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 Four Scopes of Work and List of Updated Projects and Request for Confidentiality and Supporting Memorandum of Law**

MOTION SUBMITTING FOUR 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), and May 20, 2022 (one (1) SOW 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.

3. In accordance with the March 26 Order, LUMA hereby submits to the Energy Bureau four (4) 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 August 29, 2022, for the following projects: "Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators", dated July 22, 2022; "Substation Project: Costa Sur TC – Phase II", dated July 21, 2022; "Substation High Voltage Equipment Replacement", dated July 14, 2022; and "Substation Project: Bayamon TC – Phase 2", dated June 15, 2022. *See Exhibit 1*.

4. LUMA also submits an updated Project List to this Energy Bureau, containing a current list of initial SOWs, assigned FEMA Accelerated Awards Strategy ("FAASt") numbers and projects with approved FEMA funding obligation. *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, three (3) of the SOWs in *Exhibit 1*- i.e., Substation Project: "Costa Sur TC – Phase II", "Substation High Voltage Equipment Replacement", and "Substation Project: Bayamon TC – Phase 2"- 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 (hereinafter 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 four (4) SOWs include personal identifying information of individuals who are LUMA staff or contractors that is 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 the 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 Rules of Evidence of Puerto Rico.

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

[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.

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 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 shall 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]

[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--

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]

18. The SOW for the Substation Project: "Bayamon TC – Phase 2", included among the SOWs with CEII, contains an "Existing One Line Diagram" of the Bayamon Transmission Center ("Bayamon TC"), as currently configured, containing a schematic representation of the configuration of the transformers, distribution feeders, and circuit breakers of the Bayamon TC which identifies this equipment, the other energy facilities or service areas served by this equipment, and the interconnections of the Bayamon TC to other transmission centers and

(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 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.

sectionalizers, as well as a "Proposed One Line Diagram" with the same type of information for the Bayamon TC as configured after the replacement works proposed in the SOW. LUMA respectfully submits that these diagrams qualify as CEII because they contain 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 contain 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, weigh 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.

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 individuals 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 role of these individuals be maintained confidential 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 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 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 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.

[8] These individuals are not individuals who have in the past signed these documents and who may be publicly known.

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
Exhibit 1	Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	July 29, 2022
Exhibit 1	Substation Project: Costa Sur TC – Phase II	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	July 29, 2022
		Page 5	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	
Exhibit 1	Substation High Voltage Equipment Replacement	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	July 29, 2022
		Pages 5, 6 and 7	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	
Exhibit 1	Substation Project: Bayamon TC – Phase II	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	July 29, 2022
		Pages 5, 9 and 10	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **approve** the four (4) SOWs for T&D Projects 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 29th day of July 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.

DLA Piper (Puerto Rico) LLC
500 Calle de la Tanca, Suite 401
San Juan, PR 00901-1969
Tel. 787-945-9107
Fax 939-697-6147

/s/ Laura T. Rozas
Laura T. Rozas
RUA Núm. 10,398
laura.rozas@us.dlapiper.com

Exhibit 1

Four Scopes of Work

Redacted Version (Unredacted Version Submitted under Seal of Confidentiality)

FEMA Project Scope of Work

Project Name:

Transmission and Distribution Automation Program

Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators

Revision: 0

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]	7/22/2022
Program Brief Owner	**Signature**	**Date**
[redacted]	[redacted]	Jul 22, 2022

Document Change Control

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

Rev.	Date of Issue	Brief Description of Change
0	22 JUL 2022	Issue for Use

Contents

Overview

Project Name:	Transmission and Distribution Automation Program - Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators
Region:	All
Damage Number:	250081 & 206253
Damaged Inventory/Asset Category:	Island Wide Distribution and Island Wide Transmission Lines Systems
FEMA Project Number: *(formerly Project Worksheet)*	<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. The completed document will be reviewed by COR3 and FEMA 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 specific 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 are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

This document will be updated with information developed during the initial design and engineering phase through the construction phase.

