

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

NEPR Received: Dec 27, 2023 9:27 PM
--

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: Motion Submitting Three FEMA Approvals of Projects, Request for Confidential Treatment, and Supporting Memorandum of Law

**MOTION SUBMITTING THREE FEMA APPROVALS OF PROJECTS,
REQUEST FOR CONFIDENTIAL TREATMENT 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 Three FEMA Approvals and Request for Confidentiality

1. On March 26, 2021, this Honorable Puerto Rico Energy Bureau ("Energy Bureau") issued a Resolution and Order in the instant proceeding, ordering, in pertinent part, that the Puerto Rico Electric Power Authority ("PREPA") submit to the Energy Bureau the specific transmission and distribution projects ("T&D Projects" or "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 ("March 26th Order"). It also directed PREPA to continue reporting to the Energy Bureau and FEMA, within the next five years,

¹ Register No. 439372.

² Register No. 439373.

the progress of all ongoing efforts related to the approval of the submitted Projects not yet approved by the Energy Bureau. This Energy Bureau thereafter determined that this directive applied to PREPA and LUMA. *See* Resolution and Order of August 20, 2021.

2. On October 4, 2021, LUMA filed a *Motion Submitting Update List of Transmission and Distribution Projects and Thirty-Eight Scopes of Work*. Therein, LUMA submitted thirty-eight (38) SOWs for T&D Projects for its review and approval before submitting them to COR3 and FEMA (“October 4th Motion”). Among the SOWs submitted to this Energy Bureau was the “FAASt-EPC- [Monacillo TC] (Substations)” T&D Project³.

3. On October 18, 2021, the Energy Bureau entered a Resolution and Order in which it determined that the thirty-eight (38) SOWs for T&D projects submitted by LUMA were necessary to improve the system’s reliability (“October 18th Order”). Therefore, it approved all the projects presented in the October 4th Motion, including the “FAASt-EPC- [Monacillo TC] (Substations)” T&D Project. Further, the Energy Bureau ordered LUMA to seek the Energy Bureau’s approval immediately should the scope of the approved project change.

4. 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*, whereby LUMA submitted sixty (60) SOWs for T&D Projects for its review and approval before submitting them to COR3 and FEMA (“November 11th Motion”). The SOWs submitted

³ The “FAASt-EPC- [Monacillo TC] (Substations)” was originally submitted as the “Monacillo TC” T&D Project on October 4, 2021. LUMA filed a *Motion Submitting Amended Scope of Work and Request for Confidentiality and Supporting Memorandum of Law* on December 21, 2023, whereby it submitted the amended scope of work and name for the “FAASt-EPC- [Monacillo TC] (Substations)” T&D Project.

included the “FAASt-EPC- [Sabana Llana TC] (Substation)” and the “FAASt-EPC- [San Juan SP TC] (Substation)” T&D Projects.

5. On December 10, 2022, the Energy Bureau entered a Resolution and Order in which it approved all T&D projects submitted by LUMA in the November 11th Motion (“December 10th Order”). Further, the Energy Bureau ordered LUMA to submit a copy of the approval of the projects by COR3 and/or FEMA, which shall contain the costs obligated for each project within ten (10) days of receiving such approval.

6. In compliance with the October 18th and December 10th Orders, LUMA hereby submits copies of Three (3) approvals by FEMA issued on December 18, 2023.⁴ *See Exhibit 1* to this Motion. The document contains FEMA’s approvals and includes the costs obligated for each Project.

7. LUMA is submitting herein a redacted public version of the FEMA approvals (**Exhibit 1**) protecting confidential information associated with Critical Energy Infrastructure Information (“CEII”). As explained in this Motion, portions of the FEMA approvals of the “FAASt-EPC- [Monacillo TC] (Substations)”, “FAASt-EPC-[Sabana Llana TC] (Substation)” and the “FAASt-EPC-[San Juan SP TC] (Substation)” T&D Projects are protected from disclosure as CEII, *see, e.g.*, 6 U.S.C. §§ 671-674; 18 C.F.R. §388.113 (2020), and pursuant to the Energy Bureau’s Policy on Management of Confidential Information. *See* Energy Bureau’s Policy on Management of Confidential Information, CEPR-MI-2016-0009, issued on August 31, 2016, as amended by Resolution dated September 20, 2016.

