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: Informative Motion on Consolidated Scopes of Work and Request for Confidentiality and Supporting Memorandum of Law**

INFORMATIVE MOTION ON CONSOLIDATED SCOPES OF WORK 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 submits the following:

I. Consolidated 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 directive 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. On April 14, 2021, PREPA filed a *Motion in Compliance with the Resolution and Order Entered on March 26, 2021*, which included a list of projects under the categories of transmission, distribution, and substations. PREPA submitted the list of projects to the Energy Bureau at least thirty (30) calendar days before their submittal to COR3 and/or FEMA, aligning with the March 26th Order. The list of projects submitted by PREPA included "Culebra SUB 3801" and "Vieques SUB 2501."

3. Then, on April 22, 2021, the Energy Bureau issued a Resolution and Order ("April 22nd Order"). It determined that additional information was required to thoroughly evaluate the projects submitted by PREPA and evaluate its compliance with the March 26th Order. The Energy Bureau ordered PREPA to provide detailed information: (i) on or before April 28, 2021, for each project already submitted to COR3 and/or FEMA; and (ii) on or before May 21, 2021, for each project in that will be submitted to COR3 and/or FEMA under the different project categories. It also ordered PREPA to include a list of all the substations to be relocated to mitigate possible future flooding damages.

4. In compliance with the April 22nd Order, on April 28, 2021, PREPA filed a *Motion in Compliance with the Resolution and Order entered on April 22, 2021*. PREPA submitted the Scopes of Work ("SOW") provided to COR3 and FEMA in compliance with the April 22nd Order. Among the SOWs submitted to this Energy Bureau were the "Culebra SUB 3801" and "Vieques SUB 2501" T&D Projects.

5. On June 8, 2021, the Energy Bureau entered a Resolution and Order in which it determined that the majority of the SOWs for T&D projects submitted by PREPA were necessary to improve the system's reliability ("June 8th Order"). Therefore, it approved the majority of the

projects presented in the April 28th Submission, including the "Culebra SUB 3801" and "Vieques SUB 2501" T&D Projects SOWs.[3]

6. Thereafter, on July 29, 2022, LUMA filed a *Motion Submitting Four Scopes of Work and Updated List of Projects and Request for Confidentiality and Supporting Memorandum of Law* ("July 29th Motion"). In the July 29th Motion, LUMA submitted four (4) SOWs for T&D Projects for the Energy Bureau's review and approval prior to submitting them to COR3 and FEMA. The SOWs submitted by LUMA included the "Costa Sur TC - Phase II" T&D Project.

7. On August 25, 2022, the Energy Bureau issued a Resolution and Order where it determined that most of the SOWs for T&D projects submitted by LUMA were necessary to improve the system's reliability ("August 25th Order"). Therefore, it approved most of the projects presented in the August 30th Motion, including the "Costa Sur TC - Phase II" T&D Project SOW.

8. Meanwhile, on August 10, 2022, LUMA filed a *Motion Submitting Two Scopes of Work and Updated List of Projects and Request for Confidentiality and Supporting Memorandum of Law*. Therein, LUMA submitted two (2) SOWs for T&D Projects for its review and approval before submitting them to COR3 and FEMA ("August 10th Motion"). Among the SOWs submitted to this Energy Bureau was the "Aguirre TC - Phase II" T&D Project.

9. On August 25, 2022, the Energy Bureau entered a Resolution and Order in which it determined that the SOWs for T&D projects submitted by LUMA in the July 29th and August 10th motions were necessary to improve the system's reliability ("August 25th Order"). Therefore, it

[3] On June 9, 2022, FEMA cost obligated the "Culebra SUB 3801" and "Vieques SUB 2501" T&D Projects. LUMA informed the Energy Bureau of FEMA's approval in the *Motion Submitting Four FEMA Approvals of Project and Request for Confidential Treatment* filed on June 18, 2022. These versions of the "Culebra SUB 3801" and "Vieques SUB 2501" T&D Projects were labeled by FEMA as Version 0.

approved all the projects presented in the August 10th Motion, including the "Aguirre TC - Phase II" T&D Project SOW.

10. Then, on November 11, 2022, LUMA filed a *Motion Submitting Sixty Scopes of Work and Updated List of Projects and Request for Confidentiality and Supporting Memorandum of Law* ("November 11th Motion"). LUMA submitted sixty (60) SOWs for T&D Projects for the Energy Bureau's review and approval prior to submitting them to COR3 and FEMA. The SOWs submitted by LUMA included the "New Substation Culebra," "New Substation Vieques," "Guayanilla TC- New Substation," and "Salinas TC- New Substation" T&D Projects.

11. On December 10, 2022, the Energy Bureau entered a Resolution and Order in which it determined that the sixty (60) SOWs for T&D projects submitted by LUMA were necessary to improve the system's reliability ("December 10th Order"). Therefore, it approved all the projects presented in the November 11th Motion, including the "New Substation Culebra," "New Substation Vieques," "Guayanilla TC- New Substation," and "Salinas TC- New Substation" T&D Project SOWs.

12. Recently, LUMA has determined that it is in the best interest of the efficiency of the T&D System and, in terms of costs, to consolidate some of the T&D Projects SOWs that the Energy Bureau has already approved. The consolidation of the projects does not substantively change the scope of work for those projects, and the estimated costs remain within the Class 5 level estimate[4]. However, the consolidation of the T&D Projects aids LUMA in maximizing

[4] A Class 5 level cost estimate can be between -50% and +100% of the final project cost. The estimate includes materials, construction labor and equipment, engineering, management, and contingencies.

FEMA Hazard Mitigation funding. For example, new substations eliminate a single point of failure.

13. As such, LUMA submits as *Exhibit 1* to this Motion the "Culebra 3801 & New Culebra Substation 3802," "Vieques 2501 & New Vieques Substation 2502,"[5] "Costa Sur TC (Guaypao TC) – Phase II & III," and "Aguirre TC (El Coquí) – Phase II and Phase III" T&D Projects Current SOW Summaries, which reflect the consolidation of projects as explained in the table below:

Original SOW	New Consolidated SOW
Culebra SUB 3801	Culebra 3801 & New Culebra Substation 3802
New Substation Culebra	
Vieques SUB 2501	Vieques 2501 & New Vieques Substation 2502
New Substation Vieques	
Costa Sur TC - Phase II	Costa Sur TC (Guaypao TC) – Phase II & III
Guayanilla TC- New Substation	
Aguirre TC - Phase II	Aguirre TC (El Coquí) –Phase II and Phase III
Salinas TC- New Substation	

15. 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

[5] The "New Culebra Substation 3802" and "Substation 2501 Vieques" T&D Projects SOWs are labeled Version 1. These consolidated SOWs will be reviewed by FEMA. However, when approved, LUMA will receive a Cost Obligation under the same FAASt number as the original "Culebra SUB 3801" and "Vieques SUB 2501" T&D Projects. The amount obligated for Version 0 stays the same, FEMA will then send a new amount obliged for Version 1.

confidentiality. LUMA submits below its Memorandum of Law stating the legal basis for which the unredacted version of *Exhibit 1* should be filed under seal of confidentiality. As will be explained below, the SOWs in *Exhibit 1*- i.e., "New Culebra Substation 3802," "Substation 2501 Vieques," "Costa Sur TC – Phase II & III," and "Aguirre TC (El Coquí) – Phase II and Phase III"- 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.

