strategies implemented by LUMA. In response to an event that affects the electric systems ability to provide power throughout Puerto Rico, directives from the LEOC will follow the LUMA Restoration Strategy identified in the LUMA ERP-Major Outage Restoration Annex A ("Annex A"), Section VI.

1. Approach

Under the direction of the East or West Division Branch Director the field teams will respond to the event as safely and efficiently as possible. The Incident Command System (ICS) is flexible with adaptability depending on the Event Type identified in Attachment 2 of this Annex.

The ICS establishes:

- Lines of supervisory authority.
- Formal reporting relationships.
- Maintains reasonable spans of control at each level.
  - At a minimum, all Command Staff, General Staff, and Branch Director ICS positions are responsible for primary and secondary staffing requirements within the incident command structure.

The transition from response operations to restoration operations will be considered when the following are addressed.

- Mobilizing/demobilizing their organization and resources as directed by the IC.
- Overseeing the deployment and direction of their staff in the performance of the specific tasks associated with their respective function.
- Making available a well-trained workforce to staff their respective function.
- Adhering to all applicable environment, health and safety rules, regulations and procedures.

2. Mobilization of Personnel

Most earthquakes typically occur with little to no warning, therefore LUMA may be required to institute a rapid deployment of resources in the safest manner possible depending on the Event Type.

The most critical component to mobilizing personnel is the ability to be flexible in order to adapt to optimum levels as the threat and/or extent of damages becomes more certain.

- The IC is responsible for notifying the Command Staff of LEOC activations.
- The IC may activate other roles based on incident developments and the Event Type.
- Notifications are made in accordance with the LUMA Performance Metrics for the Mobilization of Personnel located within the LUMA ERP, Annex A.

3. Damage Assessment

A Damage Assessment (DA) is a key component of the restoration operations. Assessment personnel are managed through the Regional System Emergency Restoration Teams (SERT) and provide their report to the Regional Commander. The order of evaluation is based on the Restoration Priority Matrix Guidelines which is identified within the LUMA ERP, Annex A., Section VII.E.

- Assessment personnel should maintain safety and security protocols when conducting DA's after an earthquake in case of secondary earthquake-related hazards. Aftershocks may occur without warning up to days after the initial earthquake.
- The T&D System Control Center will monitor and develop an initial system status report. This report is used to compare the current level of electric demand on the system to the forecasted demand.
- The DA report is disseminated to the Operations Section in the LEOC where resources and equipment requirements are identified.
- Regional SERT teams execute restoration operations as identified by the LEOC and Regional Commanders.

4. Restoration

In accordance with the safety protocols and priorities established for emergency events identified within the LUMA ERP, Base Plan, response and restoration crews will be dispatched to pre-identified staging areas.

a) *Prioritization*

Outages are prioritized by:

- Considerations of safety conditions.
- Amount of damages to LUMA facilities and/or infrastructure.
- Critical Community Lifelines, customer type, and the number of affected customers.

- LUMA identifies a summary of Major Outage Event Performance Metrics located within the LUMA ERP, Annex A.

b) *Assessment*

LUMA will complete an assessment of the electrical system by dispatching the SERT to determine and conduct emergency repairs.

5. Emergency Earthquake 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.

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 the following:

- Responding with appropriate resources to address emergency and life-threatening conditions regarding electrical services.
- Restoration to affected Critical Community Lifelines as outlined in Annex A.
- Disseminate timely and accurate communications of system conditions.

6. Make Safe Protocols

During a minor or major event, the number of resources that are trained and readily available may be limited, and the demand could greatly exceed those available. LUMA will ensure "make safe" actions are taken and acknowledges it may be necessary to contract additional resources to support make safe and restoration activities.

B. LUMA Event Classification Type

All earthquake events have the potential to affect LUMA operations outside their daily operational boundaries. If the event triggers the activation of the LEOC, the IC is responsible for analyzing the severity, complexity, and size of the incident with the collaboration and input of the Command and General Staff and determines the Event Type.

These classification types are directly tied to the establishment of EOC activation levels. The IC may also deem it necessary to escalate or de-escalate the Event Type and EOC Activation Level depending on changes in circumstances or where actual conditions differ from expected conditions.