Facilities

Facilities List

By initially evaluating government-owned facilities under the LUMA's Operation and Maintenance Agreement that are critical to the operation of the Puerto Rico electric grid power system from a transmission, distribution, customer service, or maintenance perspective, it has been identified that the transmission and distribution system is not aligned with the regulation/law, specifically Law 17, Subsection 1.15 (o). In order to maximize the opportunities and resources available for the reconstruction and modernization of the Electric System, it is necessary to carry out specific mitigation measures that contribute to the stability of the system, its resilience and efficiency.

Specific details about the equipment to be installed per lines and feeders will be identified during field evaluations and surveys to be conducted. The facilities addressed in this project are the transmission and distribution lines in the electrical grid system of Puerto Rico. GPS coordinates will be provided after Engineering Studies are completed

Facilities Description

This program will include all the 38kV lines and the distribution feeders.

Project Scope

Scope of Work Description (e.g., Plan for Repair)

The scope of the program consists of the following activities:

- Installation of smart reclosers with microprocessor-based controllers and the remote monitoring, communications ready and control capabilities in transmission and distribution lines.
- Installation of fault current indicators (communications ready) in strategic locations to improve the outage management and restoration process, specifically by decreasing the time required to detect and locate faults
- Installation of cutout type single phase reclosers, with microprocessor-based controllers

The engineering team will study the optimal locations for the installations of the three phase reclosers, fault current indicators and single phase reclosers to improve reliability and resiliency of the transmission and distribution lines.

The scope of work will vary per facility and may include the following installations:

- Poles and structures (including their foundations)
- Framing and insulators
- Feeder and fuses protection coordination setting
- Load break switches (including hardware)
- Transformers (including lightning arresters and fuse cut-outs)
- Conductors
- Guy wires and anchoring
- Grounding assemblies
- Fault interrupting equipment (fuses and sectionalizers) and any other associated components on feeders

Some of the installations listed above, but not limited to non-damaged elements associated with the asset and covered in other programs/projects will be funded through FEMA 428 Public Assistance (PA).

Any new structure foundations will be designed and engineered to confirm structural soundness and stability. Damaged structures/poles will be replaced with higher-class (strength) structures/poles made of steel or concrete to comply with codes and standards.

In order to comply with all applicable codes and standards and to allow for construction access, vegetation removal will be considered in the scope of work. The scope of vegetation removal will be defined when scheduling the repairs. When possible, facilities will remain along their existing route and within the existing right-of-way.

The final SOW (plans and specifications) and construction dates will be completed as assessments are completed. Dates will be finalized upon the preparation of detailed project schedules.

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

3. **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, provide rationale for recommendation.
Restoration to Codes and Standards
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?

Yes

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.

Industry Standards

Yes
Applicable industry standards will be identified and incorporated into the plans and specifications.

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 Design:	$23.04M*
Estimated Budget for Procurement & Construction:	$207.33M*
Estimated Overall Budget for the Project:	$230.37M*

* Program funding will be proposed as HM 406

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

As part of the island wide grid restoration, LUMA proposes the integration of the Transmission and Distribution Automation Program as an essential component that effectively improves the reliability and resiliency of the transmission and distribution power infrastructure. This program is being proposed as a 406 Hazard Mitigation (HM) measure that will facilitate the ability to provide a looped transmission and distribution service to reduce the potential loss of service and related interruptions. In addition, this mitigation measure will prevent future and similar damages as a result of extended outages further reducing the need for Emergency Protective Measures and/or temporary facilities. Also, LUMA is basing this proposal for 406 funding on the precedence with Long Island Power Authority (LIPA) after Hurricane Sandy in 2012, where a 100% of the new installed reclosers on damaged circuits were funded through HM.

The technical working group affirms a functional interdependence among all the distribution structures/poles and related components comprising a distribution feeder (site). It is recognized that one structure/pole cannot function in isolation, but rather is functionally dependent on (functionally interdependent with) other structures/poles supporting the feeder.