16. 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

17. 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).

18. 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).

19. 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.

20. 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.

21. 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).

22. 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

23. 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.[6] In at least two proceedings on Data Security,[7] and Physical Security,[8] this Energy Bureau, *motu proprio*, has conducted proceedings confidentially, thereby recognizing the need to protect CEII from public disclosure.

24. Additionally, this Energy Bureau has granted requests by LUMA to protect CEII in this proceeding and 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

[6] *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).

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

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

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

25. 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.

26. 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.

27. 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.*

28. 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").[9] 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).[10]

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[9] 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.

[10] 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

29. The SOWs contain diagrams that qualify as CEII because they contains information on the engineering and design of critical infrastructure, as existing and proposed, relating to the transmission of electricity, which is provided in sufficient detail that it could potentially be helpful to a person planning an attack on this or other energy infrastructure facilities interconnected with or served by this facility and equipment. In addition, the SOWs with CEII in *Exhibit 1* qualify as CEII because each of these documents contains the express coordinates to power transmission and distribution facilities (18 C.F.R. § 388.113(iv)), and these specific coordinates could potentially be helpful to a person planning an attack on the energy facilities listed as part of these SOWs. The information identified as confidential in this paragraph is not common knowledge and has not been made available to the public.. Therefore, it is respectfully submitted that, on balance, the public interest in protecting CEII weighs in favor of protecting the relevant portions of the SOWs with CEII in Exhibit 1 from disclosure, given the nature and scope of the details included in those portions of the Exhibit.

30. 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

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

materials constitute CEII that should be maintained confidentially to safeguard their integrity and protect them from external threats.

31. In addition, each SOWs in *Exhibit 1* contains 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

32. 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	Culebra 3801 & New Culebra Substation 3802	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	December 28, 2023
		Pages 4, 5 and 6	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	December 28, 2023
Exhibit 1	Vieques 2501 & New Vieques Substation 2502	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	December 28, 2023
		Pages 4, 6 and 7	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	December 28, 2023
Exhibit 1	Costa Sur TC (Guaypao TC) – Phase II & III	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	December 28, 2023

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
		4	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	December 28, 2023
Exhibit 1	Aguirre TC (El Coqui) – Phase II and Phase III	Page 1	Right to privacy (*see e.g.*, Const. ELA, Art. II, Sections 8 and 10)	December 28, 2023
		Page 4	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	December 28, 2023

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

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 28th day of December 2023.

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 PREPA's General Counsel, Lionel Santa, lionel.santa@prepa.pr.gov, and to Genera PR LLC, through its counsel of record, Jorge Fernández-Reboredo, jfr@sbgblaw.com and Alejandro López Rodríguez, alopez@sbglaw.com.

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Exhibit 1

Consolidated Scopes of Work
Redacted Version (Unredacted Version Submitted under Seal of Confidentiality)

FEMA Current Scope of Work Summary

Project Name: Culebra 3801 & New Culebra Substation 3802

Version: 1

Date: May 29, 2023

APPROVALS

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

Grant Manager's Name	Signature	Date
REDACTED	REDACTED	May 30, 2023
Department VP's Name	**Signature**	**Date**
REDACTED	REDACTED	May 30, 2023

Contents

Approvals 1
Overview 3
Introduction 3
Facilities 4
Project Scope 5
Preliminary Engineering 9
Codes and Standards 9
Cost Estimate 10
406 Hazard Mitigation Proposal 10
Environmental & Historic Preservation Requirements 10
Attachments 10
Document Revision History 11

Overview

Project Name:	Culebra 3801 & New Culebra Substation 3802
Project Type:	Restoration to Codes/Standards.
Region:	Fajardo
Damage Number:	425140
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number: *(Formerly Project Worksheet)*	165209

Introduction

The purpose of this document is to present a Current Scope of Work Summary with Cost Estimates to be reviewed by Puerto Rico Central Office for Recovery (COR3) and the Federal Emergency Management Agency (FEMA) for the Culebra 3801 & New Culebra Substation 3802 repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane.

Puerto Rico Electric Power Authority (PREPA) intends to restore this facility to its pre-disaster design, function and capacity per applicable codes and standards. PREPA is seeking SOW approval from COR3 and FEMA, to receive Public Assistance under DR-4339PR.

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

LUMA Energy provides the Operations and Maintenance of the electric service to Puerto Rico. 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	Voltage (kV)	Construction Year
Culebra Substation	3801	REDACTED	38 kV	1966
New Culebra Substation	3802	REDACTED	38kV	TBD

Facilities Description:

The Culebra Substation is part of the electric grid system for the Municipality of Culebra. While interconnected and inter-functional distribution feeders (sites) establish part of the electrical distribution system, the substation serves as the main hub for the system that serves the entire Island of Culebra.

The existing electrical infrastructure at Culebra substation 3801 includes aging infrastructure and presents reliability, safety, and corrosion issues. It also has many components that are obsolete and difficult to obtain spare parts. The new Culebra substation is an essential integration to bring the electrical infrastructure in Culebra to LUMA Energy and industry standards, improve system resiliency and reliability, mitigate safety hazards, and address environmental concerns.

The Culebra Substation sustained substantial damages due to Hurricanes Irma and Maria to the telecommunication control building, electrical equipment, structures, perimeter fence, and other infrastructure. With the proposed restoration of disaster damage on 3801 substation, it is proposed the creation of a new substation in Culebra as an essential integration in order to bring the electrical infrastructure in Culebra to LUMA Energy and industry standards, improve system resiliency and reliability, mitigate safety hazards, and address environmental concerns.