⁴ It is important to note that LUMA acquires knowledge of any FEMA approval for a T&D Project once FEMA makes the information available via its grant portal.

II. Memorandum of Law in Support of Request for Confidentiality

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

8. 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).

9. 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).

10. Relatedly, in connection with the duties of electric power service companies, Section 1.10 (i) of Act 17-2019 provides that electric power service companies shall provide the

information requested by customers, except for confidential information in accordance with the Rules of Evidence of Puerto Rico.

11. Moreover, the Energy Bureau's Policy on Management of Confidential Information details the procedures that 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.

12. 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).

13. 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

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

under seal of confidentiality.⁵ In at least two Data Security and Physical Security proceedings,⁶ this Energy Bureau, *motu proprio*, has conducted proceedings confidentially, thereby recognizing the need to protect CEII from public disclosure.

15. Additionally, this Energy Bureau has granted requests by LUMA to protect CEII in connection with LUMA's System Operation Principles. *See* Resolution and Order of May 3, 2021, table 2 on page 4, Case No. NEPR-MI-2021-0001 (granting protection to CEII included in LUMA's Responses to Requests for Information). Similarly, in the proceedings on LUMA's proposed Initial Budgets and System Remediation Plan, this Energy Bureau granted confidential designation to several portions of LUMA's Initial Budgets and Responses to Requests for Information. *See* Resolution and Order of April 22, 2021, on Initial Budgets, Table 2 on pages 3-4, and Resolution and Order of April 22, 2021, on Responses to Requests for Information, table 2 on pages 8-10, Case No. NEPR-MI-2021-0004; Resolution and Order of April 23, 2021, on Confidential Designation of Portions of LUMA's System Remediation Plan, table 2 on page 5, and Resolution and Order of May 6, 2021, on Confidential Designation of Portions of LUMA's Responses to Requests for Information on System Remediation Plan, table 2 at pages 7-9, Case No. NEPR-MI-2020-0019.

⁵ *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. However, *see* Resolution and Order of February 12, 2021, reversing in part, grant of confidential designation).

⁶ *In re Review of the Puerto Rico Electric Power Authority Physical Security Plan*, NEPR-MI-2020-0018.

16. Similarly, the Energy Bureau has granted LUMA's requests for confidential treatment of portions of SOWs submitted for approval in the present case. Notably, the Energy Bureau designated portions of SOWs as confidential CEII in its Resolution and Order of February 22, 2023, *see* Table 1 on page 3, Resolution and Order of April 5, 2023, *see* Table 1 on page 4, and Resolution and Order of May 5, 2023, *see* table 1 at page 3, and Resolution and Order of August 30, 2023, *see* table 1 at page 3. Likewise, the Energy Bureau has granted LUMA's request for confidential treatment of portions of FEMA Approvals of Projects submitted for consideration and authorization. Furthermore, this Energy Bureau designated portions of submitted FEMA Approvals of Projects as confidential CEII in its Resolution and Order of March 20, 2023; *see* Table 1 on pages 1-2.

17. 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.

18. CEII or critical infrastructure information is generally 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.

19. 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.*

20. 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”).⁷

⁷ 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;

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).⁸

21. Portions of The FEMA approvals 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 this FEMA approval. 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 FEMA approvals with CEII in **Exhibit 1** from disclosure, given the nature and scope of the details included in those portions of the Exhibit.

-
- (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.

⁸ 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.

