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

IN RE:	**CASE NO. NEPR-MI-2021-0002**
IN RE: REVIEW OF THE PUERTO RICO ELECTRIC POWER AUTHORITY'S 10 YEAR INFRASTRUCTURE PLAN-DECEMBER 2020	**SUBJECT: Submission of Two Scopes of Work and List of Updated Projects and Request for Confidentiality and Supporting Memorandum of Law**

MOTION SUBMITTING TWO SCOPES OF WORK AND UPDATED LIST OF PROJECTS AND REQUEST FOR CONFIDENTIALITY AND SUPPORTING MEMORANDUM OF LAW

TO THE PUERTO RICO ENERGY BUREAU:

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

I. Submittal of Scopes of Work and Request for Confidentiality

1. On March 26, 2021, this Puerto Rico Energy Bureau ("Energy Bureau") issued a Resolution and Order in the instant proceeding (the "March 26 Order"), ordering, in pertinent part, that the Puerto Rico Electric Power Authority ("PREPA") submit to the Energy Bureau the specific projects to be funded with Federal Emergency Management Agency ("FEMA") funds or any other federal funds at least thirty (30) calendar days prior to submitting these projects to the Puerto Rico Central Office for Recovery, Reconstruction and Resiliency ("COR3"), FEMA or any other federal agency. *See* March 26 Order on pages 18-19. This Energy Bureau thereafter determined that this

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

directive applied to both PREPA and LUMA. *See* Resolution and Order of August 20, 2021 ("August 20 Order") on page 3.

2. Consequently, LUMA has submitted to this Energy Bureau several Transmission and Distribution projects ("T&D Projects") on July 8, 2021 (twenty-eight (28) Scopes of Work and an itemized list of T&D Projects), August 30, 2021 (twenty-nine (29) SOWs and an updated list of T&D Projects) and October 4, 2021 (thirty-eight (38) SOWs and an updated list of T&D Projects), February 2, 2022 (three (3) SOWs and an updated list of T&D Projects), May 20, 2022 (one (1) SOW and an updated list of T&D Projects), and July 29, 2022 (four (4) SOWs and an updated list of T&D projects). The Energy Bureau has approved all the T&D Project SOWs submitted by LUMA as of this date, excluding the four SOWs submitted on July 29, 2022, and are awaiting a final determination.

3. In accordance with the March 26 Order, LUMA hereby submits to the Energy Bureau two (2) SOWs for T&D Projects for this Energy Bureau's review and approval prior to submittal to COR3 and FEMA in thirty (30) days, on September 8, 2022, for the following projects: "IT OT Technology Systems Reparations" with an Excel spreadsheet attachment, dated May 9, 2022; and "Substation Project: Aguirre TC- Phase II", dated July 22, 2022. *See Exhibit 1*.

4. LUMA also submits to this Energy Bureau an updated Project List, containing a current list of initial SOWs with assigned FEMA Accelerated Awards Strategy ("FAASt") numbers and projects with approved FEMA funding obligations. *See Exhibit 2*.

5. LUMA hereby requests that *Exhibit 1* be maintained confidential and is submitting a redacted version for public disclosure and an unredacted non-public version under seal of confidentiality. LUMA submits below its Memorandum of Law stating the legal basis for which

the unredacted version of *Exhibit 1* should be filed under seal of confidentiality. As will be explained below, the two (2) SOWs in *Exhibit 1*- i.e., "IT OT Technology Systems Reparations", its Excel spreadsheet attachment, and "Substation Project: Aguirre TC- Phase II"- should be protected from public disclosure as these documents contain confidential information associated with Critical Energy Infrastructure Information ("CEII") as defined in federal regulations, 18 C.F.R. §388.113; 6 U.S.C. §§ 671-674, and per the Energy Bureau's Policy on Management of Confidential Information (the "SOWs with CEII"). *See* Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009 ("Policy on Management of Confidential Information"), issued on August 31, 2016, as amended by the Resolution dated September 20, 2016. In addition, all two (2) SOWs include personal identifying information of individuals who are LUMA staff or contractors that are protected under Puerto Rico's legal framework on privacy emanating from the Puerto Rico Constitution and should also be protected pursuant to the Energy Bureau's Policy on Management of Confidential Information.

II. Memorandum of Law in Support of Request for Confidentiality

A. Applicable Laws and Regulation to Submit Information Confidentially Before the Energy Bureau

6. The bedrock provision on the management of confidential information filed before this Energy Bureau, is Section 6.15 of Act 57-2014, known as the "Puerto Rico Energy Transformation and Relief Act".". It provides, in pertinent part, that: "[i]f any person who is required to submit information to the [Energy Bureau] believes that the information to be submitted has any confidentiality privilege, such person may request the [Energy Bureau] to treat such information as such […]" 22 LPRA §1054n. If the Energy Bureau determines, after appropriate evaluation, that the information should be protected, "it shall grant such protection in

a manner that least affects the public interest, transparency, and the rights of the parties involved in the administrative procedure in which the allegedly confidential document is submitted."*Id.* §1054n(a).