This proposal will be documented with BCAs.

406 Mitigation Opportunity Cost Estimate

Estimated Budget for Architectural & Engineering to Design:	$23.04M
Estimated Budget for Procurement & Construction:	$207.33M

Estimated Overall Budget for the Project:	$230.37M

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 preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction documents to be approved by FEMA prior to construction activities.

FAASt Project Scope of Work

Substation Project:

Costa Sur TC – Phase II

Date: 21 JUL 2022

Approvals

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

Grant Manager's Name	Signature	Date
[redacted]	[redacted]	7/22/2022
Program Brief Owner	**Signature**	**Date**
[redacted]	[redacted]	

Document Change Control

Rev.	Date of Issue	Brief Description of Change
0	21JUL2022	Issued for Use

Contents

Overview

Project Name:	Costa Sur TC – Phase II
Region:	Ponce
Damage Number:	223189
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number: *(formerly Project Worksheet)*	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. The completed document will be reviewed by COR3 and FEMA 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 specific 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 are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

This document will be updated with information developed during the initial design and engineering phase through the construction phase.

Facilities

Facilities List

Name	Number	GPS Start	GPS End
Costa Sur Power Plant - Transmission Center	n/a	[redacted]	n/a

Facilities Description

Costa Sur SP TC is a generation plant and transmission center that includes a control house, breakers, transformers, structures, cables, surge arresters, and other related components in a fenced yard.

The Costa Sur TC switchyard consists of facilities that operate at nominal voltages of 230 kV, 115 kV and 38 kV. It includes:

- Fifteen (15) 230 kV circuit breakers:
  - Eleven (11) oil circuit breakers (OCBs)
  - Four (4) gas circuit breakers (GCBs)
- Two (2) generation units connected to the 230 kV buses
- One (1) 230/115 kV, 328/436/544 MVA autotransformer
- One (1) 230/115 kV, autotransformer, out of service
- Twenty-four (24) 115 kV circuit breakers
  - Nineteen (19) oil circuit breakers (OCBs)
  - Five (5) gas circuit breakers (GCBs)
- Two (2) 115/38 kV, 60/80/100/112 MVA power transformers
- Twenty-two (22) 38 kV oil circuit breakers (OCBs)

Project Scope

Scope of Work Description (e.g., Plan for Repair)

Scope of work will may include the following:

The 38 kV and 115 kV reconstruction work shall include the following in their respective existing sites:

- Replacement of the existing 115 kV Air Insulated Switchgear (AIS) Substation with a new 115 kV Gas Insulated Switchgear (GIS) in breaker-and-a-half configuration.
- Replacement of the existing 38 kV AIS substation with a new 38 kV GIS substation in breaker-and-a-half configuration
- Replace the 230 supply cables for autotransformer Bank #1 between the 115 kV substation to the 230 kV substation
- The design of the 115 kV and 38 kV substations will consider flooding mitigation measurements as the sites are located in ABFE Flood Zone A.
- Construction of new control enclosures facilities for the protection, control, and metering systems for the 115 kV and 38 kV substations.
- Replace the existing Bank #1: 115/38 kV, 60/80/100/112 MVA transformer with a new one, since it is reaching the end of its useful life. The impedance of this transformer shall be similar to the existing one.
- Replace the existing Bank #2: 115/38 kV, 60/80/100/112 MVA transformer with a new one.
- All transformers installation design to comply with flooding mitigation.
- Provide a spare 230/115 kV transformer on a pad on site.
- Emergency Generator needed at site. Project specific.

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 169896 - COSTA SUR BKRS -P001 project. 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, provide rationale for recommendation.
Restoration to Codes, Standards and Improve project
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?

Yes

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 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

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, permitting, management, and contingencies.

Estimated Budget for Architectural & Engineering Design:	$9.53M

Estimated Budget for Construction & Procurement:	$91.58M
Estimated Overall Budget for the Project:	$101.11M

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. These proposals will be supported with BCAs.

