

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

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IN RE:

IN RE: REVIEW OF THE PUERTO RICO
ELECTRIC POWER AUTHORITY'S 10-
YEAR INFRASTRUCTURE PLAN-
DECEMBER 2020

CASE NO. NEPR-MI-2021-0002

**SUBJECT: Submission of Four Scopes of Work
and Request for Confidentiality and Supporting
Memorandum of Law**

**MOTION SUBMITTING FOUR SCOPES OF WORK AND REQUEST FOR
CONFIDENTIALITY AND SUPPORTING MEMORANDUM OF LAW**

TO THE PUERTO RICO ENERGY BUREAU:

COME NOW LUMA Energy, LLC¹, and LUMA Energy ServCo, LLC², (jointly referred to as “LUMA”), through the undersigned legal counsel and, respectfully submits 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. The Energy Bureau thereafter determined that this directive should be applied to both PREPA and LUMA. *See* Resolution and Order of August 20, 2021 (“August 20 Order”) on page 3.

¹ Register No. 439372.

² Register No. 439373.

2. Consequently, LUMA has submitted several Transmission and Distribution projects to this Energy Bureau beginning on July 8, 2021. LUMA has submitted 256 initial scopes of work (“SOW”) as to date. The Energy Bureau has approved all the SOWs submitted by LUMA as of June 21, 2024.

3. In accordance with the March 26 Order issued in this instant proceeding, 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 for the following projects: “Substation Ciales 8701”, “Unibón 9501 (Fuse to Breaker)”, “Monterey 9502 & 9503 (Fuse to Breaker)”, and “Asset Management System Implementation”. *See Exhibit 1.*

4. The “Asset Management System Implementation” SOW includes preliminary amounts to be covered by federal and non-federal funds, given that the licenses to be acquired through this project will also be used for non-federally funded projects. Approval of this SOW by the Energy Bureau will enable LUMA to commence discussions with FEMA and COR3 to determine the appropriate federal and non-federal funds allocation. LUMA will inform the PREB once the allocation between federal and non-federal funding is determined.

5. Section 428 of the Stafford Act, administered by FEMA, provides funding through grants to states, local, tribal, and territorial governments through its Public Assistance Program to help communities respond to and recover from major disasters. LUMA has presented and received approval from the Energy Bureau for 256 initial SOWs for projects under Section 428 as of this date. The Energy Bureau's approval of these SOWs allows LUMA to engage with COR3 and federal agencies to seek appropriate federal funding sources. These include FEMA Hazard Mitigation funding under Section 406 of the Stafford Act. Section 406 provides FEMA with

discretionary authority to fund mitigation measures and repair disaster-damaged facilities. The application for and determination of Section 406 funding is part of the preliminary engineering phase for projects approved by the Energy Bureau and the assignment of FAASSt numbers by FEMA to award Section 428 funding. At the time of submission of the initial SOW to the Energy Bureau, it is unknown whether and in what amounts funding through Section 406 will be available, if any. LUMA develops proposals for additional hazard mitigation measures consistent with the damages. The proposals are reviewed and approved by FEMA and COR3. LUMA's efforts to add mitigation measures under Section 406 comply with the Energy Bureau directives and are consistent with LUMA's commitment to pursue federal funding from all potential sources, maximize available funds, and efficiently execute proposed projects.

6. 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 its Memorandum of Law below, 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 SOWs in *Exhibit 1* 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 "SOW 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, the 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 Regulations to Submit Information Confidentially Before the Energy Bureau

7. 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).

8. 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).

9. 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.

10. 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 a “redacted” or “public version” and an “unredacted” or “confidential” version of the document that contains confidential information. *Id.* at ¶ 6.

11. The Energy Bureau’s Policy on Management of Confidential Information states the following with regard 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).

12. 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

13. 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 warrants 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 Security⁴ and Physical Security,⁵ this Energy Bureau, *motu proprio*, has conducted proceedings confidentially, thereby recognizing the need to protect CEII from public disclosure.

14. 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

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 Minigrad 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.

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.

15. 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.

16. Generally, CEII or critical infrastructure information is exempted from public disclosure because it involves assets and information that 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.

17. 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.*

18. 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--
 - (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.

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

19. The SOWs contain diagrams that 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 qualifies 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 this SOW. 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.

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.

20. 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.

21. In addition, the SOWs in *Exhibit 1* contain the name, signature, and role of two individuals who are LUMA employees and a contractor, respectively, who reviewed the SOWs as part of LUMA's internal review and approval of each document. 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 that 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 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 interfere 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

22. 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	Substation Ciales 8701	Pages 1 and 4	Right to privacy (<i>see e.g.</i> , Const. ELA, Art. II, Sections 8 and 10)	June 28, 2024
Exhibit 1		Pages 5, 10, and 11	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 28, 2024
Exhibit 1	Unibón 9501 (Fuse to Breaker)	Pages 1 and 4	Right to privacy (<i>see e.g.</i> , Const. ELA, Art. II, Sections 8 and 10)	June 28, 2024

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
Exhibit 1		Pages 5, 11, and 12	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 28, 2024
Exhibit 1	Monterey 9502 & 9503 (Fuse to Breaker)	Pages 1 and 4	Right to privacy (<i>see e.g.</i> , Const. ELA, Art. II, Sections 8 and 10)	June 28, 2024
Exhibit 1		Pages 5, 11, and 12	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 28, 2024
Exhibit 1	Asset Management System Implementation	Pages 1 and 4	Right to privacy (<i>see e.g.</i> , Const. ELA, Art. II, Sections 8 and 10)	June 28, 2024

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **approve** the SOWs for the T&D Project submitted as *Exhibit 1* to this Motion; and **grant** the request for confidential treatment of *Exhibit 1*.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 28th day of June 2024.

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 counsel for PREPA, Alexis Rivera, arivera@gmlex.net, and to Genera PR LLC, through its counsel of record, Jorge Fernández-Reboredo, jfr@sbglaw.com and Alejandro López Rodríguez, alopez@sbglaw.com.



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Exhibit 1

Four Scopes of Work

Redacted Version (Unredacted Version Submitted under Seal of Confidentiality)

	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

DOCUMENT REVISION HISTORY

This table contains the history of the revisions made to this FEMA Project Scope of Work.

Rev.	Effective Date	Description of Change
0	May 17, 2024	Initial Release



	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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1.0 OVERVIEW


Project Name:	Substation Ciales 8701
Project type:	Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
Region:	Arecibo
Program Brief Owner:	██████████
Project Sponsor:	██████████
Damage Number:	223189
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number:	To be provided by FEMA

2.0 INTRODUCTION

The purpose of this document is to present and update an Initial Scope of Work (ISOW) with Cost Estimates to be submitted to the Central Office for Recovery, Reconstruction and Resilience for Puerto Rico (COR3) and the Federal Emergency Management Agency (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.

This document provides a description of the project including an initial scope of work, cost estimates as well as Environmental & Historical Preservation (EHP) relevant information and proposed 406 hazard mitigation work.

LUMA Energy provides the Operation and Maintenance of the Puerto Rico Transmission and Distribution System. The Puerto Rico Power Electric Authority (PREPA) is the government 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.

	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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3.0 FACILITIES

3.1 Facilities Description

The Ciales Substation has an existing 115 kV service that is stepped down to lower voltages for delivery through distribution feeders.