Project Scope

Scope of Work Description:

Version 0 - 425140 FAASt Culebra 3801

Introduction

The purpose of this document is to submit for approval the detailed Scope of Work ("SOW") to COR3 and FEMA for the Culebra Substation 3801 Project under DR-4339-PR Public Assistance. The document provides a description of the project including scope, schedule, and cost estimates as well as Environmental & Historical Preservation ("EHP") requirements and proposed 406 hazard mitigation work. LUMA is seeking approval from COR3 and FEMA for project funding to repair, restore, or replace the eligible facilities.

LUMA submits this detailed SOW pursuant to the Transmission and Distribution Operations & Maintenance Agreement between Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public Private Partnerships Authority ("P3A") and LUMA Energy, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A and provided herein as Appendix J which collectively provides the necessary consent for LUMA Energy, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the Transmission and Distribution System submitted to FEMA.

The Culebra Substation is part of the electric grid system for the Municipality of Culebra. While interconnected and inter-functional distribution feeders (sites) establish part of the electrical distribution system, the substation serves as the main hub for the system that serves the entire Island of Culebra.

Facilities List

Name	Number	GPS Start	GPS End	Voltage (kV)
Culebra Substation	3801	REDACTED	[redacted]	38

Project Scope of Work

The Culebra Substation sustained damages during Hurricanes Irma and Maria which caused damages at the telecommunication control building, electrical equipment, structures, perimeter fence, and other infrastructure. The following repairs will be implemented to modernize and harden the Culebra Substation.

Proposed 428 Public Assistance Scope of Work:

- Remove vegetation, non-vegetation debris from site and buildings including, but not limited to, fencing, electrical equipment, old telecommunication equipment, and other items requiring replacement
- Replace two existing Distribution Protection Unit (DPU) feeder relays with SEL-751 relays directly in the 4.16 kV breaker cubicles. All controls and wiring will remain
- Build a new oil spill containment structure for the existing 38/4.16kV power transformer with a capacity of 110% of the transformer oil volume per LUMA codes and standards.
- Repair and replace the existing ground grid to ensure the substation grid passes ground grid integrity test on grounding connections.
- Install a new outdoor metal enclosure dedicated for telecommunication equipment and battery bank (48VDC)
- Replace the existing Supervisory Control and Data Acquisition (SCADA) and Remote
- Terminal Unit (RTU) inside the existing enclosure
- Replace existing telecommunications tower (120ft.) and microwave antenna
- Build one new concrete pad for the telecommunications enclosure
- Build a new concrete driveway for the mobile substation
- Perform minor repairs to the perimeter fence (203.35ft./ 61.98m.) including replacement
- of poles and gates.
- Implement animal and vegetation control measures and place gravel on yard

- Perform minor repairs to the existing Telecommunication room

Cost Estimate

Environmental and Permitting:	$259,974 (A&E Component (57.8%): $150,380)
Engineering Service & Design:	$236,538 (A&E Component (100%): $236,538)
Management:	$216,625 (A&E Component (62.5%):
Substation / Telecom:	$135,442)
Contingency:	$957,085
	$134,356

Work to be Completed (WTBC):	**$1,804,578**
A&E Deduction (Global A&E FAASt 335168):	**$ -522,360**
Project Total:	**$ 1,282,218**

Project Notes:
1. Please refer to document *165209-D4339PR-Detailed SOW-Culebra Substation 3801.pdf* for additional information regarding the Applicant submitted Scope of Work (SOW) for this project.
2. The A&E fees were deducted from this project as they are already obligated in Project 335168 – FAASt A&E PREPA.
3. The A&E fees were calculated and modified based on correspondence submitted by the Applicant on 04-May-2022. See document: *165209-D4339PR-Email - AE Calculation by Applicant 04-Mar-2022.pdf*
4. Please refer to Appendix G in document *165209-D4339PR-Detailed SOW-Culebra Substation 3801-Appendix A-M.zip*, for additional cost estimate information.

406 HMP Scope

Project number: 165209

Damage #425140; FAASt-Substation 3801 Culebra (Substation)

Applicant: PR Electric Power Authority (000-UA2QU-00)

Location: Culebra, Puerto Rico

GPS Latitude/Longitude: REDACTED

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding and power outage “loss of power” from Hurricane Maria. The incident caused damage to the electrical system, such as power generation plants, transmission and distribution lines, substations, communication systems, buildings, among other damages to the infrastructures owned, operated, and maintained by the Puerto Rico Electric Power Authority (PREPA).

The Culebra Substation 3801 was built approximately in 1960 and is located in the Municipality of Culebra Puerto Rico. The facility is a 38KV/4.16KV substation with a 3.2MVA transformer served off the 38 KV electrical sub-transmission line (TL 5400). The Sub-station steps down the voltage from 38KV to 4.16KV and serves 2 feeders that supplies the island. The substation received sustained damages to the telecommunication control building (electro-mechanical protection relays, SCADA, battery bank, battery charger, among others), electrical equipment, structures, perimeter fence, and other infrastructure. According to the information provided by the Applicant, due to the high velocity hurricane winds, loss of power and prolonged heavy rain was the main cause of the damages of the facility.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, the installation of a new Back-Up Power Generator to provide continuous power to the circuits breakers to allow PREPA remotely operate the system in the event of a distribution line failure. This mitigation measures have the ability of recharge the batteries avoiding the battery discharge drainage effect and loss of function of the communication and control systems. The above mitigation measures will protect and make the affected elements more resistant to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

In order to prevent or reduce future damages from similar events, the applicant proposed the following mitigation measures:

Mitigation Measures *(Supplement)*

1. To avoid damage to the battery bank by the discharge drainage effect, the Applicant is proposing as a mitigation measure, the installation of a new Standby Emergency Power Generator [48KW, 120/240V, aluminum enclosure, with an Automatic Transfer Switch (ATS)] that will provide continuous power to the circuits breakers that allow PREPA remotely operate the system in the event of a distribution line failure. This mitigation measures have the ability of recharge the batteries avoiding the battery discharge drainage effect and loss of function of the communication and control systems. **Note:** Prior to the purchase of the generator, the Applicant must consider that the substation is located less than a mile from the sea, so the exposed equipment and materials must be resilient to the environmental conditions.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 72,835.00
+ HM (Applicant A&E, Management & General Conditions) =	$ 104,556.00
Hazard Mitigation Total Cost =	**$ 177,391.00**

HMP Cost-Effectiveness Calculations:

Project BCR (Benefit Cost Ratio):

BCR = (Total Hazard Mitigation Benefits / Total Hazard Mitigation Project Cost)

BCR = ($3,113,960.00 / $196,862.00) = **15.82**

The FEMA BCA tool is utilized to determine the mitigation project benefits, which is the present value of the sum of the expected annual avoided damages of all the mitigation actions or damage inventories over the project useful life, and the dollar amount is compared with the total mitigation cost to obtain the benefit cost ratio (BCR). A project is considered cost-effective when the BCR is equal to or greater than one (1.0).