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

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 prior to construction activities.

Attachments

Attachments will be provided after High Level Assessments (HLA) are completed.

Document Name	Description
N/A	Project Cost Estimates
N/A	Engineering Studies and Designs
N/A	Location Maps and Site Picture

FEMA Project Scope of Work

Project Name:

Substation High Voltage Equipment Replacement

Date: 14JUL2022

Approvals

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

Grant Manager's Name	Signature	Date
[redacted]	[redacted]	7/15/2022
Program Brief Owner	**Signature**	**Date**
[redacted]	[redacted]	

Document Change Control

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

Rev.	Date of Issue	Brief Description of Change
0	14JUL2022	Issued for Review

Contents

Overview

Project Name:	Substation High Voltage Equipment Replacement
Region:	Island Wide
Damage Number:	223189
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number: *(Formerly Project Worksheet)*	<Provided by FEMA>

Introduction

The purpose of this document is to present and update a Project Scope of Work (SOW) with a cost estimate to be submitted to COR3 and FEMA for a project under DR-4339-PR Public Assistance. COR3 and FEMA will review the completed document to create and version a specific project worksheet and a post-fixed-cost estimate to repair, restore, or replace the eligible facility, including Section 406 hazard mitigation for a specific 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 facility, sites, and systems identified in this Scope of Work that is eligible as a critical services facility as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

This document will be updated with information developed during the initial design and engineering phase through the construction phase.

Facilities

Facilities List

These sites are a Near-Term priority identified by LUMA.

115 KV SUBSTATIONS	LOCATION (GRID)	QTY
ALTURAS DE MAYAGUEZ	[redacted]	1
BARCELONETA TC	[redacted]	1
CANOVANAS TC	[redacted]	2
CAYEY TC	[redacted]	1
CREA SECT	[redacted]	1
DAGUAO TC	[redacted]	4
DOS BOCAS	[redacted]	2
HUMACAO TC	[redacted]	5
MAUNABO TC	[redacted]	1
MORA TC	[redacted]	1
PALMER TC	[redacted]	1
SAN SEBASTIAN TC	[redacted]	3
TORO NEGRO HP1	[redacted]	1
VEGA BAJA TC	[redacted]	3
VILLA BETINA	[redacted]	1
AÑASCO TC	[redacted]	1
CANAS TC	[redacted]	5
GUANICA TC	[redacted]	2
TOTAL		**36**

38 KV SUBSTATIONS	LOCATION (GRID)	QTY
AMELIA SECT	[redacted]	1
BAIROA 3008	[redacted]	1
BARCELONETA TC	[redacted]	7
BAYAMON PUEBLO SECT	[redacted]	3
BUENA VISTA SECT	[redacted]	1
CAGUAX SECT	[redacted]	1
CAONILLAS HP2	[redacted]	1
CAPUCHINOS SECT	[redacted]	2
CAYEY TC	[redacted]	1
CERAMICA 1619	[redacted]	1
COMBATE-CABO ROJO	[redacted]	1
DAGUAO TC	[redacted]	2
DOS BOCAS	[redacted]	4
GARZAS HP1	[redacted]	5
GAUTIER BENITEZ SECT	[redacted]	3
GUARAGUAO SECT	[redacted]	4
HATO TEJAS SECT	[redacted]	1
HERMANAS DAVILA 1705	[redacted]	1
ISABELA PUEBLO 7503	[redacted]	1
JUAN DOMINGO SECT	[redacted]	2
JUNCOS TC	[redacted]	2
LAS LOMAS SECT	[redacted]	3
LAS PIEDRAS SECT	[redacted]	2
MAGNOLIA 1708	[redacted]	1
MANATI SECT	[redacted]	1
CANAS TC	[redacted]	5