The facilities of the Ciales Substation consist of:

- One (1) 7.5/10/11.2 MVA, 115/8.32 kV step down transformer (Year 2013).
- Fuse protection on the high side of transformer.
- Four (4) distribution breakers.
- Two (2) 115 kV Gas Circuit Breakers (GCBs).

3.2 Facilities List

Name	Number	Voltage (kV)	GPS Location	Construction Year
Ciales Substation	8701	115/8.32	[REDACTED]	1973

4.0 PROJECT SCOPE OF WORK


This project addresses the need to increase the reliability and resiliency of the Ciales Substation while restoring system functionality. The reconstruction of the Ciales Substation 8701 requires the removal of the high side fuses of the transformer, to increase reliability and mitigate issues in this area which affect numerous costumers. The high side fuses shall be replaced with new Gas Circuit Breakers (GCBs) rated for 115 kV, and additional protection for existing breakers.

Proposed New Transmission Infrastructure

- The 115 kV transmission line infrastructure improvements shall consist of:
 - Replace one (1) existing transformer high side fuse with new GCBs.
- Providing services for:
 - Line 36100 from Dos Bocas HP
 - Line 36100 from Morovis
 - One (1) 115/8.32-4.16 kV transformer, with an 8.4/14 MVA capacity, Delta-Wye

Protection, Automation and Control Requirements

The Protection, Automation and Control Requirements comply with LUMA's Protection, Control, and Automation Design Criteria Standards and LUMA's Substation Automation System (SAS) Conceptual Design Standard for Substation Rebuild Projects.

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The substation will include an IEC-61850 Station Bus architecture with outdoor protection control cabinets. The scope of work is to include:

- Each 115 kV line shall have one line protection cabinet with redundant advanced line differential protection.
- Each 115 kV transformer shall have one transformer protection cabinet with protection relay as transformer differential protection, bay control unit of high voltage breaker and backup overcurrent relay, and programmable automation controller as dedicated non-electrical protection.
- Each 115 kV bus shall have one bus protection.
- Distribution feeder relays shall be replaced with digital feeder protection relays with a power quality and Power quality meter.
- Standard SCADA panel shall be installed inside of the control building with human machine interface (HMI).
- Reverse blocking low voltage bus protection shall be designed per LUMA standard.
- One battery bank with charger is required for this substation. As feeder breakers and transformer will not be replaced in this stage, 48 VDC is required.

Transmission System Operating Characteristics

The Project must ensure all facilities can operate in the following electrical environment:

- 115 kV, *Nominal Voltage*
- 109.25 kV, *Desired Normal Minimum Voltage*
- 120.75 kV, *Desired Normal Maximum Voltage*

Distribution System Operating Characteristics

The Project must ensure all facilities can operate in the following electrical environment:


- 8.32 kV, *Nominal Voltage*
- 7.90 kV, *Desired Normal Minimum Voltage*
- 8.74 kV, *Desired Normal Maximum Voltage*

The final SOW (plans and specifications) and cost estimated are expected to be completed by **December, 2024** and construction is estimated to be completed by **December, 2028**.

5.0 TYPE OF PROJECT

Choose One (Restoration, Improved or Alternate)
Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
This work will follow 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.

	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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6.0 PRELIMINARY ENGINEERING

Is architectural and engineering (A&E) funding required to help define the intended scope of work?

Yes, architectural and engineering funding required to help define the intended scope of work

7.0 CODES AND STANDARDS

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 (BBA) 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.

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8.0 COST ESTIMATE

Cost estimates for this work are prepared in conformance with class 5 accuracy, which is between -50% and +100% of the final project cost. The estimate includes and is not limited to materials, construction labor and equipment, engineering, management, and contingencies.

Estimated Budget for Architectural & Engineering Design:	\$ 409,730
Estimated Budget for Procurement & Construction:	\$ 5,416,221
Estimated Overall Budget for the Project:	\$ 5,825,951

9.0 406 HAZARD MITIGATION PROPOSAL

9.1 406 Mitigation Opportunity Scope of Work

During the preliminary engineering phase, LUMA will develop and propose 406 Hazard Mitigation proposals consistent with the damages.

9.2 406 Mitigation Opportunity Cost Estimate

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:	Unknown at this time.

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

10.0 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, which must be approved by FEMA prior to construction activities.

11.0 ATTACHMENTS

Document Name	Description
See Below	Aerial View of the Existing Facility
See Below	Existing Single Line Diagram
See Below	Proposed Single Line Diagram




Document Title: Substation Ciales 8701 FEMA
Project Scope of Work (Initial)