7. Access to confidential information shall be provided "only to the lawyers and external consultants involved in the administrative process after the execution of a confidentiality agreement." *Id.* §1054n(b). Finally, Act 57-2014 provides that this Energy Bureau "shall keep the documents submitted for its consideration out of public reach only in exceptional cases. In these cases, the information shall be duly safeguarded and delivered exclusively to the personnel of the [Energy Bureau] who needs to know such information under nondisclosure agreements. However, the [Energy Bureau] shall direct that a non-confidential copy be furnished for public review."*Id.* §1054n(c).

8. Relatedly, in connection with the duties of electric power service companies, Section 1.10 (i) of Act 17-2019 provides that electric power service companies shall provide the information requested by customers, except for confidential information in accordance with the Puerto Rico Rules of Evidence.

9. Moreover, the Energy Bureau's Policy on Management of Confidential Information details the procedures a party should follow to request that a document or portion thereof be afforded confidential treatment. In essence, the referenced Policy requires identifying confidential information and filing a memorandum of law explaining the legal basis and support for a request to file information confidentially. *See* CEPR-MI-2016-0009, Section A, as amended by the Resolution of September 20, 2016, CEPR-MI-2016-0009. The memorandum should also include a table that identifies the confidential information, a summary of the legal basis for the confidential

designation, and why each claim or designation conforms to the applicable legal basis of confidentiality. *Id.* at ⁋ 3. The party who seeks confidential treatment of information filed with the Energy Bureau must also file both "redacted" or "public version" and an "unredacted" or "confidential" version of the document that contains confidential information. *Id.* at ⁋ 6.

10. The Energy Bureau's Policy on Management of Confidential Information states the following with regards to access to validated Trade Secret Information and CEII:

> 1. Trade Secret Information
>
> > Any document designated by the [Energy Bureau] as Validated Confidential Information because it is a trade secret under Act 80-2011 may only be accessed by the Producing Party and the [Energy Bureau], unless otherwise set forth by the [Energy Bureau] or any competent court.
>
> 2. Critical Energy Infrastructure Information ("CEII")
>
> > The information designated by the [Energy Bureau] as Validated Confidential Information on the grounds of being CEII may be accessed by the parties' authorized representatives only after they have executed and delivered the Nondisclosure Agreement.
> >
> > Those authorized representatives who have signed the Non-Disclosure Agreement may only review the documents validated as CEII at the [Energy Bureau] or the Producing Party's offices. During the review, the authorized representatives may not copy or disseminate the reviewed information and may bring no recording device to the viewing room.

Id. at § D (on Access to Validated Confidential Information).

11. Energy Bureau Regulation No. 8543, *Regulation on Adjudicative, Notice of Noncompliance, Rate Review, and Investigation Proceedings*, also includes a provision for filing confidential information in proceedings before this Energy Bureau. To wit, Section 1.15 provides that "a person has the duty to disclose information to the [Energy Bureau] considered to be

privileged pursuant to the Rules of Evidence, said person shall identify the allegedly privileged information, request the [Energy Bureau] the protection of said information, and provide supportive arguments, in writing, for a claim of information of privileged nature. The [Energy Bureau] shall evaluate the petition and, if it understands [that] the material merits protection, proceed according to […] Article 6.15 of Act No. 57-2015, as amended." *See also* Energy Bureau Regulation No. 9137 on *Performance Incentive Mechanisms*, § 1.13 (addressing disclosure before the Energy Bureau of Confidential Information and directing compliance with Resolution CEPR-MI-2016-0009).

B. Request for Confidentiality

12. The SOWs with CEII included in *Exhibit 1* contain portions of CEII that, under relevant federal law and regulations, are protected from public disclosure. LUMA stresses that the SOWs with CEII warrant confidential treatment to protect critical infrastructure from threats that could undermine the system and negatively affect electric power services to the detriment of the interests of the public, customers, and citizens of Puerto Rico. In several proceedings, this Energy Bureau has considered and granted requests by PREPA to submit CEII under seal of

confidentiality.[3] In at least two proceedings on Data Security,[4] and Physical Security,[5] this Energy Bureau, *motu proprio,* has conducted proceedings confidentially, thereby recognizing the need to protect CEII from public disclosure.