22. Based on the above, LUMA respectfully submits that portions of the FEMA approvals should be designated as CEII. This designation is a reasonable and necessary measure to protect the specific location of the energy facilities listed or discussed in the FEMA approvals 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.

C. Identification of Confidential Information

23. In compliance with the Energy Bureau’s Policy on Management of Confidential Information (CEPR-MI-2016-0009) below, find a table summarizing the portions of the FEMA approvals for which we present 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	FAASt-EPC-[Monacillo TC] (Substations)	Pages 1, 2, and 20.	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	December 28, 2023
Exhibit 1	FAASt-EPC-[Sabana Llana TC] (Substation)	Pages 1, 2, and 20.	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	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
Exhibit 1	FAASt-EPC-[San Juan SP TC] (Substation)	Pages 1, 2, and 17.	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 copies of the three (3) FEMA approvals attached herein as **Exhibit 1**; and **grant** the request for confidential treatment of **Exhibit 1**.

RESPECTFULLY SUBMITTED.

We hereby certify that we filed this motion using the electronic filing system of this Energy Bureau. We 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@sbglaw.com and Alejandro López Rodríguez, alopez@sbglaw.com.

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



DLA Piper (Puerto Rico) LLC
500 Calle de la Tanca, Suite 401
San Juan, PR 00901-1969
Tel. 787-945-9132
Fax 939-697-6102

/s/ Yahaira De la Rosa Algarín
Yahaira De la Rosa Algarín
RUA NÚM. 18,061
yahaira.delarosa@us.dlapiper.com

/s/ Julián R. Anglada Pagán
Julián R. Anglada Pagán
RUA NÚM. 22,142
julian.angladapagan@us.dlapiper.com

Exhibit 1

Three(3) FEMA Approvals

Department of Homeland Security Federal Emergency Management Agency

General Info

Project #	550950	PW #	11557	Project Type	Specialized
Project Category	F - Utilities	Applicant	PR Electric Power Authority (000-UA2QU-00)		
Project Title	FAASt - EPC - [Monacillo TC] (Substations)		Event	4339DR-PR (4339DR)	
Project Size	Large	Declaration Date	9/20/2017		
Activity Completion Date	9/20/2027	Incident Start Date	9/17/2017		
Process Step	Obligated	Incident End Date	11/15/2017		

Damage Description and Dimensions

The Disaster # 4339DR, which occurred between **09/17/2017** and **11/15/2017**, caused:

Damage #921057; FAASt [Monacillo Transmission Center]

DDD for this facility codified in the 136271 - MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Monacillo Transmission Center
- **Facility Description:** Monacillo Transmission Center (13kV) is composed of transformers, circuit breakers, disconnect switches, a control house, steel structures, poles, lights, and other components enclosed with a perimeter fence. The capacity of the substation is 24.00/44.00 MVA with 6 feeders.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [REDACTED]

General Damage Information:

- **Date Damaged:** 9/20/2017
- **Cause of Damage:** High winds & wind driven rain, caused by Cat 4 Hurricane Maria

Final Scope

921057 **FAASt [Monacillo Transmission Cente**

Overview

Project Name:	550950 - FAASt [Monacillo TC] (Substations)
Project Type:	Restoration to Codes/Standards.
Region:	San Juan
Damage Inventory Number (DI):	921057
Damaged Inventory/Asset Category:	Island Wide Substation
FEMA FAASt Project Number: <i>(Formerly Project Worksheet)</i>	550950

Introduction

The purpose of this document is to submit to COR3 and FEMA the detailed Scope of Work ("SOW") for the 550950 - FAASt [Monacillo TC] (Substations) repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane that occurred during the period of Sep 17, 2017, to Nov 15, 2017.