Project ID: To be provided by
FEMA

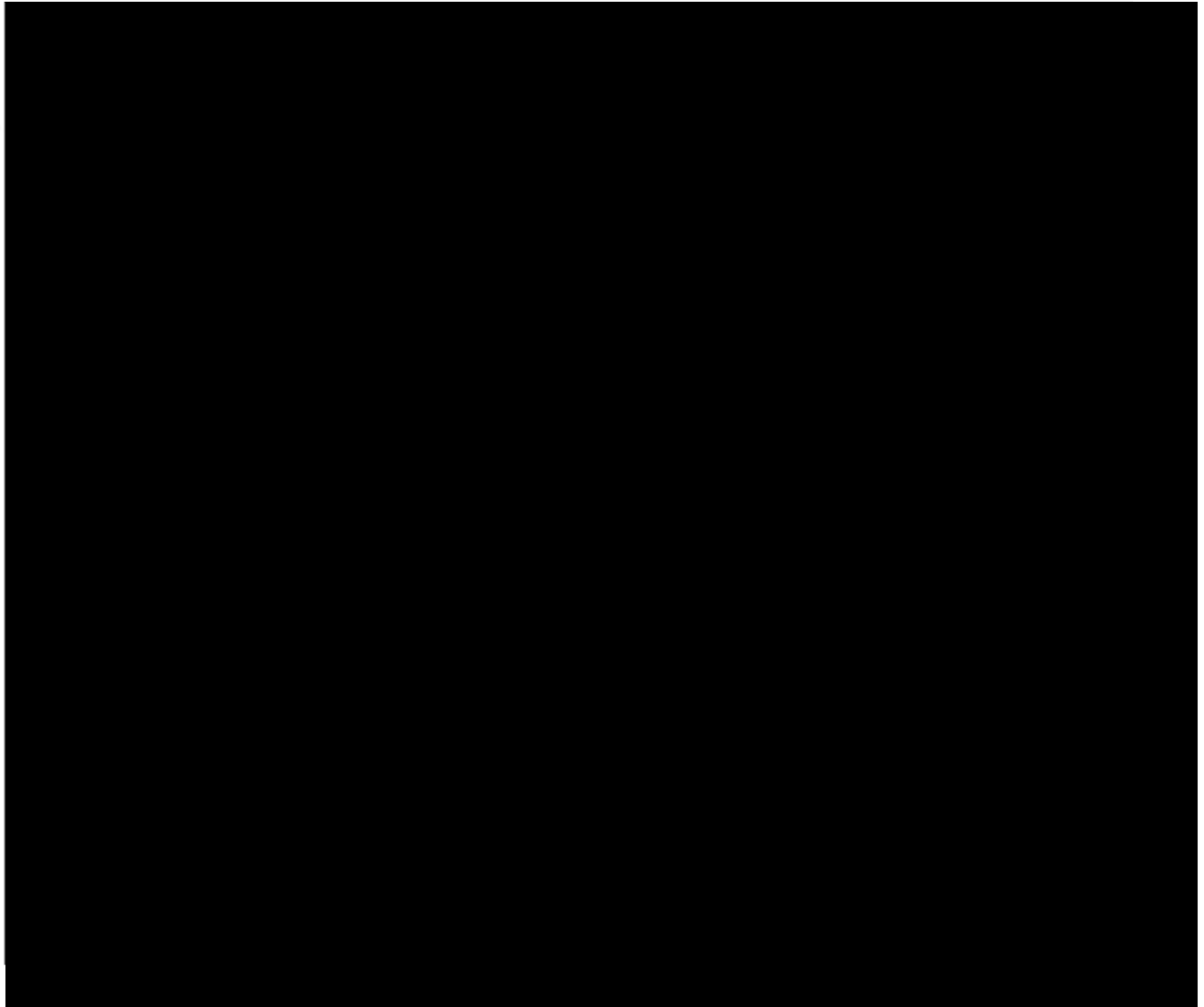
DR-4339-PR Public
Assistance


Aerial View of Existing Facility



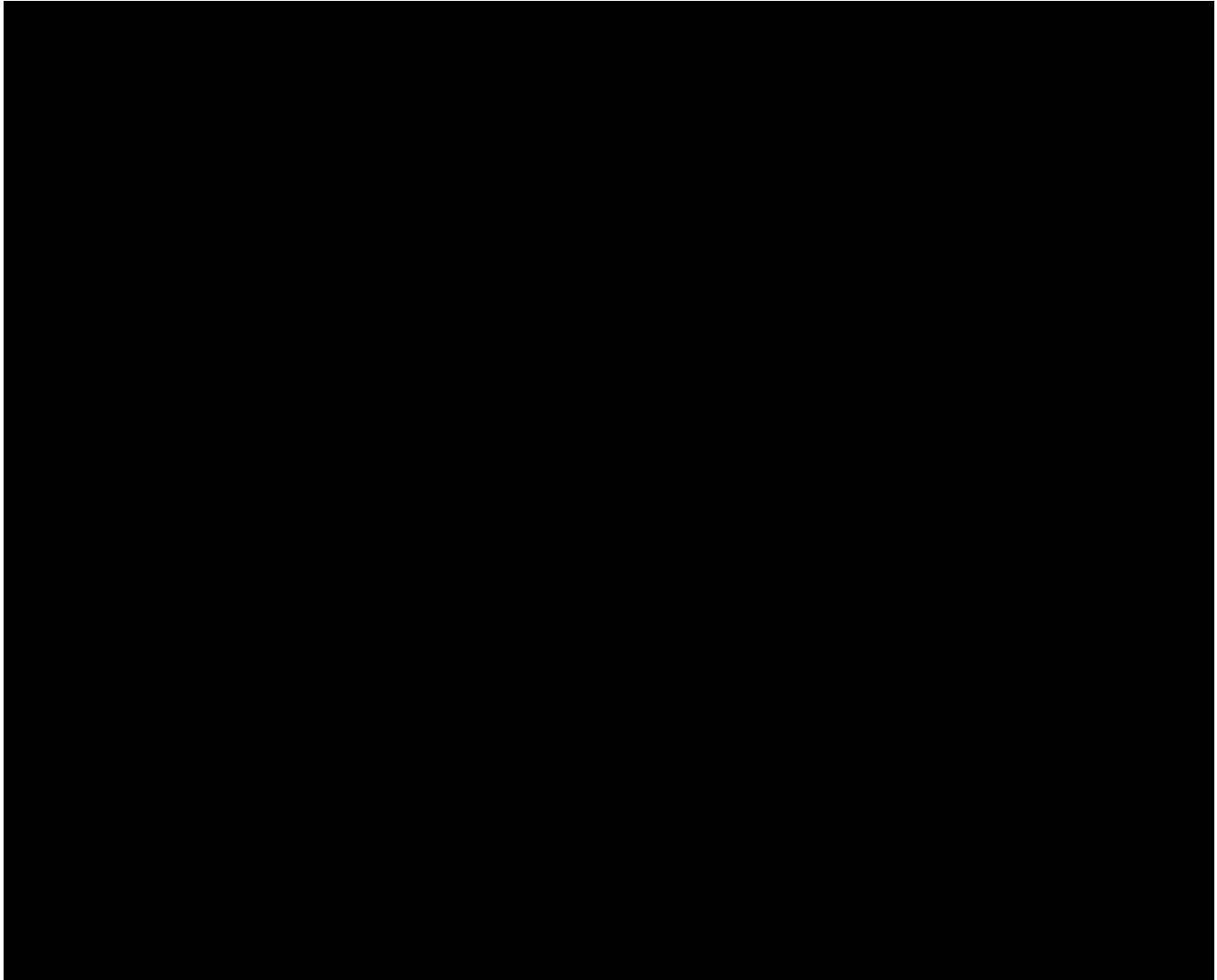
	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance


Existing Single Line Diagram




	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

Proposed Single Line Diagram



	Document Title: Substation Ciales 8701 FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

END OF DOCUMENT

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

FEMA Project Scope of Work (Initial)

Project Name:


Unibón 9501 (Fuse to Breaker)

Revision: **0**

APPROVALS

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

Program Brief Management Leadership (PBML)		
Program Brief Manager or Representative	Signature	Date
██████████	██	May 26, 2024
Program Brief Owner	Signature	Date
██████████	██	April 10, 2024
Grants Manager	Signature	Date
██████████	██	May 28, 2024

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

DOCUMENT REVISION HISTORY

This table contains the history of the revisions made to this FEMA Project Scope of Work.

Rev.	Effective Date	Description of Change
0	May 17, 2024	Initial Release



	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

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	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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1.0 OVERVIEW


Project Name:	Unibón 9501 (Fuse to Breaker)
Project type:	Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
Region:	Bayamón
Program Brief Owner:	██████████
Project Sponsor:	██████████
Damage Number:	223189
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number:	To be Provide by FEMA

2.0 INTRODUCTION

The purpose of this document is to present and update an Initial Scope of Work (ISOW) with Cost Estimates to be submitted to the Central Office for Recovery, Reconstruction and Resilience for Puerto Rico (COR3) and the Federal Emergency Management Agency (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.

This document provides a description of the project including an initial scope of work, cost estimates as well as Environmental & Historical Preservation (EHP) relevant information and proposed 406 hazard mitigation work.

LUMA Energy provides the Operation and Maintenance of the Puerto Rico Transmission and Distribution System. The Puerto Rico Power Electric Authority (PREPA) is the government 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.

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

3.0 FACILITIES

3.1 Facilities Description

The Unibón Substation has an existing 115 kV service that is stepped down to lower voltages for delivery through distribution feeders. The facilities of the Unibón Substation consist of:

- One (1) 10/12.5/14 MVA, 115/8.32 kV step down transformer (Year 2004)
- Fuse protection on the high side of transformer.
- Three (3) distribution breakers for Unibón Substation 9501
- Serves the following feeders:
 - Line 36100 from Dos Bocas HP
 - Line 36100 from Morovis

3.2 Facilities List

Name	Number	Voltage (kV)	GPS Location	Construction Year
Unibón Substation	9501	115 kV	██████████	2004

4.0 PROJECT SCOPE OF WORK


This Project addresses the need to increase the reliability, resiliency and restore system functionality through the repairs of the Unibón substation. The Initial Scope of Work (ISOW) consists of the repair, replacement, and addition of the following infrastructure:

The project requires removal of the high side fuse of transformer and motor operated disconnect (MOD) switches, to increase reliability and mitigate issues in this area which affect numerous customers. The high side fuse and motor operated disconnect switches shall be replaced with new three (3) breaker ring bus with Gas Circuit Breakers (GCBs) rated for 115 kV, and additional protection to existing equipment. The project includes is to conform with LUMA’s Protection, Control, and Automation Design Criteria Standards.