- Event Types 4 and 5 are Non-Emergency Events.
- Events Types 1, 2, and 3 are Emergency Events.
  - Type 1 is the most severe.
- Event Type 1 represents catastrophic emergency conditions.
  - LUMA's Emergency Event Types are described in this Annex in Attachment 2.

V. Estimated Times of Restoration

Earthquake damages that cause the electric system to fail and considerations regarding earthquake-related hazards(s) which may impede restoration operations must be investigated upon notification of an impending or immediate emergency event. The timespan of an earthquake may prolong the Estimated Times of Restoration (ETR), given aftershocks and other earthquake-related hazards can occur after the initial event.

Subsequently, timely and accurate ETR must be provided to all LUMA customers and stakeholders. Providing an accurate ETR is a top priority of LUMA's overall restoration process.

The flexibility of an event requires a strategic, deliberate, planning-oriented posture which allows a utility to plan resource needs, operational periods, strategic objectives, staff fatigue, and external communications. The expected actions related to ETRs are found in Annex A of the ERP, Section VIII, Tables 15 and 16.

VI. 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.

VII. Communications

LUMA will strive to provide timely, accurate and consistent communications prior to and during an incident. During an earthquake related event that requires the activation of the LUMA Emergency Operations Center (LEOC), the Public Information Officer (PIO), through the LEOC, will communicate necessary and critical information through a variety of methods that may include, but not be limited to the following:

- LUMA's website and Customer Outage Map
- Media Outlets
- Social Media (i.e. Twitter, Facebook, WhatsApp, etc.)
- Situational Reports to Local, Municipal and Government of Puerto Rico agencies
- Incorporation of Amateur Radio Operators (as needed)
- Joint Information Center (JIC)

- LUMA is responsible for establishing a JIC and/or provide a liaison to the PREMB pre-established JIC.

LUMA has established a consistent messaging platform that is flexible to allow for expansion internally or externally, depending on the Event Type which is identified within the Event Classification Type- Attachment 2 of this Annex.

VIII. Demobilization

The Incident Commander (IC) has the responsibility to initiate the De-escalation/Demobilization process. Demobilization is the orderly, safe, and efficient return of operations, facilities and resources to its pre-incident status. Demobilization planning is an on-going process that facilitates accountability and ensure efficient resource management.

Tracking resource requirements and releasing those resources that are no longer required to support the response is essential for accountability and managing incident control. This assists in reducing the loss of resources, operating costs and ensuring retention and availability of resources for other activities and assignments as needed.

The Planning and Intelligence Section Chief (PSC) will develop demobilization plans and ensure they are implemented as instructed by the IC.

The emergency response operations may be fully demobilized when:

- All event related jobs are assigned.
- Centralized Dispatch is managing event.
- All non-regional crews are released.

IX. Annex Development and Maintenance

This Annex is a living document. Development and maintenance to this Annex will be in conjunction with the LUMA ERP – Base Plan. Proposed changes should be sent to the Crisis Management Office (CMO) for approval and inclusion.

Please reference the LUMA ERP – Base Plan, Section XII, Plan Development and Maintenance for additional information.

Attachment 1 – Explanation of Terms

Acronyms

CMO	Crisis Management Office
DA	Damage Assessment
EOC	Emergency Operations Center
ERO	Emergency Response Organization
ERP	Emergency Response Plan
ETR	Estimated Time of Restoration
FEMA	Federal Emergency Management Agency
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
JIC	Joint Information Center
LEOC	LUMA Emergency Operations Center
MAA	Mutual Aid Agreement
NIMS	National Incident Management System
P&I	Planning and Intelligence
PIO	Public Information Officer
PREMB	Puerto Rico Emergency Management Bureau
PSC	Planning and Intelligence Section Chief
SERT	System Emergency Restoration Team
T&D	Transmission & Distribution

Terms

Assumptions – Operationally relevant parameters expected and used as a context, basis, or requirement for the development of response and recovery plans, processes, and procedures.

Damage Assessment (DA) – A mechanism utilized to determine the magnitude of damage and impact of disasters.

Demobilization – The ongoing process of disengaging response resources as incident objectives are met and returning them to their normal function.

Disaster – An occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries and exceeds the response capability of the local jurisdiction and requires Government of Puerto Rico, and potentially Federal, involvement.

Emergency – Any event, whether natural or manmade, that requires responsive action to protect life, property, and/ or operational capacity.