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 detailed scope of work, 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. Puerto Rico Electric Power Authority (PREPA) is the agency that owns the facilities, sites, and systems identified in this Scope of Work that are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

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

Facilities

Facilities List:

Name	GPS Coordinates	Voltage (kV)	Construction Year
Monacillo Transmission Center	[REDACTED]	115 kV/38kV	1961

Facilities Description:

The Monacillo TC switchyard consists of facilities that operate at nominal voltages of 115 kV, 38 kV, 13.2 kV and 4.16 kV. It

includes:

- Fifteen (15) 115 kV circuit breakers:
- o One (1) oil circuit breaker (OCB)
 - o Thirteen (13) gas circuit breakers (GCBs)
- Two (2) 115/38 kV, 60/80/100/112 MVA autotransformers
- One (1) 115/38 kV 20/26.67 MVA per phase for a total 60/80 MVA three phase transformer
- One (1) 115/13.2 kV, 24/44.8 MVA, step down transformer for substation 1346 Monacillo TC (out of service)
- Fourteen (14) 38 kV circuit breakers o Three (3) oil circuit breakers (OCBs)
 - o Eleven (11) gas circuit breaker (GCBs)
- One (1) 38/4.16 kV, 7.5/11.3 MVA, step down transformer for substation 1330 Monacillo TC

The existing electrical infrastructure of Monacillo TC includes many components that are obsolete and difficult to obtain spare parts for, especially the oil circuit breakers (OCBs).

The distribution transformer at substation 1330 Monacillo has been in service since 1967, and it supplies small commercial and residential customers in Cupey at a primary distribution voltage of 4.16 kV. LUMA Energy is in the process of upgrading all 4.16 kV substations to 13.2 kV to reduce system losses, improve voltage regulation, provide operational flexibility, increase renewable energy hosting capacity at the feeder level, and increase system security under fault conditions. This substation has experienced corrosion and reliability issues with the existing metalclad. In addition, in June 2021 substation 1346 Monacillo TC suffered a fire that damaged the 44.8 MVA transformer and feeder breakers. To increase overall system reliability, reduce system losses, and replace obsolete equipment, it is recommended to rebuild substation 1330 Monacillo with a dual voltage 38/13.2-4.16 kV transformer and associated 15 kV switchgear, rebuild substation 1346 Monacillo TC with TC and associated 15 kV switchgear, and install a second 115/13.2 kV, 22.4/44.8 MW transformer with associated 15 kV switchgear with provisions for a bus tie with substation 1346. Substation 1330 Monacillo will eventually be converted to 13.2 kV and its loads can be transferred to the two new 13.2 kV substations. Monacillo TC must be refurbished to address the risk and vulnerability it imposes on the system, and to remedy its poor reliability record.

Project Scope Summary

The proposed project will bring this station to industry standards, improve system resiliency and reliability, mitigate safety hazards, and address environmental concerns.

The work involves replacing damaged circuit breakers and functionally dependent elements. Construct a new transmission and distribution center facility (Monacillo TC) switchyard, as shown in the proposed one-line diagram. Design and arrange all equipment and buildings to avoid possible flood damage and comply with the Advisory Based Flood Elevation (ABFE) Zone A requirements. Following is a high-level list of anticipated items to be replaced or repaired:

The Project requires engineering services for the design of the new facility that shall include the construction of a new distribution substation and the reconstruction of the two existing substations, and new transmission switchgears with new bus-type configurations.

- Replace circuit breakers and disconnect switches as required.
- Replace jumper cables, conduits, and control cables as required.
- Design and install equipment foundations.
- Vegetation removal, earth leveling, restoration of yard gravel.
- Perform a grounding grid system study to verify that the ground grid system's ability to dissipate energy and personnel safety is adequate and secure.
- Repair and replace the grounding grid as required. Repairs shall include theft-deterrent grounding wires and methods.
- Add Spill Prevention, Control, and Counter measure (SPCC) to transformers as required.

- Replace broken perimeter fence and gates.
- Replace external lights of the outdoor structures.
- Replace leaning or broken poles.
- Replace eyewash and shower station.
- Repair or replace Control House Elements as required.