A generator pad is required for this project (GEN SET ready) to provide emergency power to Direct Current (DC) relays and telecom equipment.

Proposed New Transmission Infrastructure

- The 115 kV transmission line will interconnect with:
 - Three (3) breaker ring bus with new GCBs.
- Evaluate the condition of bus configuration with new breakers infrastructure and equipment.
- Providing services for:
 - Line 36100 from Dos Bocas HP
 - Line 36100 from Morovis

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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- One (1) 115/8.32-4.16 kV transformer, with an 8.4/14 MVA capacity, Delta-Wye
- Three phase Potential Transformers (PTs) shall be designed for each 115 kV line.

Protection, Automation and Control Requirements

The Protection, Automation and Control Requirements conform with LUMA's Protection, Control, and Automation Design Criteria Standards and LUMA Substation Automation System (SAS) Conceptual Design Standard for Substation Rebuild Projects.

- The substation will include an IEC-61850 Station Bus architecture with Indoor protection control panels. The scope of work shall include:
 - Each 115 kV breaker shall have one Bay Control Unit (BCU) to perform breaker control, alarm, and metering.
 - Each 115 kV line shall have redundant advanced line differential protection as line protections.
 - Each 115 kV transformer shall have one transformer protection relay as transformer differential protection, one relay as backup protection overcurrent relay, and one relay as dedicated non-electrical protection.
 - Distribution feeders and relays shall be replaced with digital feeder protection relays.
 - Standard Supervisory Control and Data Acquisition (SCADA) panel (small), to be installed inside of the control building with human machine interface (HMI).
 - Reverse blocking low voltage bus protection shall be designed per LUMA standard, or as alternative low voltage bus can be protected by transformer differential.
- One 20 foot by 12-foot prefabricated prewired control building shall be designed for this project with all protection and automation panels per LUMA templates and come with a new Alternating Current / Direct Current (AC/DC) station service system. Control building shall follow LUMA standard building layout and LUMA specification of Prefabricated Substation Control Enclosure.
- Relay panels and SCADA panel design shall follow LUMA templates. DC system shall match with rating of existing equipment.

Telecommunications Requirements

To support the Smart Grid and communication protocols (International Electrotechnical Commission 61850) for aggregate substations. And, to support initial and future telecommunication equipment a power generator will be required.


- A substation site generator will be shared for telecommunications backup requirements. Electrical single lines fall under the purview of LUMA to develop and share with Architecture & Engineering (A&E) for sizing of the site emergency generator.

Note: All telecommunications links used by Protection Automation and Control (PAC) will be fiber.

Transmission System Operating Characteristics

The Project must ensure all facilities can operate in the following electrical environment:

- 115 kV, *Nominal Voltage*
- 109.25 kV, *Desired Normal Minimum Voltage*
- 120.75 kV, *Desired Normal Maximum Voltage*

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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Distribution System Operating Characteristics

The Project must ensure all facilities can operate in the following electrical environment:

- 8.32 kV, Nominal Voltage
- 7.90 kV, Desired Normal Minimum Voltage
- 8.74 kV, Desired Normal Maximum Voltage

The final SOW (plans and specifications) and cost estimated are expected to be completed by **December, 2024** and construction is estimated to be completed by **December, 2028**.

5.0 TYPE OF PROJECT

Choose One (Restoration, Improved or Alternate)
Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
This work will follow 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.

6.0 PRELIMINARY ENGINEERING


Is architectural and engineering (A&E) funding required to help define the intended scope of work?

Yes, architectural and engineering funding required to help define the intended scope of work

7.0 CODES AND STANDARDS

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 (BBA) 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.

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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- LUMA's latest Design Criteria Document (DCD) which aggregates the design considerations of many 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.

8.0 COST ESTIMATE

Cost estimates for this work are prepared in conformance with class 5 accuracy, which is between - 50% and +100% of the final project cost. The estimate includes and is not limited to materials, construction labor and equipment, engineering, management, and contingencies.

Estimated Budget for Architectural & Engineering Design:	\$ 790,036
Estimated Budget for Procurement & Construction:	\$ 8,367,497
Estimated Overall Budget for the Project:	\$ 9,157,533

9.0 406 HAZARD MITIGATION PROPOSAL


9.1 406 Mitigation Opportunity Scope of Work

During the preliminary engineering phase, LUMA will develop and propose 406 Hazard Mitigation proposals consistent with the damages.

9.2 406 Mitigation Opportunity Cost Estimate

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:	Unknown at this time.

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

	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

10.0 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, which must be approved by FEMA prior to construction activities.

11.0 ATTACHMENTS

Document Name	Description
See Below	Aerial View of the Existing Facility
See Below	Existing Single Line Diagram
See Below	Proposed Single Line Diagram




Document Title: Unibón 9501 (Fuse to Breaker)
FEMA Project Scope of Work (Initial)

Project ID: To be provided by
FEMA

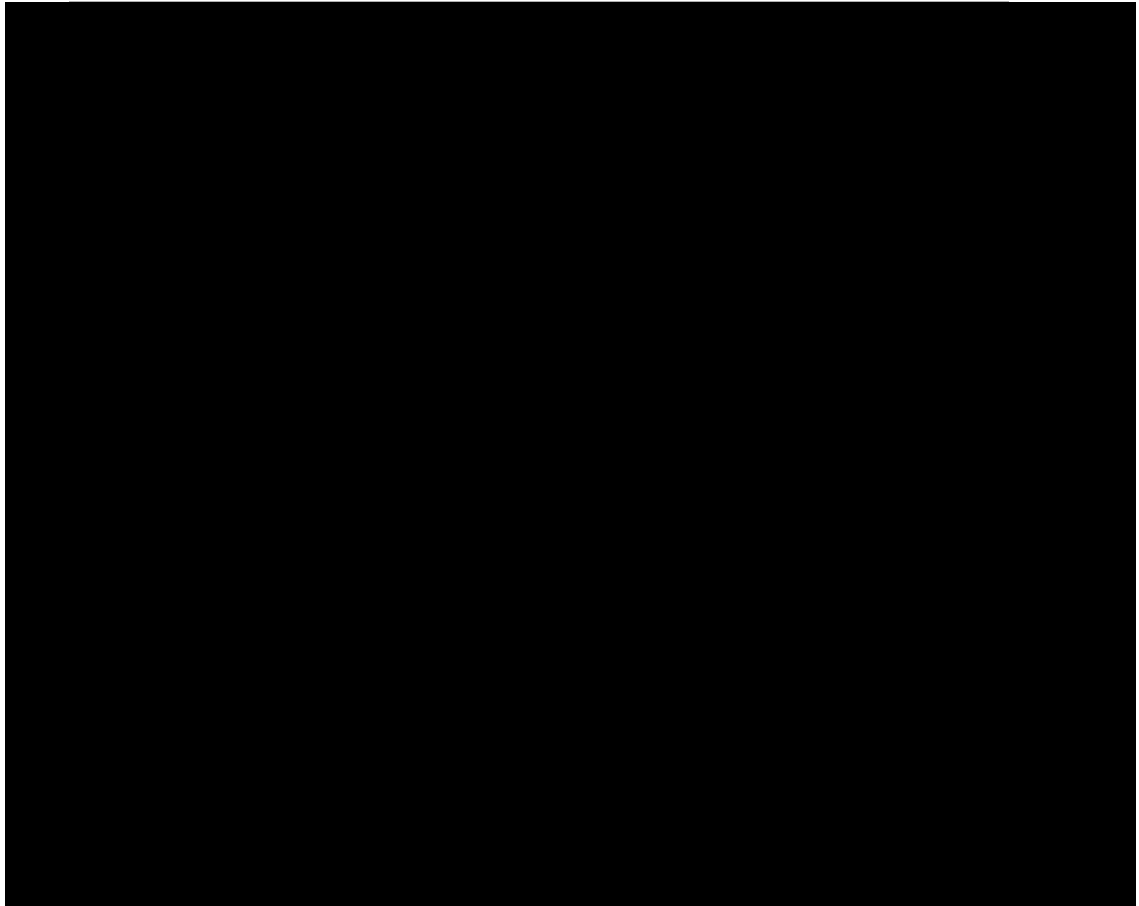
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[Aerial View of Existing Facility](#)