MAUNABO TC	[redacted]	1
MINILLAS 1114	[redacted]	1
MIRAMAR SECT	[redacted]	2
MORA TC	[redacted]	1
ONCE AGOSTO SECT	[redacted]	3
PALMER TC	[redacted]	3
RAMBLA SECT	[redacted]	1
RIO BLANCO	[redacted]	2
RIO GRANDE 2301	[redacted]	1
SAN FERNANDO SECT	[redacted]	3
SAN GERARDO SECT	[redacted]	2
SAN GERMAN INDUSTRIAL	[redacted]	1
SAN SEBASTIAN TC	[redacted]	1
SEBORUCO	[redacted]	1
SIERRA LINDA 1704	[redacted]	1
T-BONE	[redacted]	2
TORO NEGRO HP1	[redacted]	5
TRES MONJITAS SECT	[redacted]	3
VENEZUELA SECT	[redacted]	5
VILLA PRADES	[redacted]	1
VILLAMAR-1	[redacted]	2
VILLAMIL	[redacted]	1
YAUCO HP1	[redacted]	5
YAUCO HP2	[redacted]	7
ZONA LIBRE	[redacted]	1
AÑASCO TC	[redacted]	4
TOTAL		**117**

Facility Description

This project comprises the replacement of oil circuit breakers, disconnect switches, instrument transformers and ancillary equipment in 115kV and 38kV Substations.

Hurricane Maria's flood currents, high force winds, and flying debris damaged many of these components and other related equipment.

This project aims to restore these facilities for safe and reliable operation based on LUMA and industry standards, improve system resiliency, and mitigate safety hazards and environmental concerns.

Project Scope

Scope of Work Description

The work involves replacing the damaged circuit breakers and related elements in 115kV and 38kV Substations. Following is a high-level list of anticipated items to be replaced or repaired:

- Replace oil circuit breakers with a gas insulated breakers
- Replace disconnect switches associated with the circuit breakers
- Replace wiring between the control cabinet of the new circuit breaker and the existing junction box. Add or modify Junction Box as needed
- Replace instrument transformers (CTs and VTs)
- Replace damaged insulators, and any damaged hardware as needed
- Assess existing foundations condition and replace or modify as necessary

The Detailed SOW (plans and specifications) will be completed by Q2 2023 and construction work will be completed by 2027.

The scope of this project is only for the repairs and activities presented in this list above. All other scope including SCADA and RTU replacements, microwave point-to-point network, transport network, field area network and substation minor repairs may be provided as part of separate projects in the future.

All engineering and design development shall follow LUMA design criteria, specifications, and industry standards. The existing facility drawings and the Breaker Ratings & Specifications are in attachments B and C.

Type of Project

1. **Restoration to Codes/Standards**: Restores the facility(s) to pre-disaster function and 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
3. **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, provide the rationale for the recommendation.
Restores to Codes/Standards
This work is to 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 results of the completed preliminary A&E work

Preliminary Engineering

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

Yes

Codes and Standards

Which of the following 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 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

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, permitting, management, and contingencies. 406 Hazard Mitigation Proposal

Estimated Budget for Architectural & Engineering to Design:	$7.5M
Estimated Budget for Procurement and Construction:	$68.2M
Estimated Overall Budget for the Project:	$75.7M

406 Mitigation Opportunity Scope of Work

LUMA will develop and propose 406 Hazard Mitigation proposals consistent with the damages. The proposal will be documented and supported with a Benefit-Cost Analysis (BCA).

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 (EHP) 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.

Attachments

Document Name	Description
<N/A>	Project Cost Estimates
<N/A>	Engineering Studies and Designs

FAASt FEMA Project Scope of Work

Substation Project:

Bayamón TC - Phase 2

15 JUN 2022

Revision: 0

Approvals

Grant Manager's Name	Signature	Date
[redacted]	[redacted]	7-28-2022
Program Brief Owner	**Signature**	**Date**
[redacted]	[redacted]	

Document Change Control

Rev.	Date of Issue	Brief Description of Change
0	21 JUL 2022	Issue for signatures

Contents

Overview

Project Name:	Bayamon TC - 115/38 kV SWGR Restoration
Region:	Bayamon
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.