Earthquake – A term used to describe both sudden slip on a fault, and the resulting ground shaking and radiated seismic energy caused by the slip or other sudden stress changes in the earth.

Earthquake Aftershock – Shaking of the earth's surface caused by lower magnitude tremors that follow the principal earthquake.

Earthquake Related Hazards- Secondary hazards triggered by the initial earthquake. This includes but is not limited to earthquake aftershocks, tsunamis, liquefaction, surface faulting and landslides.

Emergency Event – An event where widespread outages or Service Interruptions have occurred in the service area of the Company due to storms or other causes beyond the control of the company. An Emergency Event is an event classified at a Type I, II, or III event as described in this ERP.

Emergency Operations Center (EOC) – The physical locations at which coordination of information and resources to support incident management activities occurs.

Emergency Response Organization (ERO) – A structured organization with overall identified responsibilities for initial and ongoing emergency response and mitigation.

Incident Action Plan (IAP) – Includes the overall incident objectives and strategies established by the Incident Commander. The Planning Section is responsible for developing and documenting the IAP.

Incident Commander (IC) – The individual appointed by the Company's executive management to have overall responsibility for LUMA's response during an Emergency Event.

Incident Command System (ICS) - Coordinated and collaborative incident management construct specifically designed and made a part of the National Incident Management System ("NIMS") under the Federal Emergency Management Agency ("FEMA").

Joint Information Center (JIC) – A central point of contact for new media and interest parties to coordinate incident information activities.

Landslides – The movement of surface material down a slope that may be triggered by weather or earthquakes.

Liquefaction – The act of loosely packed, water-logged sediments at or near the ground surface losing their strength in response to strong ground shaking.

Surface Faulting – An offset of the ground surface when fault rupture extends to the Earth's surface.

System Level ERO – Multi-regional Emergency Response Organization.

Tsunami – A series of waves in a water body caused by the displacement of a large volume of water.

Attachment 2 – Event Classification Type

Type		Anticipated LUMA Operating Conditions
Type 1 – Catastrophic Emergency	Viewpoint	A Type 1 event is a catastrophic event, historically resulting in significant damage to the electrical transmission and distribution system. Type 1 events are rare but are usually forecast in advance of the event. This event calls for the full implementation of ICS and all employees are assigned shifts and are scheduled in relation to their role in the ERP. All Division and Regional Emergency Operations Centers (EOCs) are activated. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event and demobilization activities post event. Communication protocols are activated and discussion with local and Government of Puerto Rico officials occurs prior to impact and through the restoration stage.
	Characteristics	• The damage severity impacts the entire system such that restoration activities may require ten (10) days or more once it is safe to begin restoration activities • Typically, > 50% (>700,000) customer interruptions at peak • Typically, > 50,000 Outage Event at Peak • This type of event is anticipated to occur between 1 and 4 times in a ten-year period
	Response Organization	• System-wide Incident Command structure is activated • All Command and General Staff positions are activated • All EOCs are operational • Additional restoration support functions will be established at a Division and/or Regional EOC level as directed by the PSC and OSC and approved by the IC • Remote Restoration Management Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • Liaisons are activated • Staging Areas may be required to support external crews and resources
	Resource Activation	• This response requires outside assistance from contractors and/or mutual assistance from other utilities outside of the region • System Emergency Restoration Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • LUMA will likely require a large increase in various staffing positions and teams • Additional restoration support functions will be staffed
	Communication/ Coordination	• Federal resource coordination will likely be required • A written Incident Action Plan (IAP) is required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Municipalities, Elected Officials, and Regulators is performed • Restoration Phase Reporting is required • An After-Action Review is required • Post event meetings with the most severely affected communities will be held