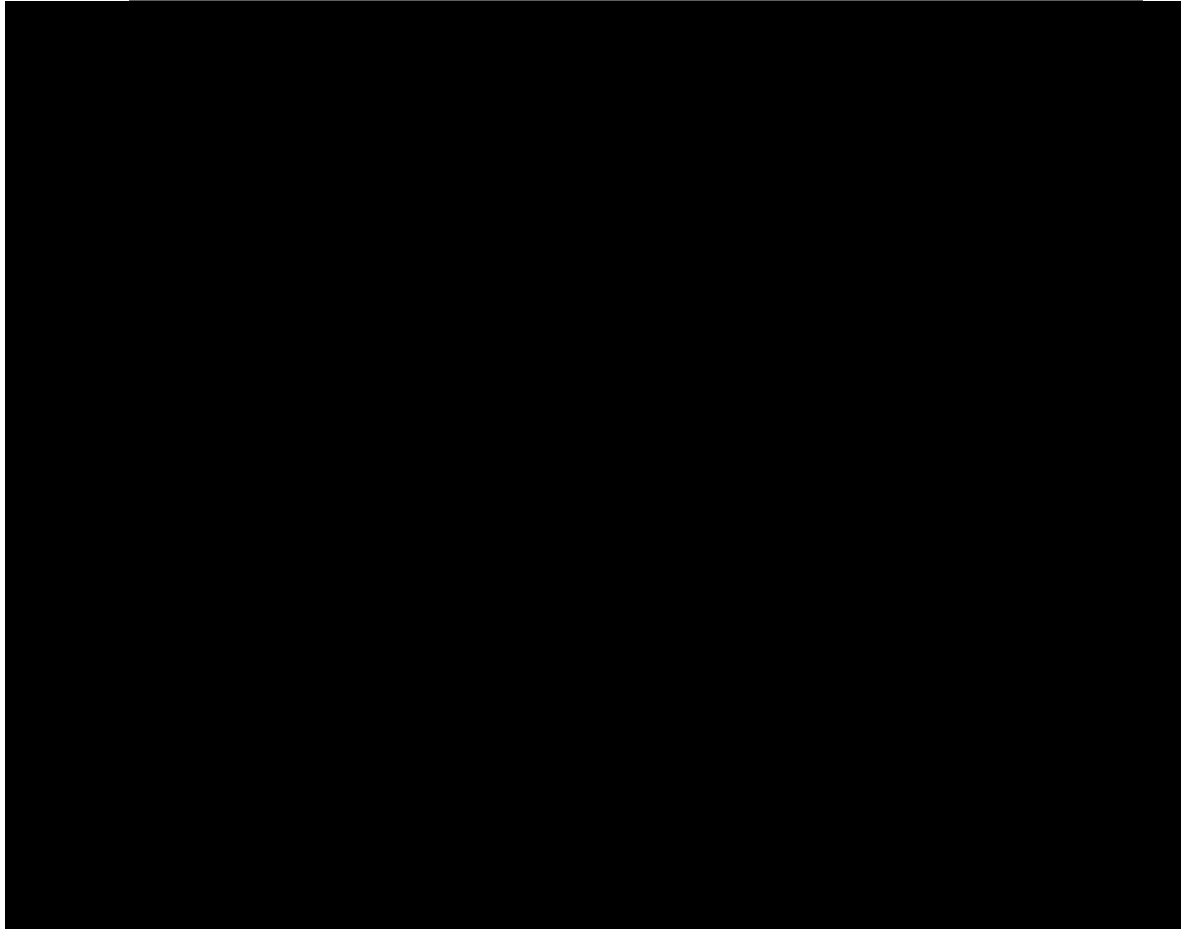
	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

Existing Single Line Diagram




	Document Title: Unibón 9501 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

Proposed Single Line Diagram



END OF DOCUMENT

	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

DOCUMENT REVISION HISTORY

This table contains the history of the revisions made to this FEMA Project Scope of Work.

Rev.	Effective Date	Description of Change
0	May 17, 2024	Initial Release



	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

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	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

1.0 OVERVIEW

Project Name:	Monterey 9502 & 9503 (Fuse to Breaker)
Project type:	Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
Region:	Bayamón
Program Brief Owner:	██████████
Project Sponsor:	██████████
Damage Number:	223189
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number:	To be provided by FEMA


2.0 INTRODUCTION

The purpose of this document is to present and update an Initial Scope of Work (ISOW) with Cost Estimates to be submitted to the Central Office for Recovery, Reconstruction and Resilience for Puerto Rico (COR3) and the Federal Emergency Management Agency (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.

This document provides a description of the project including an initial scope of work, cost estimates as well as Environmental & Historical Preservation (EHP) relevant information and proposed 406 hazard mitigation work.

LUMA Energy provides the Operation and Maintenance of the Puerto Rico Transmission and Distribution System. The Puerto Rico Power Electric Authority (PREPA) is the government 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.

3.0 FACILITIES

	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

3.1 Facilities Description

The Monterey site consists of two distribution stations, which have existing 115 kV service for substations 9502 and 9503. The facilities of the Monterey Substations consist of:

- One (1) 7.5/10.5 MVA, 115/8.32 kV step down transformer (Year 1985)
- One (1) 7.5/10.5 MVA, 115/13.2 kV step down transformer (Year 1997)
- Fuse protection on the high side of transformer.
- Five (5) distribution breakers for Monterey substation 9502
- Two (2) distribution breakers for Monterey PDS substation 9503

3.2 Facilities List

Name	Number	Voltage (kV)	GPS Location	Construction Year
Monterey Substation	9502, 9503	115/8.3 2 kV	████████████████████	1985, 1997

4.0 PROJECT SCOPE OF WORK

This project addresses the need to increase the reliability and resiliency of the Monterey substations while restoring system functionality. The Initial Scope of Work (ISOW) consists of the repair, replacement, and additions of the following infrastructure:

The scope of work includes the reconstruction of the entire substation, including a 115 kV single bus with a total of four (4) gas circuit breakers (GCBs). Two of the gas circuit breakers will serve the transformer positions while the other two will serve the line position to loop Line 36100 in and out of the substation.


A new control house will be installed to house new protection and control relays, Supervisory Control and Data Acquisition (SCADA), telecommunication equipment, battery banks and other related components.