* See Mitigation Profile Documents Tab for complete version of this HMP and supporting documents.

* Due to GM system constraints in the Mitigation Profile Cost Tab, there may be a discrepancy in the total dollar amount of the mitigation proposal (or, the cost effectiveness statement) cited in the Cost Tab of the project(s). Whenever a difference between the Mitigation Cost Tab and the completed HMP cost occurs, the correct dollar amount of the grant proposal will default to the amount of 406 funding cited on the actual HMP document (and the Cost Summary Spreadsheet) uploaded into the Mitigation Profile Documents Tab.

* This project Hazard Mitigation costing / soft cost / factor methodologies followed the same procedures provided in the cost estimates of the PA portion of the project.

Version 1 - New Culebra Substation:

This Version (v1) purpose is to include the addition of the New Culebra substation (3802). Version 0 (obligated) only captured the restoration of the damaged facility (Culebra 3801) back to its pre-disaster condition with the required upgrades to comply with applicable codes and standards.

Version 1 captures the proposed project to improve system reliability with the replacement of aged and deteriorated electrical equipment, currently in a higher risk of failure, subsequently affecting the citizens. Under contingency conditions, will be included the integration of new circuit breakers and power transformer replacement to increase operational flexibility and provide alternate sources of electrical service.

This infrastructure will provide services to:

- Line 5400 from Vieques
- Line 5400 to Culebra 3801 substation
- New T1 38/4.16 kV, 8.4/11.2/14 MVA capacity, Delta -Wye transformer

Proposed Transmission 38 kV Infrastructure

- Construction of a new station.

Proposed Distribution Substation Reconstruction

- Major equipment requirements for Culebra new substation:
  - One (1) 38/4.16 kV transformer with an 8.4/11.2/14 MVA capacity, Delta -Wye
  - One (1) 15 kV main breaker, 2,000 A
  - Four (4) 15 kV breakers, 1,200 A (2 feeders. 1 service station transformer and MTU and 1 spare)
  - One (1) 15 kV breaker for a mobile substation, 2,000A
- Install ION meter and related metering equipment.
- Provide for current measurement for all phases of each distribution feeder.
- Provide space provision for future 1,200 A breaker.

Type of Project:

Choose One (Restoration, Improved or Alternate) If improved, provide the changes in facility size, capacity, dimension, or footprint. If alternate, provide rationale for recommendations.
Restoration to Codes/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.

Cost Estimate (This cost estimate does not include version 0 obligated cost).

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:	**$4.3 M**
Estimated Budget for Procurement & Construction:	**$34.7 M**
Estimated Overall Budget for the Project:	**$39.1 M**

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

LUMA will develop 406 Hazard Mitigation proposals during the preliminary engineering phase that are consistent with the damages.

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 preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction.

Attachments

Document Name	Description
<N/A>	Project Cost Estimates

Document Name	Description
<N/A>	Engineering Studies and Designs
<N/A>	Location Maps and Site Picture

Document Revision History

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

Rev.	Effective Date	Brief Description of Change
0		Initial Release
1	May 26, 2023	Updated to include new Vieques substation

FEMA Current Scope of Work Summary

Project Name: Vieques 2501 & New Vieques Substation 2502

Version:1

Date: May 29, 2023

APPROVALS

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

Grant Manager's Name	Signature	Date
REDACTED	REDACTED	May 30, 2023
Department VP's Name	**Signature**	**Date**
REDACTED	REDACTED	May 30, 2023

Contents

Approvals 1
Overview 3
Introduction 3
Facilities 4
Project Scope 5
Preliminary Engineering 8
Codes and Standards 8
Cost Estimate 9
406 Hazard Mitigation Proposal 9
Environmental & Historic Preservation Requirements 9
Attachments 10
Document Revision History 11

Overview

Project Name:	Vieques 2501 & New Vieques Substation 2502
Project Type:	Restoration to Codes/Standards.
Region:	Fajardo
Damage Number:	425150
Damaged Inventory/Asset Category:	Islandwide Substations
FEMA Project Number: *(formerly Project Worksheet)*	165225

Introduction

The purpose of this document is to present a Current Scope of Work Summary with Cost Estimates to be reviewed by Puerto Rico Central Office for Recovery (COR3) and the Federal Emergency Management Agency (FEMA) for the Vieques 2501 & New Vieques Substation 2502 repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane.

Puerto Rico Electric Power Authority (PREPA) intends to restore this facility to its pre-disaster design, function and capacity per applicable codes and standards. PREPA is seeking SOW approval from COR3 and FEMA, to receive Public Assistance under DR-4339PR.

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

LUMA Energy provides the Operations and Maintenance of the electric service to Puerto Rico. 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 Coordinates	Voltage (kV)	Construction Year
Vieques Substation	2501	REDACTED	38kV	1974
New Vieques Substation	**2502**	REDACTED	**38kV**	**TBD**

Facilities Description:

The distribution system in the island of Vieques is currently served by a single distribution substation. The Vieques Substation is part of the electric grid system for the Municipality of Vieques. While interconnected and inter-functional distribution feeders (sites) establish part of the electrical distribution system, the substation serves as the main hub for the system that serves the entire Island of Vieques.

The Vieques Substation sustained substantial damages due to Hurricanes Irma and Maria to the telecommunication control building, electrical equipment, structures, perimeter fence, and other infrastructure. Along with the proposed restoration of disaster damage on 2501 substation, it is also proposed the creation of a new substation in Vieques (2502) as an essential integration in order to bring the electrical infrastructure in Vieques to LUMA Energy and industry standards, improve system resiliency and reliability, mitigate safety hazards, and address environmental concerns.

Project Scope

Scope of Work Description:

Version 0- 425150 FAASt Vieques Substation 2501

Proposed 428 Public Assistance Scope of Work:

A. Remove vegetation, non-vegetation debris from site and buildings including, but not limited to, fencing, electrical equipment, old telecommunication equipment, and other items requiring replacement.

B. Replace three existing Distribution Protection Unit (DPU) feeder relays with SEL-751 relays directly in the distribution 4.16 kV breaker cubicles. All existing controls and wiring will remain.

C. Build a new oil spill containment structure for the existing 38/4.16kV power transformer with a capacity of 110% of the transformer oil volume per codes and standards.

D. Repair and replace the existing ground grid to ensure the substation grid passes ground grid integrity test on grounding connections.