13. Additionally, this Energy Bureau has granted requests by LUMA to protect CEII in connection with LUMA's System Operation Principles. *See* Resolution and Order of May 3, 2021, table 2 on page 4, Case No. NEPR-MI-2021-0001 (granting protection to CEII included in LUMA's Responses to Requests for Information). Similarly, in the proceedings on LUMA's proposed Initial Budgets and System Remediation Plan, this Energy Bureau granted confidential designation to several portions of LUMA's Initial Budgets and Responses to Requests for Information.*See* Resolution and Order of April 22, 2021, on Initial Budgets, table 2 on pages 3-4 and Resolution and Order of April 22, 2021, on Responses to Requests for Information, table 2 on pages 8-10, Case No. NEPR-MI-2021-0004; Resolution and Order of April 23, 2021, on Confidential Designation of Portions of LUMA's System Remediation Plan, table 2 on page 5, and Resolution and Order of May 6, 2021, on Confidential Designation of Portions of LUMA's

[3] *See e.g., In re Review of LUMA's System Operation Principles,* NEPR-MI-2021-0001 (Resolution and Order of May 3, 2021); *In re Review of the Puerto Rico Power Authority's System Remediation Plan,* NEPR-MI-2020-0019 (order of April 23, 2021); *In re Review of LUMA's Initial Budgets,* NEPR-MI-2021-0004 (order of April 21, 2021); *In re Implementation of Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan,* NEPR MI 2020-0012 (Resolution of January 7, 2021, granting partial confidential designation of information submitted by PREPA as CEII); *In re Optimization Proceeding of Minigrid Transmission and Distribution Investments,* NEPR MI 2020-0016 (where PREPA filed documents under seal of confidentiality invoking, among others, that a filing included confidential information and CEII); *In re Review of the Puerto Rico Electric Power Authority Integrated Resource Plan,* CEPR-AP-2018-0001 (Resolution and Order of July 3, 2019 granting confidential designated and request made by PREPA that included trade secrets and CEII) *but see* Resolution and Order of February 12, 2021 reversing in part, grant of confidential designation).

[4] *In re Review of the Puerto Rico Electric Power Authority Data Security Plan,* NEPR-MI-2020-0017.

[5] *In re Review of the Puerto Rico Electric Power Authority Physical Security Plan,* NEPR-MI-2020-0018.

Responses to Requests for Information on System Remediation Plan, table 2 at pages 7-9, Case No. NEPR-MI-2020-0019.

14. As mentioned above, the Energy Bureau's Policy on Management of Confidential Information provides for the management of CEII. It directs that the parties' authorized representatives access information validated as CEII only after executing and delivering a Non-Disclosure Agreement.

15. Generally, CEII or critical infrastructure information is exempted from public disclosure because it involves assets and information which pose public security, economic, health, and safety risks.Federal Regulations on CEII, particularly, 18 C.F.R. § 388.113, state that:

> Critical energy infrastructure information means specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that:
>
> (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
> (ii) Could be useful to a person in planning an attack on critical infrastructure;
> (iii) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and
> (iv) Does not simply give the general location of the critical infrastructure.

Id.

16. Additionally, "[c]ritical electric infrastructure means a system or asset of the bulk-power system, whether physical or virtual, the incapacity or destruction of which would negatively affect national security, economic security, public health or safety, or any combination of such matters. *Id.* Finally, "[c]ritical infrastructure means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters." *Id.*

17. The Critical Infrastructure Information Act of 2002, 6 U.S.C. §§ 671-674 (2020), part of the Homeland Security Act of 2002, protects critical infrastructure information ("CII").[6] CII is defined as "information not customarily in the public domain and related to the security of critical infrastructure or protected systems [...]" 6 U.S.C. § 671 (3).[7]

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[6] Regarding protection of voluntary disclosures of critical infrastructure information, 6 U.S.C. § 673, provides in pertinent part, that CII:

> (A) shall be exempt from disclosure under the Freedom of Information Act;
> (B) shall not be subject to any agency rules or judicial doctrine regarding ex parte communications with a decision-making official;
> (C) shall not, without the written consent of the person or entity submitting such information, be used directly by such agency, any other Federal, State, or local authority, or any third party, in any civil action arising under Federal or State law if such information is submitted in good faith;
> (D) shall not, without the written consent of the person or entity submitting such information, be used or disclosed by any officer or employee of the United States for purposes other than the purposes of this part, except—
> (i) in furtherance of an investigation or the prosecution of a criminal act; or
> (ii) when disclosure of the information would be--
> (I) to either House of Congress, or to the extent of matter within its jurisdiction, any committee or subcommittee thereof, any joint committee thereof or subcommittee of any such joint committee; or
> (II) to the Comptroller General, or any authorized representative of the Comptroller General, in the course of the performance of the duties of the Government Accountability Office
> (E) shall not, be provided to a State or local government or government agency; of information or records;
> (i) be made available pursuant to any State or local law requiring disclosure of information or records;
> (ii)otherwise be disclosed or distributed to any party by said State or local government or government agency without the written consent of the person or entity submitting such information; or
> (iii)be used other than for the purpose of protecting critical Infrastructure or protected systems, or in furtherance of an investigation or the prosecution of a criminal act.
> (F) does not constitute a waiver of any applicable privilege or protection provided under law, such as trade secret protection.