Table 1: Type 1 – Catastrophic Event

Type	Anticipated LUMA Energy Operating Conditions	
Type 2 – Emergency Conditions Event	Viewpoint	A Type 2 event is 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 territory. Type 2 events are usually forecast in advance. This is a full implementation of ICS and most employees are assigned shifts and scheduled related to their role in ERP. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event, and demobilization activities post event. All impacted Division, and Regional Emergency Operations Centers (EOCs) are activated. Communication protocols are activated and extended discussions with local and Government of Puerto Rico officials occurs prior to impact and through the restoration stage.
	Characteristics	• The damage severity within a specific region or spread across the system is such that restoration activities are generally accomplished within a 7-day period once it is safe to begin restoration activities • Typically, 25% to 50% (350,000 to 700,000) customer interruptions at peak • Typically, >25,000 Outage Events at Peak • This type of event is anticipated to occur between 2 and 4 times in a five-year period
	Response Organization	• The system-wide Incident Command structure is activated • All Command and General Staff positions are activated • All EOCs are operational • Additional restoration support functions will be established at a Divisional EOC level as directed by the Planning and Operations Section Chiefs and approved by the Incident Commander • System Emergency Restoration Teams are activated in the most severely impacted areas at the discretion of the Operations and Planning Section Chief and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • Community Liaisons are activated to EOCs to serve communities as directed by the Liaison Officer and approved by the Incident Commander • Staging Areas may be required to support external crews and resources
	Resource Activation	• This response requires outside assistance from contractors and/or mutual assistance from other utilities outside of the region • LUMA Energy will likely require a large increase in various staffing positions and teams • Additional restoration support functions will be staffed
	Communication / Coordination	• Federal resource coordination will likely be required • A written IAP is required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Municipalities, Elected Officials, and Regulators is performed • Restoration Phase Reporting is required • An After-Action Review is required • Post event meetings with the most severely affected communities may be held

Table 2: Type 2 – Emergency Conditions Event

Type		Anticipated LUMA Energy Operating Conditions
Type 3 – High Alert Event (Moderate Regional Event)	Viewpoint	A Type 3 event represents the greatest range of uncertainty due to the severity of event being forecasted (Tropical Depression/Storm) but with low to medium confidence levels for the degree of impact and geographical area that is threatened. This type of event historically resulted in significant damage to district(s) or moderate damage to region(s). The approach is to prepare for multiple regions to potentially be impacted by activating the ICS structure and the opening of one or more EOCs. Employees will be assigned shifts and scheduled according to the threat, then moved to the areas with less impact to areas that received greater damage. This type of event is coordinated through daily Incident Command meetings/conference calls to coordinate pre-planning activities in advance of the event, restoration activities during the event and demobilization activities post event. Communication protocols are activated and extended discussions with local and state officials occurs prior to impact and through the restoration stage.
	Event Characteristics	• The damage severity within a specific district or region(s) is such that restoration activities are generally accomplished within a 48-72-hour period • Typically, 10% to 25% (70,000 to 350,000) customer interruptions at peak • Typically, >10,000 Outage Events at peak • This type of event generally occurs between 1 and 5 times per year
	Response Organization	• The Incident Command structure is activated at the System EOC level down to the local level • One or more of the EOCs may be activated to match the complexity of the event • Additional restoration support functions such as Decentralized Dispatching, Downed Wires and Damage Assessment may be established at a Divisional EOC as directed by the Planning and/or Operations Section Chiefs and approved by the Incident Commander • Community Liaisons are activated to operational EOCs as directed by Liaison Officer and approved by the Incident Commander • The Liaison Officer in the PREMB EOC may be activated dependent upon the level of State coordination required • Staging Areas may be required in an area if it has been severely impacted and requires a concentrated number of crews and resources
	Resource Activation	• This response may require outside assistance from contractors and/or mutual assistance from other utilities outside of the region • LUMA Energy may require a large increase in various staffing positions and teams • Additional restoration support functions may be staffed
	Communication/ Coordination	• A written IAP may be required for each operational period • Pre-Event Reporting is required • Pre-Event outreach to Life Support Customers, Municipalities, Elected Officials, and Regulators is conducted as necessary • Restoration Phase Reporting is required