A generator pad is required for this project (generator set ready) to provide emergency power to direct current (DC) relays and telecom equipment.

Acquisition of adjacent land parcel will be necessary for completion of the project.

Proposed New Transmission Infrastructure

- The 115 kV transmission line reconstruction shall consist of:
 - Install four (4) new GCBs.
 - Rearrange bus configuration with new breakers infrastructure and equipment for:
 - Line 36100 from Bo. Piña
 - Line 36100 from Unibón
 - One (1) 115/8.32-4.16 kV transformer, with an 8.4/14 MVA capacity, Delta-Wye
 - One (1) 115/13.2 kV transformer, with an 20/33.6 MVA capacity, Delta-Wye

	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

Proposed Distribution Infrastructure

- Rebuild existing distribution substation 9502 Monterey:
 - Major Equipment Requirements:
 - One (1) 115/13.2-8.32 kV transformer, Delta-Wye, with an 8.4/11.2/14 MVA capacity when energized at 8.32 kV and 13.4/17.9/22.4 MVA capacity when energized at 13.2 kV.
 - One (1) 13.2 kV main breaker, 2,000 Amps.
 - Five (5) 13.2 kV breakers, 1,200 A (3 feeders, 1 metering transformer units and station service transformer, 1 spare).
 - One (1) 13.2 kV mobile tie breaker, 2,000 Amps.
 - Leave an available space for an additional 13.2 kV breaker.
 - All circuit breakers will have a minimum 31.5 kA interrupting current rating.
 - Install power quality meter and related metering equipment.
 - Provide current measurement equipment for all phases of each distribution feeder.

- Rebuild existing distribution substation 9503 Monterey PDS:
 - Major Equipment Requirements:
 - One (1) 115/13.2 kV transformer, with a 20/33.6 MVA capacity, Delta-Wye.
 - One (1) 13.2 kV main breaker, 2,000 Amps.
 - Four (4) 13.2 kV breakers, 1,200 A (2 feeders, 1 metering transformer units and station service transformer, 1 spare).
 - One (1) 13.2 kV mobile tie breaker, 2,000 Amps.
 - Leave an available space for an additional 13.2 kV breaker.
 - All circuit breakers will have a minimum 31.5 kA interrupting current rating.
 - Install power quality meter and related metering equipment.
 - Provide for current measurement equipment for all phases of each distribution feeder.


Protection, Automation, and Control Requirements

The Protection, Automation and Control Requirements comply with LUMA’s Protection, Control, and Automation Design Criteria Standards and LUMA’s Substation Automation System (SAS) Conceptual Design Standard for Substation Rebuild Projects. New panels are required for the Substation Automation System and Telecom System.

- One (1) 125 VDC battery bank with dual charger will be supplied for this substation.

The substation will include an IEC-61850 Station Bus architecture. The work scope shall include:

- Each 115 kV line shall have redundant advanced line differential protection.
- Each 115 kV transformer shall have protection relays as transformer differential protection, bay control unit of high voltage breaker and backup overcurrent relay, and programmable automation controller as dedicated non-electrical protection.
- Each 115 kV bus shall have one bus protection.
- Distribution feeder relays shall be replaced with digital feeder protection relays with a power quality and power quality meter.

	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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- Standard SCADA panel shall be installed inside of the control building with human machine interface (HMI).
- Reverse blocking low voltage bus protection shall be designed per LUMA standard.

Telecommunications Requirements

To support the Smart Grid and communication protocols (IEC 61850) for aggregate substations and, to support initial and future telecommunication equipment, a power generator will be required.

- A substation site generator will be shared for telecommunications backup requirements. Electrical single lines fall under the purview of LUMA to develop and share with Architecture and Engineering (A&E) for sizing of the site emergency generator.

Note: All telecommunications links used by Protection Automation and Control (PAC) will be fiber.

Transmission System Operating Characteristics

The project must ensure all facilities can operate in the following electrical environment:

Planned Operating Range

- 115 kV, *Nominal Voltage*
- 109.25 kV, *Desired Normal Minimum Voltage*
- 120.75 kV, *Desired Normal Maximum Voltage*

Distribution System Operating Characteristics

The project must ensure all facilities can operate in the following electrical environment:


Planned Operating Range, Monterey 9502

- 8.32 kV, *Distribution Bus Voltage*
- 7.9 kV, *Desired Normal Minimum Voltage*
- 8.74 kV, *Desired Normal Maximum Voltage*

Planned Operating Range, Monterey PDS 9503

- 13.2 kV, *Distribution Bus Voltage*
- 12.54 kV, *Desired Normal Minimum Voltage*
- 13.86 kV, *Desired Normal Maximum Voltage*

The final SOW (plans and specifications) and cost estimated are expected to be completed by **October, 2024** and construction is estimated to be completed by **November, 2028**.

	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

5.0 TYPE OF PROJECT

Choose One (Restoration, Improved or Alternate)
Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
This work will follow 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.

6.0 PRELIMINARY ENGINEERING

Is architectural and engineering (A&E) funding required to help define the intended scope of work?

Yes, architectural and engineering funding required to help define the intended scope of work


7.0 CODES AND STANDARDS

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 (BBA) 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 most 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.
--

	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

Industry Standards

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

8.0 COST ESTIMATE

Cost estimates for this work are prepared in conformance with class 5 accuracy, which is between - 50% and +100% of the final project cost. The estimate includes and is not limited to materials, construction labor and equipment, engineering, management, and contingencies.

Estimated Budget for Architectural & Engineering Design:	\$ 1,758,591
Estimated Budget for Procurement & Construction:	\$ 37,905,629
Estimated Overall Budget for the Project:	\$ 39,664,220

9.0 406 HAZARD MITIGATION PROPOSAL

9.1 406 Mitigation Opportunity Scope of Work

During the preliminary engineering phase, LUMA will develop and propose 406 Hazard Mitigation proposals consistent with the damages.


9.2 406 Mitigation Opportunity Cost Estimate

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:	Unknown at this time.

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

10.0 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, which must be approved by FEMA prior to construction activities.


	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
		DR-4339-PR Public Assistance