[7] CII includes the following types of information:

> (A)actual, potential, or threatened interference with, attack on, compromise of, or incapacitation of critical infrastructure or protected systems by either physical or computer-based attack or other similar conduct (including the misuse of or unauthorized access to all types of communications and data transmission systems) that violates Federal, State, or local law, harms interstate commerce of the United States, or threatens public health or safety;
> (B)the ability of any critical infrastructure or protected system to resist such interference, compromise, or incapacitation, including any planned or past assessment, projection, or estimate of

18. The SOW for the "Substation Project: Aguirre TC- Phase II" included among the SOWs with CEII contains an aerial photo and a "One Line Diagram" of the Aguirre Transmission Center ("Aguirre TC"), as currently configured, having a schematic representation of the configuration of the transformers, distribution feeders, and circuit breakers of the Aguirre TC which identifies this equipment, the other energy facilities or service areas served by this equipment, and the interconnections of the Aguirre TC to other transmission centers and sectionalizers. LUMA respectfully submits that this diagram qualifies as CEII because it contains information on the engineering and design of critical infrastructure, as existing and proposed, relating to the transmission of electricity, which is provided in sufficient detail that it could potentially be helpful to a person planning an attack on this or other energy infrastructure facilities interconnected with or served by this facility and equipment. In addition, the SOWs with CEII in *Exhibit 1* qualify as CEII because each of these documents contains the express coordinates to power transmission and distribution facilities (18 C.F.R. § 388.113(iv)), and these specific coordinates could potentially be helpful to a person planning an attack on the energy facilities listed as part of these SOWs. The information identified as confidential in this paragraph is not common knowledge and is not made publicly available. Therefore, it is respectfully submitted that, on balance, the public interest in protecting CEII weighs in favor of protecting the relevant portions of the SOWs with CEII in Exhibit 1 from disclosure, given the nature and scope of the details included in those portions of the Exhibit.

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the vulnerability of critical infrastructure or a protected system, including security testing, risk evaluation thereto, risk management planning, or risk audit; or
(C)any planned or past operational problem or solution regarding critical infrastructure or protected systems, including repair, recovery, construction, insurance, or continuity, to the extent it is related to such interference, compromise, or incapacitation.

19. Based on the above, LUMA respectfully submits that the SOWs with CEII should be designated as CEII. This designation is a reasonable and necessary measure to protect the specific location and other engineering and design information of the energy facilities listed or discussed in these SOWs in *Exhibit 1*. Given the importance of ensuring the safe and efficient operation of the generation assets and the T&D System, LUMA respectfully submits that these materials constitute CEII that should be maintained confidentially to safeguard their integrity and protect them from external threats.

20. In addition, each SOW in *Exhibit 1* contains the name, signature, and role of two individuals who are a LUMA employee and a contractor, respectively, who reviewed the SOW as part of LUMA's internal review and approval of each document.[8] LUMA respectfully requests that information on the names, signatures, and roles of these individuals be maintained confidentially in the context that these reveal details of their employment duties and their protection is in the public interest and aligned with Puerto Rico's legal framework on privacy which protects from the disclosure of personal information. *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 D.P.R. 254, 262 (2008); *Bonilla Medina v. P.N.P.*, 140 D.P.R. 294, 310-11 (1996), *Pueblo v. Torres Albertorio*, 115 D.P.R. 128, 133-34 (1984). *See also* Act 122-2019, Article 4(vi) (which provides, as an exception to the rule on public disclosure, information the disclosure of which could invade the privacy of third parties or affect their fundamental rights); and Article 3(c) of Act 122-2019 (stating

[8] This employee and contractor are not the top tier employees who have in the past signed these documents and who may be publicly known.

that personnel files and similar information does not constitute public information subject to disclosure). It is respectfully submitted that the redaction of the aforementioned information does not affect the public's or the Energy Bureau's review of the SOWs nor interferes with processes before this Energy Bureau. Therefore, on balance, the public interest to protect privacy weighs in favor of protecting the relevant portions of the SOWs.

C. Identification of Confidential Information

21. In compliance with the Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009, below find a table summarizing the hallmarks of this request for confidential treatment.

Document	**Name**	**Pages in which Confidential Information is Found, if applicable**	**Summary of Legal Basis for Confidentiality Protection, if applicable**	**Date Filed**
Exhibit 1	IT OT Technology Systems Reparations	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	August 10, 2022
		Attachment – Excel spreadsheet	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	
Exhibit 1	Substation Project: Aguirre TC-Phase II	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	August 10, 2022
		Pages 5, 8 and 9	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113;	

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
			6 U.S.C. §§ 671-674.	

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **approve** the two (2) SOWs for T&D Projects with the excel attachment submitted as *Exhibit 1* to this Motion; **grant** the request for confidential treatment of *Exhibit 1*, and **accept** the updated list of T&D projects submitted as *Exhibit 2* to this Motion.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 10th day of August 2022.