115 kV infrastructure

- Two (2) 115 kV breaker-and-a-half switchyards with thirty (15 + 15) GCBs with services
- New T1: 115/38 kV, 60/80/100/112 MVA transformer
- T2: 115/38 kV, 60/80/100/112 MVA step down transformer (installed in 2008)
- New T3: 115/38 kV, 60/80/100/112 MVA transformer
- New 115/13.2 kV, 24/44.8 MVA at 13.2 kV substation and associated switchgear to replace existing 1346 Monacillo substation.
- New 115/13.2 kV, 24/44.8 MVA at 13.2 kV substation and associated switchgear.
- One (1) spare service for future use.
- The design and layout drawings shall consider space provision for future of switchyard expansion.

38 kV infrastructure

- Two (2) 38 kV breaker-and-a-half switchyards with twenty-seven (15 + 12) GCBs with services.
- Install a new 38/13.2 - 4.16 kV, 8.4/11.2/14 MVA at 4.16 kV and 13.4/17.9/22.4 MVA at 13.2 kV substation and associated switchgear to replace existing 1330 Monacillo substation.
- One (1) spare service for future use.
- The low sides of the 115/38 kV autotransformers shall be connected to different bays and different adjacent buses to increase system reliability under contingencies at either bus.
- The design and layout drawings shall consider space provision for future switchyard expansion.

Distribution Infrastructure

Rebuild existing substation 1330 Monacillo:

- One (1) 38/13.2-4.16 kV wye-wye transformer, rated at 8.4/11.2/14 MVA at 65°C when energized at 4.16 kV and 13.4/17.9/22.4 MVA at 65°C when energized at 13.2 kV.
- One (1) 15 kV main breaker, 2,000 A
 - Four (4) 15 kV breakers, 1,200 A (3 feeders, 1 spare) Provide space for a future feeder breaker, 1,200 Amps.
- All circuit breakers will have at least 31.5 kA interrupting the current rating. Include provisions for connection of station service transformer and MTU Provide connection for a mobile tie.
- Install ION meter and related metering equipment.
- Provide for current measurement for all phases of each distribution feeder.

Rebuild existing substation 1346 and new 115/13.2 kV substation.

Major requirements for substation 1346 rebuild:

- One (1) 115/13.2 kV transformer with a 24/44.8 MVA capacity, Delta-Wye (Note: this transformer was purchased after the event of June 2021 to replace the damaged transformer and is currently under manufacture)
- Eleven (11) 15 kV breakers, 2,000 A
- One (1) 15 kV bus tie breaker, 2,000 A. This breaker will interconnect the 13.2 kV buses of the rebuilt 1346 substation and the new 115/13.2 kV substation. It shall operate normally open (N/O) to avoid parallel operation of the transformers and to reduce short circuit levels. It shall be closed only when one of the 115/13.2 kV distribution transformers is out of service.
- Install ION meter and related metering equipment.
- Provide for current measurement for all phases of each distribution feeder.

Major requirements for new 115/13.2 kV substation:

- Complete all required work related to the installation of various forms of concrete foundations such as pads, slabs on grade, containment pits, etc.
- One (1) 115/13.2 kV transformer with a 24/44.8 MVA capacity, Delta-Wye Twelve (12) 15 kV breakers, 2,000 A
- One (1) 15 kV bus tie breaker, 2,000 A. This breaker will interconnect the 13.2 kV buses of the rebuilt 1346 substation and the new 115/13.2 kV substation. It shall operate normally open (N/O) to avoid parallel operation of the transformers and to reduce short circuit levels. It shall be closed only when one of the 115/13.2 kV distribution transformers is out of service.
- Install ION meter and related metering equipment.
- Provide current measurement for all phases of each distribution feeder.

Note: The feeders from existing substation 1346 shall be redistributed between the rebuilt 1346 substation and the new 115/13.2 kV substation.