Table 3: Type 3 – High Alert Event

Type		Anticipated LUMA Energy Operating Conditions
Type 4 – Non-Emergency Restoration Event (Heightened Alert)	Viewpoint	Type 4 events include (but are not limited to): system events that impact one or more district. Type 4 events may be due to thunderstorms, high winds, frequent and/or severe lightning, small to moderate winter storms or unanticipated events. Typically, these events are managed by System Operations with assistance from Field Operations. Control and management of the event typically remains centralized but may decentralize to one or more Emergency Operations Centers depending on the damage. The Incident Command Staff is notified, and specific sections may be activated depending on the impact of the event.
	Event Characteristics	• The damage severity within a specific district is such that restoration activities are generall accomplished within a 12-24-hour period • The incident is usually limited to one or two operational periods in the Event Restoration phase • Typically, 1 to 5% (14,000 to 70,000) customer interruptions at peak • Typically, >7,000 Outage Events at peak • This type of event generally occurs less than 5 to 10 times per year
	Response Organization	• Incident Command Structure may be activated • Command and General Staff positions activated as needed • One or more EOCs may be operational depending on the geographical threat and complexity • Community Liaisons may be staffed at the activated EOCs as directed by the Liaison Officer and approved by the Incident Commander
	Resource Activation	• Internal restoration resources normally available • Restoration is generally accomplished with local assets possibly with assistance from other regional distribution line assets • Typically, 2-50 personnel may be deployed to EOCs that have been activated at the discretion of the Planning and/or Operations Section Chiefs and approved by the Incident Commander to perform other functions
	Communication / Coordination	• No written IAP is required • The operations and maintenance department may have briefings or regional conference calls to ensure the complexity of the event is fully communicated to management and that response staff receive the appropriate level of support required for the event

Table 4: Type 4 – Non-Emergency Restoration Event

Type		Anticipated LUMA Energy Operating Conditions
Type 5 – Normal Operations	Viewpoint	Type 5 events represent normal operations and are managed by the System Operations Dispatch Organization which is staffed 24/7/365. For small outages, system Operations will dispatch designated trouble resources to repair the outage. If upon arrival it is determined that additional resources are needed, a supervisor is assigned and will secure additional line crews from the Field Operations organization.
	Event Characteristics	• System activity is normal • Incidents are contained within the first operational period and last for less than 12 hours after resources arriv on scene • Typically, <1 % (14,000) customer interruptions at peak • Typically, <2,500 Outage Events at peak • Normal daily internal crew assignments
	Response Organization	• Incident Command Structure is not activated • Emergency Operations Centers are not activated
	Resource Activation	• Outage response is coordinated with local on-call personnel
	Communication/ Coordination	• No written IAP is required

Table 5: Type 5 – Normal Operations

TABLE NOTES

- Type 1, 2 and 3 events are “Emergency Events”. Types 4 and 5 are restoration events managed as normal operations unless escalation occurs.
- Expected percent of customers without service is based on the peak during the event period.
- “Outage Events” equates to outage events tracked and entered in the OMS. Some reported damage to the electrical infrastructure that requires repair may not cause an outage but may need to be addressed such as a low wire, tree limb on conductor or damaged equipment.
- For all Event Types, evaluation and estimations of needed crews and resources are a result of several factors, including but not limited to:
  - The anticipated circumstances of the emergency condition(s).
  - The anticipated geographic impact of the emergency condition(s).
  - The level of availability of external or mutual aid resources.
  - Travel distance or other logistical considerations that increase or diminish the ability of external or mutual aid resources to assist effectively in the restoration effort.

Attachment 3 – LEOC Event Classification and LEOC Activation Levels

LEOC Activation	Characteristics	LUMA Event Classification	Restoration Defined
Level 5 – Normal Operations	**Normal Day to Day Operations**	**Type 5 – *Non-emergency event**	***Non-Emergency Restoration Event –*** • **Response and Restoration efforts last for less than 12 hours**
Level 4 – Heightened Alert	• No worker injuries • No or low media interest • Corporate reputation not impacted • Spills and releases confined to site/lease • Public / employee health & safety not threatened • Pre-storm preparation activities also occur	Type 4 – *Non-emergency event (LUMA resources and localized Mutual Aid as needed)	*Non-Emergency Restoration Event –* • Response and Restoration efforts last for approx. 12-24-hour period • Locally assigned crews and contractors respond to any isolated incidents
Level 3 – High Alert	After an event occurs, at least 3 of the following are present: • First aid treatment required for worker(s) • Local and possible regional media interest • Public / employee health & safety or environment not threatened – perception of risk present • Spills and releases not contained on lease or potential extend beyond site/lease • Corporate reputation not impacted • Pre-storm preparation activities also occur	Type 3 – *Emergency Event (All LUMA resources and multiple Mutual Aid Resources)	• Response and Restoration efforts last for approx. 24-48 hours • 70k to 350k customer interruptions at peak (represents between 10-25 percent of all LUMA customers) • 10k or more outages at peak • May require activation of ICS
Level 2 – Emergency Conditions	**After an event occurs, at least 3 of the following are present:** • **Multiple workers require hospitalization** • **Regional & national media interest** • **Spill or release not contained, extends beyond lease** • **Public / employee health & safety or environment could be jeopardized** • **Local and/or corporate reputation or company impacted**	**Type 2 – *Emergency (All LUMA resources and extensive Mutual Aid Resources)**	• **Response and Restoration efforts are accomplished in a 7-day period or less** • **350k to 700k customer interruptions at peak (represents between 25-50 percent of all LUMA customers)** • **Causes 25k or more outages at peak** • **Restoration is expected to take up to 7 days**
Level 1 – Catastrophic Emergency	**After an event occurs, at least 3 of the following are present:** • **Mass Fatality Incident** • **National & international media interest** • **Spill or release off site / not contained** • **Public / employee health & safety or environment jeopardized** • **Corporate reputation impacted**	**Type 1 – *Emergency (All company and contractor resources; extensive mutual assistance, federal Assistance)**	• **Response and Restoration efforts may require ten (10) days or more** • **700k or more customer interruptions at peak (represents at least half of all LUMA customers)** • **50k or more outages at peak** • **Restoration may take 10 days or longer** • **Will require mutual aid assistance**