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

Two Scopes of Work

Redacted Version (Unredacted Version Submitted under Seal of Confidentiality)

Excel Spreadsheet Attachment submitted via email

FEMA Project Scope of Work

Project Name: IT OT Technology Systems Reparations

Revision: 1

Date: May 9, 2022

APPROVALS

The signatures below formally approve the FEMA Project Scope of Work Template.

Grant Manager's Name	Signature	Date
REDACTED	REDACTED	REDACTED 2022.07.15 15:31:27 -04'00
Department VP's Name	**Signature**	**Date**
REDACTED	REDACTED	5/9/2022

Document Change Control

This table contains a history of the revisions made to this document

Rev.	Date of Issue	Brief Description of Change
A	21 APR 2022	Initial LUMA draft
B	05 MAY 2022	Review by LUMA and IEM
1	09 MAY 2022	Issue for use

Contents

Overview

Project Name:	IT OT Technology Systems Reparations
Project Type:	*DR-4339-PR Public Assistance*
Region:	Puerto Rico *(technology systems distributed throughout entire region)*
Damage Number:	223318
Damaged Inventory/Asset Category:	Island Wide Telecommunication System
FEMA Project Number: *(Formerly Project Worksheet)*	<Provided by FEMA>

Introduction

The purpose of this document is to submit for approval the Scope of Work (SOW) for the IT OT Technology Systems Reparation Program to COR3 and FEMA for projects under DR-4339-PR Public Assistance. The document provides a description of the project, including scope, schedule, and cost estimates for proposed 406 hazard mitigation work. LUMA is seeking approval from COR3 and FEMA for project funding to design, implement, and improve the IT OT Technology Systems critical for the resiliency and continuity of grid operations and business processes of LUMA.

LUMA Energy provides the Operations and Maintenance of the electric service to the entire island of Puerto Rico. Puerto Rico Electric Power Authority (PREPA) is the agency that owns the facilities, sites, and systems identified in this SOW that are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

The IT OT department is responsible for installing, configuring, monitoring, and maintaining computer hardware, peripherals, software, and all related equipment of the grid. Technology systems contribute to the resiliency and continuity of critical grid operations and related business processes

Support of PREPA & LUMA's technology environment requires developing and implementing modern technology infrastructure and solutions to achieve security and resiliency for PREPA & LUMA's critical infrastructure and operations. The IT OT Technology Systems Reparation Program centers on ensuring resilient and reliable systems to ensure confidentiality, integrity, and availability of key assets. Critical assets include, but are not limited to, network, communication, and infrastructure indispensable for the proper operation of mission critical applications like SCADA Energy Management System (EMS), Advanced Distribution Management System (ADMS), and Outage Management System (OMS).

This program will enable resilient IT and OT systems through the implementation of industry standard systems in compliance with applicable codes and standards and based on business technology risk and readiness factors.

IT OT Technology Systems Reparation Program is essential to ensure strong cybersecurity controls and practices. Several components of the existing network and infrastructure are no longer available in the market to repair or substitute them when they are damaged. They do not adhere to applicable modern codes and standards needed to support the resilient grid operation and related business processes needed for the people of Puerto Rico and systems must be repaired to enable secure and resilient grid operations.

This document will be updated as more information becomes available during the design, engineering, and construction phases of the Program.

Facilities

Facilities List

Name	Number	GPS Start	GPS End	Voltage (kV)
Transmission Centers	*See attachment for list of applicable facilities*			
Substations	*See attachment for list of applicable facilities*			
Electrical Service Centers	*See attachment for list of applicable facilities*			
Technical Offices	*See attachment for list of applicable facilities*			
Commercial Offices	*See attachment for list of applicable facilities*			
Telecommunication Facilities/Comm. Buildings	*See attachment for list of applicable facilities*			
Office Buildings	*See attachment for list of applicable facilities*			

Note: GPS coordinates are required for all facilities.

Facilities Description

All buildings or locations that contain technology systems or personnel vital to the continued operation of the PREPA utility are included in this scope. Network and technology systems reach all facilities, including administrative buildings, customer service offices, technical facilities, construction and Improvement sites, generation plants, irrigation offices, operations offices, substations, communications towers, and other (see attachment for facilities and GPS locations).

Project Scope of Work

IT OT Technology systems within scope of this SOW are comprised of:

- Network & Communication Infrastructure
- Server and Storage hardware
- Operational Systems, Tools, and Technology

Telecommunication and Technology systems are the central nerve of grid operations. Collectively, they manage communication between substations, transmission centers, power plants, control centers and administrative & customer service offices. It consists of telecom facilities, communication hardware, software, information technology (IT) and connections to other critical peripheral elements like remote terminal units (RTUs) at substations, weather stations, access control, security, accountability, and remote reading systems.