Facilities

Facilities List

Name	Number	GPS Start	GPS End
Bayamon Transmission Center	n/a	[redacted]	n/a

Facilities Description

The above substation facility comprises of transformers, circuit breakers, disconnect switches, control houses, steel structures, poles, lights, and other components, all enclosed with a perimeter fence. The objective of this project is to replace these components and systems based on LUMA and industry standards, improve system resiliency, and alleviate safety hazards and environmental concerns.

The existing 115/38 kV, 60/80MW power transformer, consisting of three single-phase units, has been in service since 1960 and has exceeded its useful life. Two 115/38 kV transformers provide interconnections to transmission centers and sectionalizers in Hato Tejas, Bayamón, and Cataño and supply relevant systems loads, including the mass transportation system Tren Urbano. Both transformers are necessary to maintain the service to the metropolitan area and must be in optimal conditions to avoid contingencies that could affect the reliability of the 38 kV system in this highly populated area.

The distribution transformer at substation 1714 Caridad has been in service since 1970, and it supplies small commercial and residential customers in Bayamón at a primary distribution voltage of 4.16 kV. LUMA Energy is changing all 4.16 kV substations to 13.2 kV to reduce system losses, improve voltage regulation, provide operational flexibility, increase renewable energy hosting capacity at the feeder level, and increase system security under fault conditions. This substation and 1711 Bayamón TC have experienced corrosion and reliability issues with the existing metal-clad switchgear. The 115 kV switchyard and 38 kV switchyard, as well as the distribution stations, are located in areas identified as Flood Zone A in the current Advisory Base Flood Elevations (ABFE) Maps, the new design will include mitigations to this conditions.

Project Scope

Scope of Work Description

- Replace 230/115 kV power transformer No. T1
- Install a new 230/115 kV power transformer No. T2
- Install a new 115/38 kV, power transformer
- Replace (15) - 115 kV oil circuit breakers (OCBs)
- Install a new 115 kV gas-insulated switchgear (GIS) breaker between bus No. 1 and existing breaker 0004
- Install two (2) new 115 kV Breaker-and-a-half diameters between buses 1 and 2.
- Evaluate all line Motor Operated Disconnect Switches (MODs) to determine if replacements are necessary
- Evaluate all circuit breakers' Disconnect Switches (DS) to determine if replacements are necessary.
- Evaluate the remaining GCBs to identify possible replacement needs
- Check existing bus work conditions and electrical ratings, and replace if required

- Replace the existing 38 kV Air Insulated Switchgear (AIS) substation with a 38 kV Gas Insulated Switchgear (GIS) Substation for resilience and hardening
- Install a new protection, control, and telecom prefabricated metal enclosure with all auxiliary equipment and accessories.
- Rebuild Substation 1711 with a 15 kV GIS In metal enclosure
- Build a new 115/13.2 kV GIS substation (7T06) to replace the Medium Voltage (MV) substations 1714 and 1716.

The 115 kV and 38 kV switchyards are in areas identified as Flood Zone A in the current Advisory Base Flood Elevations (ABFE) Maps. The consolidation of all substation equipment into an enclosed elevated integrated control building will mitigate the flooding issues.

The design and the construction completion are estimated by Q4 of 2023 and Q1 of 2026, respectively.

The scope of this project is only for the repairs and activities presented in this list above and is an separate scope from the FAASt 169500 Bayamon TC – MC-BKRS-Y1 project. Other scopes including SCADA and RTU replacements, microwave point-to-point network, transport network, field area network and high voltage equipment's 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 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
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), 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 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:	$6.8M
Construction & Procurement:	$64.2M
Total Estimate for the Project:	$71.0M

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.

406 Mitigation Opportunity Cost Estimate

Architectural & Engineering to Design:	Unknown
Procurement:	Unknown
Construction:	Unknown
Project Total Estimated:	Unknown

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

Existing One Line Diagram

Proposed One Line Diagram

Exhibit 2

Excel Spreadsheet with Updated List of Projects Submitted via email