- Build control enclosure to contain the following:
 - 15 kV Switchgear
 - 210 VAC system
 - 125VDC battery bank system
 - Telecom and SCADA panels
 - Protection, Control, and Automation System
 - HVAC and auxiliary systems
- Install a new 33 kW emergency generator. The infrastructure for installing a generator includes a concrete pad, automatic transfer switch, conduits, cables, etc. The components necessary for a fully functional system are the following:
 - New steel structures
 - Telecommunication tower
 - New site development, fence, and grounding system
 - Re-routed distribution and transmission lines, including line routing and design.

Scope of Work Description:

A. SCADA

1. Provide and install 4 Ea. of Conversion equipment, battery chargers.
2. Provide and install 89 C.L.F. of Tray cable, type TC, copper, 600 V, #12-9 conductor.
3. Provide and install 89 C.L.F. of Tray cable, type TC, copper, 600 V, #12-12 conductor.
4. Provide and install 89 C.L.F. of Tray cable, type TC, copper, 600 V, #10-4 conductor.
5. Provide and install 89 C.L.F. of Tray cable, type TC, copper, 600 V, #10-7 conductor.
6. Provide and install 89 C.L.F. of Tray cable, type TC, copper, 600 V, #10-12 conductor.
7. Provide and install 15 Ea. of SEL-487E Transformer Differential Relay with conventional secondary inputs, standard with voltage, frequency, directional overcurrent and Volts-per-hertz elements, 125-250VDC or 110-240Vac.
8. Provide and install 15 Ea. of SEL-451 Overcurrent Protection Relay, with conventional secondary inputs 125-250Vdc or 110-240Vac.
9. Provide and install 134 Ea. of SEL-751 Feeder Protection Relay, 5 inch color touchscreen with 8 push buttons, 110-250Vdc (110-240Vac) .
10. Provide and install 45 Ea. of SEL-2440 Discrete Programmable Automation Controller (DPAC), Horizontal Rack mount, 125Vdc/Vac.
11. Provide and install 15 Ea. of SEL-2488 Satellite Synchronized Network Clock, Horizontal Rack mount, 125Vdc or Vac.
12. Provide and install 15 Ea. of SEL-3555, Real Time Automation controller, 3U Horizontal Rack mount.
13. Provide and install 15 Ea. of Touchscreen monitor kit(19in ELO monitor PN:E331019, Display Port VGA HDMI, Rack Mount Bracket, 120/240Vac, 125/250Vdc).
14. Provide and install 119 Ea. of ABB FT-19R switches 4RU, Steel RAL 7035, Gray, Screw terminals, Standard Depth, Full length, Clear cover.
15. Provide and install 74 C.L.F. of Wire, copper, stranded, 600 volt, 2/0, type THW, normal installation conditions in wireway, conduit, cable tray.
16. Provide and install 59 C.L.F. of Wire, copper, stranded, 600 volt, 4/0, type THW, normal installation conditions in wireway, conduit, cable tray.
17. Provide and install 297 C.L.F. of Tray cable, type TC, copper, 600 V, #14-7 conductor.
18. Provide and install 148 C.L.F. of Coaxial cable, 50 ohm, RG A/U #58 cable.
19. Provide and install 312 C.L.F. of Fiber optic cable, 12 strand, multi mode.
20. Provide and install 15 Ea. of ION 8650 meter 128MB, 9S/29S/36S, 60Hz.
21. Provide and install 15 Ea. of Phoenix mini PS 100-240VAC_24DC Power supply.
22. Provide and install 89 Ea. of ICT240DB-8IRC 12/24/48VDC Dual Bus 1RU distribution panel.
23. Provide and install 15 Ea. of IDEC PS5R-VC12 power supply 30W 12VDC.
24. Provide and install 59 Ea. of Phoenix contact 2315162.
25. Provide and install 119 Ea. of UP-TSF200-12, 48VDC battery .