The telecommunication network and associated technology systems are essential for the safety, monitoring, control, operation & management, resiliency, and reliability of the energy grid. In case of a major electrical failure in the power grid, it is essential to isolate the failed circuit to prevent loss of life and damage to valuable and critical equipment to maintain overall system stability. Additionally, it provides an essential monitoring network for the USGS. PREPA was in the process of implementation of cybersecurity measures, and migrating the microwave, fiber optic, two-way radio, and control systems to current industry standards before the hurricane hit. However, the hurricane disrupted their plans.

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This program will enable modernized IT and OT systems through the implementation of industry standard technology systems based on business and technology risk and readiness factors.

Scope (Network)

- Telephone Network System (VOIP): The telecoms topology at PREPA is antiquated with equipment across the island that is deprecated resulting in sparing and inventory challenges. To repair the damaged system, modern solutions will be selected and implemented.
- Network hardware/equipment: Network Edge Access equipment not operating with complete functionality. Repair network resiliency and reliable network infrastructure with modern and supported hardware, in compliance with applicable codes and standards.
- WAN equipment: network equipment is needed for the replacement of routers not operating with complete functionality for the WAN, ensuring that replacement materials / equipment adhere to applicable codes and standards. We can improve the service and provide continuous Internet service, for both primary and secondary systems. This will be a contributing component to a secure and resilient network for organization and grid operations.

Scope (OT)

- **OT Situational Awareness and Integrations**: Technology systems to improve business situational awareness related to effective grid operation. Improvement of grid operations with support systems improving operational, planning and investment decisions by integrating data sources.
  Additionally, integration of systems through Increased licensing will enable better operation and modern and industry-standard use of systems (e.g., Networks professions Integrating CC&B, GIS, Case Management and OMS).
- Finalize Map Migration between GTECH and OMS: this will ensure the Outage Management System (OMS) has a more accurate electrically connected model for improved operations of the electrical grid
- Work Force Management System: Implement an electronic work force management system optimize field crews and manage work in the most effective way. Operations are improved through integrations and connections with grid operation systems.
- Distributed Automation (DA) and Advanced Metering Infrastructure (AMI): reparation of systems will be updated to modern and Industry-standard technology systems. DA and AMI will provide full visibility of distribution grid to Improve system operation decisions and resiliency. Existing metering Infrastructure was severely damaged during the event and AMI communications were not in service.
- NERC-CIP compliance software: used to help LUMA comply with NERC-CIP requirements. This will enable LUMA to protect our Critical Infrastructure, audit each requirement and measure compliance during the replacement of the EMS and operational systems.
- OT Segmentation (design, licensing, and implementation): remediate system operation risk through protection methods, while improving system performance. This project will be closely coupled with the EMS/SCADA replacement, AMI implementation, ADMS implementation and new telecom backbone build.

Scope (Infrastructure)

- Functional Requirements of Infrastructure: hosting infrastructure will be replaced to modern and resilient hardware to ensure reliability and resiliency of grid operations and particularly the repaired systems within scope. Some of the damaged components are no longer available or adhering to applicable codes and standards. In circumstances antiquated components cannot be replaced, the systems will be repaired to current industry practice.
- LUMA IT OT requires modern and reliable Disaster Recovery Site (Backup Data Centre) to provide continuity for repaired systems. LUMA will assess migration to cloud for critical systems and build out the DR site in conjunction with facilities hosting the EMS / SCADA system for grid operations.
- Add additional capacity needed to support the modernization of the grid.

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Network and IT damage related to this reparation program is listed and classified with the damaged Telecom Damage Description, Dimensions. Additionally, IT OT has identified scope to support the secure, resilience and reliable operation of damaged systems. These systems need to be included as part of the advanced systems being proposed in the restoration efforts of a resilient grid operation.

The **resiliency** priority involves the appropriate development, implementation, and ongoing enhancements of processes and technologies that improve the survivability performance of communications networks, applications, and services.

The final SOW (plans and specifications) and cost estimate is expected to be completed by 12/31/2022 and construction is estimated to be completed by 06/30/2028.

Type of Project

Choose One (Restoration, Improved or Alternate) If improved, provide the changes in facility size, capacity, dimension, or footprint. If alternate, provide rationale for recommendation.
IMPROVED PROJECT
Support of PREPA & LUMA's technology environment requires developing and implementing modern technology infrastructure and solutions to achieve a secure and resilient system, in support of strengthening the cybersecurity program for critical infrastructure. IT OT Technology Systems Reparation Program is necessary to support the secure and resilient operation of LUMA's modernized telecommunication and technology systems. They must be modernized to reduce risk related to security and resiliency and increase the effectiveness of operation and oversight. This program will serve as an improvement to support and sustain the restoration of pre-disaster facility(s).
This work will be in compliance with FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR February 2020)

Note: If preliminary A&E work has not been completed, the type of work designation is considered initial and is based on currently available information. The type of work designation may be revised based on the results of the completed preliminary A&E work.