E. Install a new outdoor metal enclosure dedicated for telecommunication equipment and battery bank (48VDC)

F. Replace the existing Supervisory Control and Data Acquisition (SCADA) and Remote Terminal Unit (RTU) inside the existing enclosure

G. Replace existing microwave antenna on the existing telecommunication tower

H. Build one new concrete pad for the telecommunications enclosure

I. Perform minor repairs to the concrete driveway of the mobile substation

J. Perform minor repairs to the perimeter fence (336.60 ft./102.29m) including replacement

K. of poles and gates

L. Implement animal and vegetation control measures and place gravel on yard

Cost Estimate

Environmental and Permitting:	$255,114 (A&E Component (57.9%): $147,783)
Engineering Service & Design:	$248,676 (A&E Component (100%): $248,676)
Management:	$212,381 (A&E Component (63.7%): $135,304)
Substation / Telecom:	$896,704
Contingency:	$127,999
Total $1,740,874	

Work to be Completed (WTBC):	$1,740,874
A&E Deduction (Global A&E FAASt 335168):	-$531,763
Project Total:	$1,209,111

Project Notes:

1. Please refer to document 165225-Detailed SOW-Vieques Substation 2501.pdf for additional information regarding the Applicant submitted Scope of Work (SOW) for this project.

2. The A&E fees were deducted from this project as they are already obligated in Project 335168 – FAASt A&E PREPA.

3. The A&E fees were calculated and modified based on correspondence submitted by the Applicant on 04-May-2022. See document: 165225 - DR4339-PR - Email - A&E Calculation by Applicant 04-Mar-2022.pdf

4. Please refer to Appendix G in document 165225-Detailed SOW-Appendix A-K.zip, for additional cost estimate information.

406 HMP Scope

Project number: 165225

Damage #425150; FAASt-Substation 2501 Vieques (Substation)

Applicant: PR Electric Power Authority (000-UA2QU-00)

Location: Vieques, Puerto Rico

GPS Latitude/Longitude: REDACTED

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding and power outage “loss of power” from Hurricane Maria. The incident caused damage to the electrical system, such as power generation plants, transmission and distribution lines, substations, communication systems, buildings, among other damages to the infrastructures owned, operated, and maintained by the Puerto Rico Electric Power Authority (PREPA).

The Vieques Substation 2501 was built approximately in 1970 and is located in the Municipality of Vieques Puerto Rico. The facility is a 38KV/4.16KV substation with a 7.5MVA transformer served off the 38 KV electrical sub-transmission line (TL 5400). The Substation steps down the voltage from 38KV to 4.16KV and serves 3 feeders that supplies the island. The substation received sustained damages to the telecommunication control building (electro-mechanical protection relays, SCADA, battery bank, battery charger, among others), electrical equipment, structures, perimeter fence, and other infrastructure. According to the information provided by the Applicant, due to the high velocity hurricane winds, loss of power and prolonged heavy rain was the main cause of the damages of the facility.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, the installation of a new Back-Up Power Generator to provide continuous power to the circuits breakers to allow PREPA remotely operate the system in the event of a distribution line failure. This mitigation measures have the ability of recharge the batteries avoiding the battery discharge drainage effect and loss of function of the communication and control systems. The above mitigation measures will protect and make the affected elements more resistant to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

In order to prevent or reduce future damages from similar events, the applicant proposed the following mitigation measures:

Mitigation Measures (Supplement)

1. To avoid damage to the battery bank by the discharge drainage effect, the Applicant is proposing as a mitigation measure, the installation of a new Standby Emergency Power Generator [48KW, 120/240V, aluminum enclosure, with an Automatic Transfer Switch (ATS)] that will provide continuous power to the circuits breakers that allow PREPA remotely operate the system in the event of a distribution line failure. This mitigation measures have the ability of recharge the batteries avoiding the battery discharge drainage effect and loss of function of the communication and control systems. Note: Prior to the purchase of the generator, the Applicant must consider that the substation is located less than a mile from the sea, so the exposed equipment and materials must be resilient to the environmental conditions.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 72,835.00
+ HM (Applicant A&E, Management & General Conditions) =	$ 105,474.00
Hazard Mitigation Total Cost =	$ 178,309.00

HMP Cost-Effectiveness Calculations:

Project BCR (Benefit Cost Ratio):

BCR = (Total Hazard Mitigation Benefits / Total Hazard Mitigation Project Cost)

BCR = ($6,721,062.00 / $196,862.00) = 34.14

The FEMA BCA tool is utilized to determine the mitigation project benefits, which is the present value of the sum of the expected annual avoided damages of all the mitigation actions or damage inventories over the project useful life, and the dollar amount is compared with the total mitigation cost to obtain the benefit cost ratio (BCR). A project is considered cost-effective when the BCR is equal to or greater than one (1.0).

* See Mitigation Profile Documents Tab for complete version of this HMP and supporting documents.

* Due to GM system constraints in the Mitigation Profile Cost Tab, there may be a discrepancy in the total dollar amount of the mitigation proposal (or, the cost effectiveness statement) cited in the Cost Tab of the project(s). Whenever a difference between the Mitigation Cost Tab and the completed HMP cost occurs, the correct dollar amount of the grant proposal will default to the amount of

406 funding cited on the actual HMP document (and the Cost Summary Spreadsheet) uploaded into the Mitigation Profile Documents Tab.

* This project Hazard Mitigation costing / soft cost / factor methodologies followed the same procedures provided in the cost estimates of the PA portion of the project.

Version 1- 425150 – NEW Vieques Substation 2502

The new substation land is located 1.5 miles from the existing substation. This site has access through KM 2.4 PR-200, Vieques, Puerto Rico (REDACTED) and has an estimated area of 120.774 square meters (m^2) of flat topography where minimum leveling is required. This infrastructure is intended to provide services to:

- Line 5400 from Daguao TC.
- Line 5400 to Vieques 2501 substation.

I. New Vieques substation 2502:

A. Construction of new station.

1. Complete all required work related to the installation of various forms of concrete foundations such as pads, slabs on grade, containment pits, etc. in an approximate total area of 120 m^2. Typical boreholes will be approximately 4-8 Inches in diameter and up to 25ft in depth. Refer to example below.
2. Construction of 100 SF generator PAD (GEN SET ready) Slab on grade, 8" thick heavy industrial reinforced.
3. Construction of (1) Telecommunication tower within 9-10 meters of the substation control room.
4. Provide and install (1) Communications transmission tower, radio towers self- supporting, wind load 70 mph basic wind speed, 120' high.