11.0 ATTACHMENTS

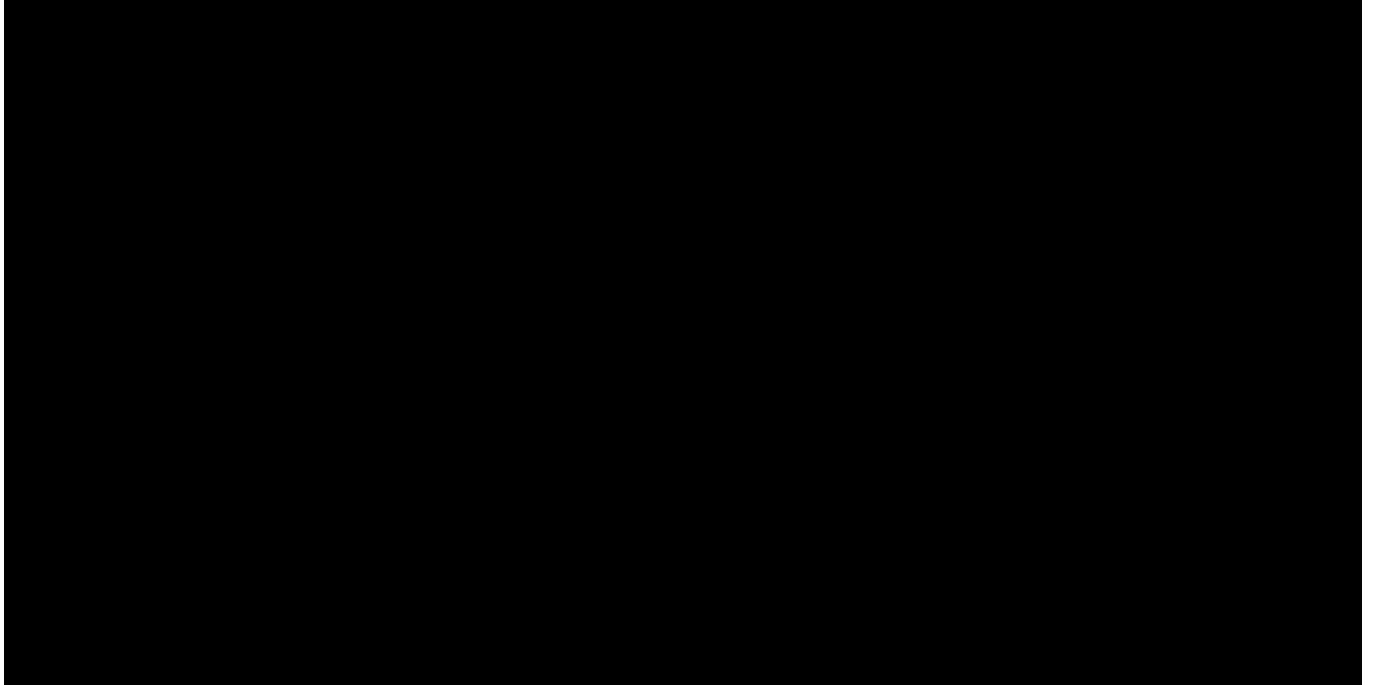
Document Name	Description
See Below	Aerial View of the Existing Facility
See Below	Existing Single Line Diagram
See Below	Proposed Single Line Diagram


Aerial View of Existing Facility



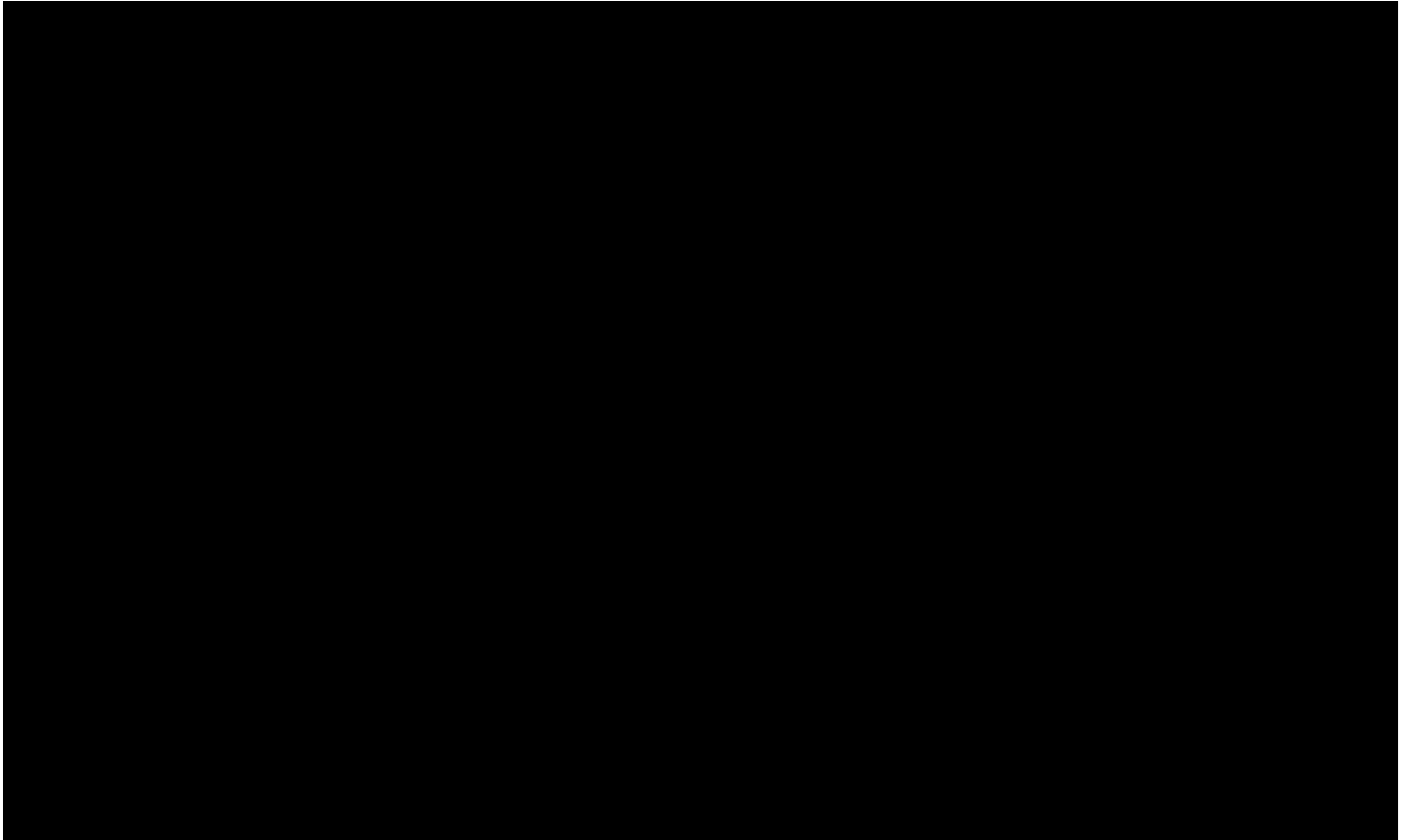
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		DR-4339-PR Public Assistance


Existing Single Line Diagram



	Document Title: Monterey 9502 & 9503 (Fuse to Breaker) FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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Proposed Single Line Diagram



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END OF DOCUMENT

	Document Title: Asset Management System Implementation FEMA Project Scope of Work (Initial)	Project ID: To be provided by FEMA
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FEMA Project Scope of Work (Initial)

Project Name:

Asset Management System Implementation

Revision: 0

APPROVALS

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

Program Brief Owner	Signature	Date
[REDACTED]	[REDACTED]	06/26/2024
Grants Manager	Signature	Date
[REDACTED]	[REDACTED]	06/27/2024

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DOCUMENT REVISION HISTORY

This table contains the history of the revisions made to this FEMA Project Initial Scope of Work.

Rev.	Effective Date	Description of Change
0	March 19, 2024	Initial Release

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1.0 OVERVIEW

Project Name:	Asset Management System Implementation
Project type:	Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
Region:	Island Wide Transmission and Distribution Assets
Program Brief Owner:	██████████
Damage Number:	TBD
Damaged Inventory/Asset Category:	Island Wide Transmission and Distribution Assets
FEMA Project Number:	TBD

2.0 INTRODUCTION

The purpose of this document is to present and update an Initial Scope of Work (ISOW) with Cost Estimates to be submitted to the Central Office for Recovery, Reconstruction and Resilience for Puerto Rico (COR3) and the Federal Emergency Management Agency (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.

This document provides a description of the project including an initial scope of work, cost estimates as well as Environmental & Historical Preservation (EHP) relevant information and proposed 406 hazard mitigation work.