Preliminary Engineering

Is architectural and engineering funding required to help define the intended scope of work?

No

Codes and Standards

Which of the following types of codes, specifications, and standards apply to the restoration, replacement, relocation, or alternate scope of work?

The following will be referenced when applying specific codes, specifications, and standards to the project design:

1. Consensus-based codes, per FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR February 2020).
2. Industry standards per FEMA Recovery Policy FP-104-009-5, Version 2, Implementing Section 20601 of the 2018 Bipartisan Budget Act through the Public Assistance Program.
3. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance.
4. LUMA's latest Design Criteria Document (DCD) which aggregates the design considerations of the vast majority of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (December 20, 2019).

Codes, Specifications, and Standards

Yes

Applicable codes and standards will be identified and incorporated into the plans and specifications. Including, but not limited to:
• H.323: ITU-Ts (International Telecommunications Union) standard that vendors should comply while providing Voice over IP service. This recommendation provides the technical requirements for voice communication over LANs while assuming no Quality of Service (QoS) is being provided by LANs.
• Network Standards:
  ○ 802.3af – Power Over Ethernet
  ○ 802.1X – Port Control with authentication
  ○ BGP Protocols

Industry Standards

Yes
Applicable industry standards will be identified and incorporated into the plans and specifications. • NIST Cybersecurity Framework (CSF) • President Biden's May 2021 Executive Order 14208 (Zero Trust by 2024) • NERC CIP: minimum security requirements for the bulk power systems

Estimate

Cost estimates to complete the work have been generated at a class 5 level, which is between -50% and +100% of the final project cost. The estimate includes materials, construction labor and equipment, engineering, management, and contingencies.

Estimated Budget for Architectural & Engineering to Design:	**Unknown at this time**
Estimated Budget for Procurement & Construction:	**Unknown at this time**
Estimated Overall Budget for the Project:	**35.7M**

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

Key to this program is the ability to operate the grid and business functions with resilience and reliability by establishing and repairing with modern and resilient technology systems. Robust technology systems mitigate impact from potential events including, but not limited to environmental mitigation, cybersecurity protection, and general business continuity through any event.

These events have negative impact to the organization and operation of the Electrical System and can result in data breaches, damage to systems (physical or digital), loss of system control or operations, lack of confidence in or accuracy of data, ransomware, phishing, theft, natural disaster (loss of ability to operate), equipment/system failure and unauthorized access. By ensuring modern and reliable technology systems LUMA can sustain the confidentiality, integrity, and availability of assets in compliance with Section 13 of the OMA. IT OT Technology Systems Reparation Program will proactively mitigate risk and enable business operations by identifying and reducing the risk and impact of damaged and unreliable systems.

406 Mitigation Opportunity Cost Estimate

Estimated Budget for Architectural & Engineering to Design:	**Unknown at this time**
Estimated Budget for Procurement:	**Unknown at this time**
Estimated Budget for Construction:	**Unknown at this time**
Estimated Overall Budget for the Project:	**Unknown at this time**

Note: If available, detailed engineering cost estimates will be included as an attachment.

Environmental & Historic Preservation Requirements

There are no known Environmental & Historic Preservation impacts. However, if EHP considerations are identified those will be evaluated during the preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design to be approved by FEMA.

Attachments

- IT OT Technology Systems Reparation - Impacted Facilities.xlsx

IT OT Technology Systems Reparation

FAASt FEMA Project Scope of Work

Substation Project:

Aguirre TC– Phase II

Date: 22 July 2022

Approvals

The signatures below formally approve the FEMA Project Scope of Work Template.

Grant Manager's Name	Signature	Date
REDACTED	REDACTED	07/26/22
Program Brief Owner	**Signature**	**Date**
REDACTED	REDACTED	07/25/22

Document Change Control

Revision /Version	Date of Issue	Brief Description of Change
A	6 July 2022	Initial Draft (NN)
B	15 July 2022	Reformatted and revised scope of work per FS 11 July 2022; (JMS)
0	22 July 2022	Issue for Approval

Contents

Overview

Project Name:	Aguirre TC BRKS – Phase II
Region:	Ponce
Damage Number:	223189
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number	Provided by FEMA

Introduction

The purpose of this document is to present and update a Project Scope of Work (SOW) with Cost Estimates to be submitted to COR3 and FEMA for projects under DR-4339-PR Public Assistance. COR3 and FEMA will review the completed document to create and version a specific project worksheet and post fixed-cost estimates to repair, restore, or replace eligible facilities, including Section 406 hazard mitigation for a particular project.