II. Infrastructure Equipment:

A. Provide and install (1) 38/4.16 kV transformer with an 8.4/11.2/14 MVA capacity, Delta -Wye.

B. Provide and install (1) 15 kV Gas-Insulated Switchgear (GIS) main breaker, 2,000 Amps.

C. Provide and install (5) 15 kV GIS breakers, 1,200 A.

D. Provide and (1) Install ION meter and related metering equipment.

E. Provide for current measurement for all phases of each distribution feeder.

F. Provide space provision for future 1,200 A breaker.

G. Provide and install (2) Motor-Operated Disconnects (MODs).

H. Provide and Install (1) 125VDC battery bank for the Protection, Automation, and Control Requirements.

I. Provide and install 1 mobile substation with (1) 15 kV GIS breaker, 2,000A.

Type of Project:

Choose One (Restoration, Improved or Alternate) If improved, provide the changes in facility size, capacity, dimension, or footprint. If alternate, provide rationale for recommendations.
Restoration to Codes/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

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.

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).

Cost Estimate (This cost estimate does not include version 0 obligated cost).

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:	$ 4.16 M
Estimated Budget for Procurement & Construction:	$33.75 M
Estimated Overall Budget for the Project:	**$37.91 M**

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

LUMA will develop 406 Hazard Mitigation proposals during the preliminary engineering phase that are consistent with the damages.

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 preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction.

Attachments

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

Document Revision History

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

Rev.	Effective Date	Brief Description of Change
0	July 7, 2023	Initial Release
1	<add rows as required>	

FEMA Current Scope of Work Summary

Project Name: Costa Sur TC (Guaypao TC) – Phase II & III

Revision:v1

Date: May 19, 2023

APPROVALS

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

Grant Manager's Name	Signature	Date
REDACTED	REDACTED	May 20, 2023
Department VP's Name	**Signature**	**Date**
REDACTED	REDACTED	May 20, 2023

Contents

Approvals 1
Overview 3
Introduction 3
Facilities 4
Project Scope 5
Preliminary Engineering 8
Codes and Standards 8
Cost Estimate 9
406 Hazard Mitigation Proposal 9
Environmental & Historic Preservation Requirements 9
Attachments 9
Document Revision History 10

Overview

Project Name:	Costa Sur TC (Guaypao TC) – Phase II & III
Project Type:	Restoration to codes/ standards
Region:	Ponce
Damage Number:	1242532
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number: *(formerly Project Worksheet)*	682834

Introduction

The purpose of this document is to present a Current Scope of Work Summary with Cost Estimates to be reviewed by the Puerto Rico Central Office for Recovery (COR3) and the Federal Emergency Management Agency (FEMA) for the Costa Sur TC (Guaypao TC) - Phase II & III repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane.

Puerto Rico Electric Power Authority (PREPA) intends to restore this facility to its pre-disaster design, function and capacity per applicable codes and standards. PREPA is seeking SOW approval from COR3 and FEMA, to receive Public Assistance under DR-4339PR.

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

LUMA Energy provides the Operations and Maintenance of the electric service to the entire island of Puerto Rico. 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	Description	GPS Coordinates	Voltage (kV)	Construction Year
Costa Sur Power Plant - Transmission Center	Damaged facility	REDACTED	230 kV, 115 kV & 38kV.	1973
Guaypao TC (New Substation)	New facility	REDACTED	230kV & 115 kV	TBD

Facilities Description:

Costa Sur Power Plant - Transmission Center 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 severely affected by Hurricane Maria. The existing Costa Sur TC substation have great cascading impact on the Puerto Rico transmission network due to its size and the importance of the generators connected to its grid. Because of this impact, it was recommended, a reconfiguration of this critical transmission station into two stations, in order to restore the Costa Sur Power Plant to its pre disaster function and capability complying with up-to-date industry standards.

Construction of a new 230 kV transmission center, to be named Guaypao TC, will allow the adequate segregation of critical interconnecting transmission lines and reduce the risk of cascading electrical system failures. The new transmission station will be built to effectively reconfigure the critical Costa Sur TC into two substations, with an enhanced network interconnection among transmission centers, substations, and transmission control centers. There are transmission lines emanating out of Costa Sur TC that are currently considered overloaded. The proposed configuration corrects the generation load balance mismatch post substation outage from 630 MW to 142 MW.

Project Scope

Scope of Work Description:

A. Phase II (included in this SOW /FAAst # 682834):

This phase includes the 38 kV and 115 kV reconstruction work in their respective existing yards, within the existing Costa Sur facility. Major work to be performed in phase 2 includes:

- Replacement of the existing infrastructure and transmission breakers according to the new proposed 115 kV single line diagram with a gas insulated switchgear (GIS) in breaker-and-a-half configuration.
- Replacement of the existing infrastructure and transmission breakers according to the new proposed 38 kV single line diagram, with a gas insulated switchgear (GIS) in breaker-and-a-half configuration.
- Replace the 230 supply cables for autotransformer Bank #1.
- Flood mitigation for 115 kV and 38 kV sites due to flood zone location.[1]
- Construction of new control facilities for 115 kV and 38 kV to include protection, control, and metering equipment.[2]
- Relocation of Telecommunications tower infrastructure and associated control room.
- Replace in kind of the existing Bank #1: 115/38 kV, 60/80/100/112 MVA transformer with new one.
- Replace the existing Bank #2: 115/38 kV, 60/80/100/112 MVA transformer with a new one. This bank has 30 years of service and will be kept as an on-site spare in a pad.
- Assure that all transformers comply with flooding mitigation.
- Provide a spare 230/115 kV transformer on a pad on site.
- Provide Emergency Generator needed at site.
- Connect Low sides of the 230/115 kV autotransformers to different bays and different adjacent buses to increase system reliability under contingencies at either bus.
- Connect Low and high sides of the 115/38 kV autotransformers to different bays and different adjacent buses, on their respective connected switchyards, to increase system reliability under contingencies at either bus.

B. Phase III (New Guaypao substation):

This phase captures the addition of a new substation to be called “Guaypao TC”:

- Construction of a new 230 kV transmission center, as a measure to allow for more adequate segregation of critical interconnecting transmission lines and reduce the risk of cascading failures.
- Provide and install New 4-breaker ring bus to provide services to generation units 5 and 6.

With the work to be performed in phases II and III, it is intended to create a new configuration for the Costa Sur transmission and sub transmission infrastructure. The proposed configuration is as follows:

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[1] Flood mitigation includes elevating Systems and Equipment. The elevation will be determined by a Licensed Civil Engineer following the ASCE 24-14 Flood Design Class 4 guidelines. that establish a minimum elevation of BFE +2 ft or DFE, or 500-year flood elevation, whichever is higher.