Attachment 4 – Hazards Assessment

Puerto Rico experiences frequent earthquakes due to the many geological faults that surround and cross over the island, as shown in Figure 3 below. As of July 2020, the Puerto Rico Seismic Network registered over 10,000 earthquakes in the Puerto Rico region. Earthquakes occurs when two blocks of earth, known as geological faults, suddenly slip past one another causing a release of energy and seismic waves. Seismic waves shake the earth's crust and may cause a significant amount of damage to roads, infrastructure, buildings, and nature. Earthquakes' widespread impact and high magnitude can trigger a variety of hazards. When planning for an earthquake the following hazards should also be taken into consideration:

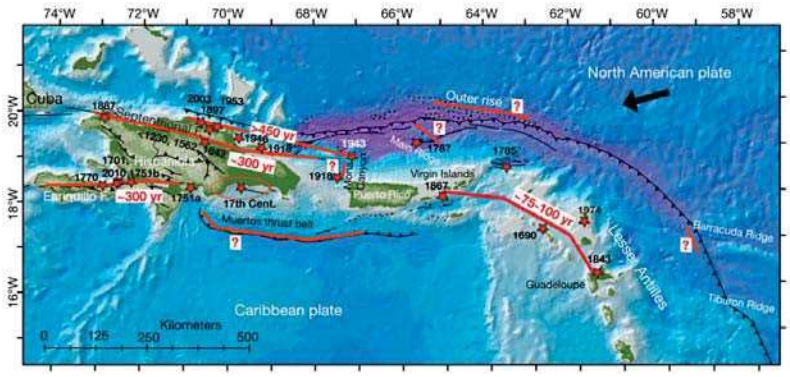

Figure 3- Puerto Rico Fault Lines (Source- U.S. Geological Survey)

Earthquake Aftershocks

Aftershocks are typically lower-magnitude earthquakes that occur after the main shock of a larger earthquake. They occur near the epicenter of the original earthquake or along the fault line that caused the primary quake. In many cases, they can be large enough to hamper emergency response efforts by destabilizing infrastructure and potentially cause additional stress to individuals coping with damage from the original quake. Aftershocks decrease in magnitude and frequency over time and generally are most severe in the hours and days following the primary quake.

Surface Faulting

Surface faulting is displacement that reaches the earth's surface during a slip along a fault. It commonly occurs with shallow earthquakes, those with an epicenter less than 20 km. Surface faulting can leave a visible line in the ground, noting the shift in the fault location, and can have a dramatic effect on the local infrastructure.

Landslides

A landslide is a movement of surface material down a slope. Earthquake-induced landslides are a result of the ground shaking and fault movement of an earthquake, which can potentially have a catastrophic impact on infrastructure. Landslides can include a large area of land, or surface movement that builds as it moves down the slope, both having the ability to cause significant destruction.

Tsunami

A tsunami is a sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes and have the potential to cause significant damage to the coastal areas. Tsunami waves in the Puerto Rico region could have an average height of 30 feet. A tsunami on the northern coast of the island could affect the Central San Juan, Palo Seco, and Cambalache power plants. A tsunami on the southern coast of the island could affect Costa Sur, Central Aguirre, AES, and Eco Electrica.