LUMA Energy provides the Operations and Maintenance of the electric service to the entire island of Puerto Rico. Puerto Rico Electric Power Authority (PREPA) is the agency that owns the facilities, sites, and systems identified in this Scope of Work that is eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

FacilitiesOK

Name	Number	GPS Location
Aguirre Transmission Center	n/a	REDACTED

The Aguirre Transmission Center (TC) is located in Aguirre, Puerto Rico, within the Aguirre Steam Power Plant property. This facility includes 230 kV and 115 kV Breaker-And-A-Half (BAAH) bus-type switchyards. Each switchyard is fenced and contains switchgear, transformers, and other related components. The control and protection devices are located in the Power Generation Plant Control Building.

Major Equipment includes:

- 230 kV Switchyard
  - Fifteen (15) circuit breakers:
    - Seven (7) oil circuit breakers (OCBs)
    - Eight (8) gas circuit breakers (GCBs)
- 115 kV Switchyard
  - Fourteen (14) circuit breakers
    - Thirteen (13) OCBs
    - One (1) GCB
- Two (2) 230/115 kV, 328/436/544 MVA autotransformers
- Steel Structures, Surge Arresters, Disconnect Switches, and Voltage transformers.

Project Scope

To restore and repair this facility with the below main scope of work items:

- 115 kV Switchyard
  - Replace all protection, control, and telecommunication equipment in a new control enclosure
  - Installation of one (1) new station service transformer
  - Installation of one (1) emergency generator unit
- 230 kV switchyard.
  - Replace all protection, control, and telecommunication equipment in a new control enclosure
  - Installation of one (1) new station service transformer
  - Installation of one (1) emergency generator unit
  - Replace the existing Bank # 1 and Bank # 2 units: 230/115kV, 328/436/544 MVA transformer
- Evaluate and Design facility lighting
- Other related materials and equipment to support and complete a fully functional system for the above scope.
- The detailed design is planned to be submitted by Q1 2023 and the construction is estimated to be complete by 2025.

- The scope of this project is only for the repairs and activities presented in this list above. The scope of this project is independent of FAASt 178503- AGUIRRE BKRS -T018. A future Phase 3 project will be submitted which will include additional independent scope. Other scopes including SCADA and RTU replacements, microwave point-to-point network, transport network, field area network scope may be provided as part of separate projects in the future.
-

Type of Project

1. **Restoration to Codes/Standards**: Restores the facility(s) to pre-disaster function and to approved codes/standards&
2. **Improved Project**: Restores the pre-disaster function of the facility(s) and incorporates improvements, including any:
    a. Other improvements not required by codes and standards
    b. Changes in facility size, capacity, dimension, or footprint

Alternate Project: Does not restore the pre-disaster function of the damaged facility(s)

Choose One (Restoration, Improved, or Alternate) If improved, provide the changes in facility size, capacity, dimension, or footprint. If alternate, give the rationale for the recommendation.
Restoration of Codes, Standards
This work will comply with FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR February 2020)

Note: If preliminary A&E work has not been completed, the type of work designation is considered initial and is based on currently available information. The type of work designation may be revised based on the preliminary A&E work results.

Preliminary Engineering

Is architectural and engineering funding required to help define the intended scope of work?

Yes

Codes and Standards

Which codes, specifications, and standards apply to the restoration, replacement, relocation, or alternate scope of work?

The following will be referenced when applying specific codes, specifications, and standards to the project design:

1. Consensus-based codes, per FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR February 2020).

2. Industry standards per FEMA Recovery Policy FP-104-009-5, Version 2, Implementing Section 20601 of the 2018 Bipartisan Budget Act through the Public Assistance Program.

3. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance.

4. LUMA's latest Design Criteria Document (DCD) aggregates the design considerations of the vast majority of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (20 December 2019).

Codes, Specifications, and Standards

Yes If yes, describe how incorporated below.
Applicable codes and standards will be identified and incorporated into the plans and specifications.

Industry Standards

Yes If yes, describe how incorporated below.
Applicable industry standards will be identified and incorporated into the plans and specifications.

Estimate

The class 5 estimate includes materials, construction labor and equipment, engineering, permitting, management, and contingencies.

Architectural & Engineering Design:	$3.609M
Construction & Procurement:	$37.31M
Total Project Estimate	$40.922M

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

During the preliminary design phase, LUMA will develop 406 Hazard Mitigation proposals consistent with the damages. BCAs will support these proposals.

406 Mitigation Opportunity Cost Estimate

Architectural & Engineering to Design:	Unknown at this time
Procurement:	Unknown at this time
Construction:	Unknown at this time
Total Project Estimate	Unknown at this time

Note: If available, detailed engineering cost estimates will be included as an attachment.

Environmental & Historic Preservation Requirements

EHP considerations will be identified and evaluated during the base design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction documents to be approved by FEMA before construction activities.

References

REDACTED

Exhibit 2

Excel Spreadsheet with Updated List of Projects Submitted via email