[2] Automation & SCADA design work at Costa Sur TC substation consists of adding a redundant Substation Automation System (SAS) based on the Real-Time Automation Controller (RTAC, SEL-3555) system with embedded HMI. The embedded HMI and local display will provide consolidated local metering, annunciation, and control for the site. A software control philosophy utilizing the IEC61850 standard will be implemented. The existing RTU system and associated equipment will be integrated through communication links to the new RTAC system for the consolidation of the remaining SCADA points no affected by this project. A communication link between Costa Sur TC substation and the LUMA’s Energy Management System (EMS) meeting the standard requirements is to be designed by the Telecommunication Group. The Architect and Engineering (A&E) firm will complete all required engineering and design activities for the substation mentioned above in addition to office and site quality assurance testing relating to the design.

Costa Sur TC 230 kV Infrastructure:

Breakers will constitute a breaker-and-a-half configuration with a total of fifteen (15) GCBs with services for:

- New Line to New Guaypao TC
- New Line to New Guaypao TC
- Line 51200 to Cambalache GP
- Line 50400 to Mayaguez TC
- Line 51100 to EcoEléctrica
- New T1 (Bank #1): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer
- New T2 (Bank #2): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer (currently out of service)
- New 4-breaker ring bus to provide services to generation units 5 and 6.
- New Line to generation ring bus
- Two (2) spare services for future use

Costa Sur TC 115 kV Infrastructure:

Breakers constitute a breaker-and-a-half configuration with a total of fifteen (15) GCBs with services for:

- Line 37100 to Guánica TC
- Line 40900 to PPG Demaco
- Line 39900 to Union Carbide
- New Line from Costa Sur to New Guaypao TC
- New T1 (Bank #1): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer
- New T2 (Bank #2): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer (currently out of service)
- New T3 (Bank #1): 115/38 kV, Delta-Wye, 60/80/100/112 MVA transformer
- T4 (Bank #2): 115/38 kV, Delta-Wye, 60/80/100/112 MVA transformer
- One (1) transformer for the E.S.S.T. and gas generation units
- One (1) spare service for future use
- Provide space for future bay expansion

Costa Sur TC 38 kV GIS infrastructure:

Fifteen (15) total breakers inside the GIS constitute a breaker-an-a-half bus with services for:

- Line 700 to Yauco HP No. 2.
- Line 8700 to Garzas HP No.2.
- Line 11800 to Corco Sect. (No. 1 and No. 2).
- Line 11700 to Corco Sect. (No. 1 and No. 2).
- Line 8600 to 5473 Nueva Refinería, 5471 Commonwealth Oil Refinery.
- Line 8400 to 5473 Nueva Refinería, 5471 Commonwealth Oil Refinery.
- Line 500 to Canas TC.
- Line 13100 to 5571 Air Products, 5574 Texaco.
- New T3 (Bank #1): 115/38 kV, Delta-Wye, 60/80/100/112 MVA transformer.
- T4 (Bank #2): 115/38 kV, Delta-Wye, 60/80/100/112 MVA transformer.
- Provide space for future bay expansion.

New Guaypao TC 230 kV Infrastructure:

Breakers constitute a breaker-and-a-half configuration with a total of twelve (12) GCBs with services for:

- Line 51300 to Ponce TC.
- Line 50200 to Manatí TC.
- Line 50300 to Aguirre SP.
- New Line to Costa Sur TC.
- New Line to Costa Sur TC.
- New T1: 230/115 kV, Wye-Wye, capacity to be confirmed.
- New T2: 230/115 kV, Wye-Wye, capacity to be confirmed.
- New 4-breaker ring bus to provide services to generation units 5 and 6.

- New Line to generation ring bus.
- Provide space for future bay expansion.

New Guaypao TC 115 kV Infrastructure:

Breakers constitute a breaker-and-a-half configuration with a total of nine (9) GCBs with services for:

- Line 36900 to Canas TC.
- Line 37000 to Ponce TC.
- New Line from Costa Sur to New Guaypao TC
- New T2: 230/115 kV, Wye-Wye, capacity to be confirmed.
- One (1) spare service for future use.
- Provide space for future bay expansion.

* It is important to mention that only the main breakers configuration is included in this SOW. Transmission Lines are being considered as part of other 428 projects.

** There are no distribution substations impacted by this project.

Type of Project:

Choose One (Restoration, Improved or Alternate) If improved, provide the changes in facility size, capacity, dimension, or footprint. If alternate, provide rationale for recommendations.
to its pre-disaster design, function and capacity per applicable 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.

Cost 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:	**$10.40 M**
Estimated Budget for Procurement & Construction:	**$151.58 M**
Estimated Overall Budget for the Project:	**$161.98 M**

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

LUMA will develop 406 Hazard Mitigation proposals during the preliminary engineering phase that are consistent with the damages.

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 preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction.

Attachments

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

Document Revision History

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

Rev.	Effective Date	Brief Description of Change
0	May 19 ,2023	Initial Release

FEMA Current Scope of Work Summary

Project Name: Aguirre TC (El Coqui) - Phase II and Phase III

Revision:0

Date: May 29, 2023

APPROVALS

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

Grant Manager's Name	Signature	Date
REDACTED	REDACTED	May 30, 2023
Department VP's Name	**Signature**	**Date**
REDACTED	REDACTED	May 30, 2023

Contents

Approvals 1
Overview 3
Introduction 3
Facilities 4
Project Scope 5
Preliminary Engineering 7
Codes and Standards 7
Cost Estimate 8
406 Hazard Mitigation Proposal 8
Environmental & Historic Preservation Requirements 8
Attachments 9
Document Revision History 9

Overview

Project Name:	Aguirre TC (El Coqui) - Phase II and Phase III
Project Type:	Restoration to codes/ standards
Region:	Ponce
Damage Number:	1257154
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number: *(formerly Project Worksheet)*	682121

Introduction

The purpose of this document is to present a Current Scope of Work Summary with Cost Estimates to be reviewed by Puerto Rico Central Office for Recovery (COR3) and the Federal Emergency Management Agency (FEMA) for the Aguirre TC – Phase II and Phase III repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane.

Puerto Rico Electric Power Authority (PREPA) Intend to restore this facility to its pre-disaster design, function and capacity per applicable codes and standards. PREPA is seeking SOW approval from COR3 and FEMA, to receive Public Assistance under DR-4339PR.