LUMA Energy provides the Operation and Maintenance of the Puerto Rico Transmission and Distribution (T&D) System. The Puerto Rico Power Electric Authority (PREPA) is the government 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.

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3.0 FACILITIES

The specific facilities included in this project are structure and components of the transmission and distribution system which include conductors, step-voltage transformers, transmission transformers, regulators, capacitors, switches, fuses, reclosers.

4.0 PROJECT SCOPE OF WORK

Asset Management Information System

As part of the reconstruction efforts and for LUMA to provide electric power in a safe, efficient, reliable, and cost-effective manner, it is necessary to request this comprehensive asset management information system implementation.

There are many programs for rebuilding the T&D system that require comprehensive modeling and analysis on the distribution and transmission lines to verify criteria such as equipment loading, voltage profile, automation device placement and coordination of protective devices.

Key programs include the Substation Rebuild, Distribution Rebuild, and Transmission Rebuild, which focus on improvements to substations, distribution feeders, and transmission lines to strengthen the electrical grid, and covers required inspection, repair, and rebuilding of damaged assets. This includes upgrades to the latest codes, industry standards and practices to improve long-term reliability. These rebuild programs are foundational for the success of numerous T&D level projects to harden and upgrade the T&D system.

To support these rebuild initiatives an Asset Management Information System implementation will be required to effectively manage these assets from the system rebuild work. This will ensure LUMA has the technology ecosystem necessary to assure the accuracy and integrity of asset information for network design, connectivity modeling, asset lifecycle maintenance management, and network modelling systems. These technologies provide the key to ensuring safe, resilient, and sustainable infrastructure rebuild.

LUMA will leverage existing enterprise software to enable the following capabilities:

- Manage assets throughout the asset life cycle - Asset Suite.
- Provide geographical representation of the electrical system - G/Technology.
- Enable the modeling of the future planned electrical system - Synergi, PSCad, PSSE, CAPE.

To ensure a fully integrated solution that supports resiliency in the end-to-end Asset Lifecycle, the following technology deficiencies will be remediated:

- Configuring Asset Suite for the tracking of T&D assets.
- Integrating Asset Suite with G/Technology to ensure the Integrity of the asset and location data.
- Integrating network connectivity data with network modeling tools.
- Integrating the design of the future planned electrical system with the electrical modeling tools.

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A core tenet of asset management practices is having knowledge of the location and conditions of assets. Having this information available is important for assessing post-disaster realities. It is also necessary to be able to generate comprehensive electrical system models to aid the identification of system violations that will be remediated by LUMA.

LUMA's asset management practices are to track T&D assets throughout the lifecycle and extend the lifecycle of the assets.

This scope of work will include:

- Providing a repository of all assets including rebuild work.
- Providing a repository of system information, including system models/system topology.
- Configuring Asset Suite for tracking electrical network assets including transmission lines, distribution lines, substations, telecom, and streetlights.
- Configuring Asset Suite for the preventative maintenance programs by asset type.
- Configuring Asset Suite to generate and manage work order for corrective and preventative maintenance activities.
- Developing data validation and load processes to initialize the distribution line, transmission line, substation, telecom, and streetlight assets.
- Loading of existing transmission line, distribution line, substation, telecom, and streetlight asset information.
- Developing and implementing the required integration between the Computerized Maintenance Management System (CMMS) and G/Technology to ensure the integrity of the asset and location data.
- Developing and implementing integration between the G/Technology network connectivity data with network modeling tools.
- Developing and implementing electrical design tools that are integrated with CMMS and G/Technology.

Asset Suite Configuration

1. The Asset Suite configuration will consist of the following asset classes:
 - Transmission
 - Structure (Vault, Manhole, Pole/Tower)
 - Switch
 - Conduit
 - Transformer
 - Conductor
 - Distribution
 - Structure (Vault, Manhole, Pole, Streetlight, Switchgear)
 - Switch
 - Conduit
 - Regulator
 - Recloser
 - Fault Indicator
 - Meter
 - Riser
 - Fuse
 - Capacitor

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- Conductor
 - Luminaire
 - Substation
 - Substation Site
 - Bus Bars
 - Breaker
 - Transformer
 - Relays
 - Battery Bank
 - Building
 - Meter
 - Lightning Arrester
 - Substation Switch
 - Remote Terminal Unit (RTU)
 - Telecom
 - Tower
 - Antenna
 - Mobile Base Station
 - Radio
 - Tele protection
 - Fiber Cable/Communication Cable
2. Development of functions to support generation of corrective maintenance work for substation, transmission, distribution, and telecom assets.
 3. Development of functions that analyze inspection information to establish system remediation project priorities.
 4. Development of functions that will enable the transition from run-to-failure to preventive maintenance for substation, transmission, distribution, and telecom assets.
 5. Configuration of compatible units in Asset Suite to support work order project management processes including automatic generation of bill of materials from engineering design.
 6. Alignment of the Asset Suite asset data and functions with the procurement and materials management data and functions of Asset Suite.
 7. Development of work order functions to support initiation of system remediation projects.
 8. Development of work order functions to support new distribution service projects.

Integrations

1. Integration of Asset Suite and G/Technology to co-manage linear and non-linear electrical assets.
2. Processes to integrate Asset Suite with information gathered during the detailed inspection programs, including the streetlight inspection audit program, system model verification project, and others.
3. Processes to integrate Asset Suite with information gathered during daily operations, such as new service development, regular inspections, customer service requests, and corrective maintenance.
4. Integration of Asset Suite and G/Technology to support engineering design activities in G-Technology.
5. Integration of Asset Works to Asset Suite to support compatible units and work order project management processes.

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6. Development of data integration processes to record as built asset records from internal and external sources into Asset Suite.
7. Integration of Asset Suite and Customer Care and Billing (CC&B).
8. Development of data migration processes to convert existing information sources to the new home data stores in Asset Suite and G/Technology.
9. Integration of work order management and financial management processes.
10. Development and implementation of integration between the G/Technology network connectivity data with network modeling tools.
11. Development of data Integration processes to record “as designed” asset records from internal and external sources into Asset Suite and G/Technology.

5.0 TYPE OF PROJECT

Choose One (Restoration, Improved or Alternate)
Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved
This work will follow 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.

6.0 PRELIMINARY ENGINEERING

Is architectural and engineering (A&E) funding required to help define the intended scope of work?

Yes, architectural and engineering funding required to help define the intended scope of work

7.0 CODES AND STANDARDS

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 (BBA) 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.

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- 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.

8.0 COST ESTIMATE

Cost estimates for this work are prepared in conformance with class 5 accuracy, which is between - 50% and +100% of the final project cost. The estimate includes and is not limited to materials, construction labor and equipment, engineering, management, and contingencies.

Component Description	Quantity	Unit Price	Total Cost	Permanent Work %	Permanent Work Total
Asset Management Licenses	750 EA	\$1,610	\$1,207,500	92%	\$1,110,900
Asset Management Configurations	2 EA	\$1,565,000	\$3,130,000	92%	\$2,879,600
Asset Management Integrations	4 EA	\$1,050,200	\$4,200,800	92%	\$3,864,736
Site Visits	100 EA	\$300	\$30,000	92%	\$27,600
Architectural and Engineering Assessment	5760 Hours	\$350	\$2,016,000	92%	\$1,854,720
Permanent Work Totals					\$9,737,556

9.0 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, which must be approved by FEMA prior to construction activities.