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

LUMA Energy provides the Operations and Maintenance of the electric service to the entire island of Puerto Rico. 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	GPS Coordinates	Voltage (kV)	Construction Year
Aguirre Transmission Center	REDACTED	230kV/115kV	1959
Aguirre Combined Cycle	REDACTED	Generator	1967
El Coqui Transmission Center – New Substation	REDACTED	230kV/115kV	TBD

Facilities Description:

The Aguirre TC switchyard consists of facilities that operate at nominal voltages of 230 kV and 115 kV. It includes:

- Fifteen (15) 230 kV circuit breakers:
  - Seven (7) oil circuit breakers (OCBs)
  - Eight (8) gas circuit breakers (GCBs)
- Two (2) 230/115 kV, 328/436/544 MVA autotransformers
- Two (2) steam generation units and two (2) combined cycle generation units connected at the 230 kV buses.
- Fourteen (14) 115 kV circuit breakers
  - Thirteen (13) OCBs
  - One (1) GCB
- Two (2) gas turbine generation units connected at the 115 kV bus.

The existing Aguirre TC substation has paramount impact on the Puerto Rico transmission network because of its size and the importance of the generators it connects to the grid. A NERC CIP-014 assessment identified the existing substation as being NERC CIP-014-2 impactive, meaning it is proven to have great cascading impact on the Puerto Rico transmission network due to its size and the importance of the generators connected to its grid. The study found that an Aguirre TC outage need nearly 75% (or more) of the system online generators remaining headroom to accommodate the lost generation, deeming it a critical substation. Because of this impact, it was recommended a reconfiguration of this critical transmission station into two stations to restore the Aguirre TC to its pre disaster function and capability complying with up-to-date industry standards.

Construction of a new 230 kV transmission center, to be named El Coqui TC, will allow the adequate segregation of critical interconnecting transmission lines, and reduce the risk of cascading electrical system failures. The new transmission station will be built to effectively reconfigure the critical Aguirre TC, into two substations, with an enhanced network interconnection among transmission centers, substations, and transmission control centers.

Transmission lines emanating out of Aguirre TC are currently considered overloaded. The proposed configuration reduces the generation load balance mismatch post substation outage.

Project Scope

Scope of Work Description:

The Aguirre Transmission Center restoration plan is divided into three construction phases (SOWs) , here is presented phase II and III:

A. Phase II – Aguirre TC (FAASt # 682121- Version 0)

230 kV and 115 kV infrastructure for phase 2 will keep its existing breaker and a half arrangement. This phase includes the following repairs to the existing Aguirre TC.

- Build electrical high-voltage interconnection points for renewable projects to be connected to the new service point in 115kV bay 4 and two service points in bay 5.
- New 115 kV control building to include protection, control, and metering equipment.
- New 230 kV control building to include protection, control, and metering equipment.
- Two (2) new Power PTs at site.
- Two (2) new Emergency Generator needed at site.
- Two (2) 230/115 kV transformers shall be replaced.
- Replacement of the existing Bank #1 and #2 units: 230/115 kV, 328/436/544 MVA transformer.

B. Phase III – Aguirre TC (FAASt # 682121- Version 1)

This phase captures the addition of a new substation to be called “El Coqui TC” location, and modifications to the Aguirre Combined Cycle facility (Aguirre CC).

- Construction of a new 230 kV transmission center as a mitigation measure. The new substation, to be named El Coqui TC, is considered to allow adequate segregation of critical interconnecting transmission lines and reduce the risk of cascading failures.
- Required modifications in the connections of Aguirre CC, with the need for new generator breakers.

With the work to be performed in phases II and III, it is intended to create a new configuration for the Aguirre TC transmission infrastructure. The proposed configuration is as follows.

Aguirre TC 230 kV Infrastructure:

Breakers will constitute a breaker-and-a-half configuration with a total of fifteen GCBs with services for:

- Line 50900 to Aguas Buenas TC
- Line 50300 to Costa Sur TC
- Line 50700 to El Coqui TC
- Line 51000 to El Coqui TC
- Two (2) generation units
- New T1 (Bank #1): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer
- New T2 (Bank #2): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer
- Two (2) spare services for future use

Aguirre TC 115 kV Infrastructure:

Breakers will constitute a breaker-and-a-half configuration with a total of fifteen GCBs with services for:

- Line 40300 to Santa Isabel TC
- Line 40100 to Jobos TC
- Line 40200 to El Coqui TC
- Line service for CIRO One (Utility Scale Renewable)
- Two (2) line services for Tranche 1 future projects
- New T1 (Bank #1): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer
- New T2 (Bank #2): 230/115 kV, Wye-Wye, 328/436/544 MVA autotransformer
- One (1) gas turbine generation unit
- One (1) spare service for future use

Aguirre CC 230kV Infrastructure:

Breakers will constitute a ring configuration with a total of four (4) GCBs with services for:

- Generator CC1
- Generator CC2
- New Line 1 to El Coqui TC
- New Line 2 to El Coqui TC

El Coqui TC 230 kV Infrastructure:

Breakers will constitute a breaker-and-a-half configuration with a total of twelve (12) GCBs with services for:

- Line 50700 to A.E.S.
- Line 51000 to Aguas Buenas TC
- Line 51000 to Aguirre TC
- Line 50700 to Aguirre TC
- New T1: 230/115 kV, Wye-Wye, capacity to be confirmed
- New T2: 230/115 kV, Wye-Wye, capacity to be confirmed

El Coqui TC 115 kV Infrastructure:

Breakers will constitute a breaker-and-a-half configuration with a total of nine (9) GCBs with services for:

- Line 40200 to Jobos TC
- Line service for Tranche 2 future projects
- Line service for Tranche 2 future projects
- Line 40200 to Aguirre TC
- New T1: 230/115 kV, Wye-Wye, capacity to be confirmed
- New T2: 230/115 kV, Wye-Wye, capacity to be confirmed

* It is important to mention that only the main breakers configuration is included in this SOW. Transmission Lines are being considered as part of other 428 projects.

Type of Project:

Choose One (Restoration, Improved or Alternate) If improved, provide the changes in facility size, capacity, dimension, or footprint. If alternate, provide rationale for recommendations.
Restoration to Codes/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

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.

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).

Cost 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:	**11.52 M**
Estimated Budget for Procurement & Construction:	**180.75 M**
Estimated Overall Budget for the Project:	**192.27 M**

406 Hazard Mitigation Proposal

406 Mitigation Opportunity Scope of Work

LUMA will develop 406 Hazard Mitigation proposals during the preliminary engineering phase that are consistent with the damages.

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 preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction.

Attachments

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

Document Revision History

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

Rev.	Effective Date	Brief Description of Change
0	May 22, 2023	Issued for Use