26. Provide and install 30 Ea. of Hoffman Relay Cabinet, SCADA cabinet, Telecom cabinet.
27. Provide and install 593 Ea. of Fuses, cartridge, nonrenewable, 250 V, 30 amp.
28. Provide and install 15 Ea. of GE 400A Infinity-S Dual Molex LVBD.
29. Provide and install 15 Ea. of SEL ICON.
30. Provide and install 1 Ea. of Battery, deep cycle, 400Ah, 125V.
31. Provide and install 534 Ea. of Fiber optic patch panel, 12 ports.
32. Provide and install 148 C.L.F. of Fiber optic cable, 12 strand, single mode.
33. Provide and install 7417 L.F. of Fiber optics cable, 50 microns, 12 fiber, indoor.
34. Provide and install 59 Ea. of Corning CCH-04U, Housing.
35. Provide and install 45 Ea. of GE Critical Power NE050AC48ATEZ 50A Rectifier.
36. Provide and install 15 Ea. of SCADA Panel.
37. Provide and install 712 Ea. of Corning CCH-CS12-55-P00RE, Splice Cassette.
38. Provide and install 15 Ea. of Corning CC1-120TR-1259H Anylan Integrated 1RU.
39. Provide and install 45 Ea. of Internal Panel Wiring.
40. Provide and install 15 Ea. of Wiring from GIS building to Outdoor equipment.
41. Provide and install 1 Ea. of Prefabricated control house enclosure, Stainless Steel, elevated with personnel platforms, doors, stairs, relay panels AC and DC power, station batteries, charger etc.

B. Telecommunication

1. Provide and install 1 Ea. of Rack mount USB, Keyboard/Drawer with mouse.
2. Provide and install 100 Ea. of Marathon 1512STD, 12 positions.
3. Provide and install 3 Ea. of Cisco IEM-3400-8S expansion model.
4. Provide and install 3 Ea. of Cisco IE-3400-8T2S Industrial Ethernet switch.
5. Provide and install 3 Ea. of Cisco ISA-3000-2C2F-K9 Industrial Security Appliance.
6. Provide and install 1 Ea. of Startech 2 Port USB display port KVM switch.
7. Provide 1 Ea. of ADAM data acquisition module 6017.
8. Provide and install 4 Ea. of Switching and routing equipment, network switch,KVM, 10/100/1000/10000 Mbps, 28 port, Industrial Ethernet,rear ports.
9. Provide and install 5 Ea. of Telecom Panels.
10. Provide and install 1 Ea. of Cisco MPLS Router N540-24Z8Q2C-SYS.
11. Provide and install 4 Ea. of Cisco IE-4010-4S24P switch.
12. Provide and install 2 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
13. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.

14. Provide and install 1 Ea. of Aviat Networks microwave WTM 4100 Radio, Antenna 18Ghz.
15. Provide and install 18 C.Y. of Cable Bridge (galvanized steel, 24 IN W grip-strut channel, universal cantilevers and pipe columns).
16. Provide and install 18 L.F. of Concrete Foundation for Cable Bridge Steel Column 3500psi (8 IN wide).
17. Provide 5 Ea. of Testing and Commissioning for Telecom.
18. Provide and install 1 Ea. of Communications transmission tower, radio towers self-supporting, wind load 70 mph basic wind speed, 120 FT high.
19. Provide and install 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.

C. Civil Structural

1. Provide, install and remove 1460 L.F. of Synthetic erosion control, silt fence, 3 FT high.
2. Provide, install and remove 480 L.F. of Erosion control, straw bale, 3 FT Long.
3. Provide 4 Ea. of Electrical underground ducts and manholes, manholes, precast w/iron racks & pulling irons, C.I. frame and cover, 6 FT x 10 FT x 7 FT deep, excludes excavation, backfill and cast in place concrete.
4. Provide 1224 L.F. of Electrical underground ducts and manholes, underground duct banks, PVC, 4 @ 6 IN diameter, excludes excavation, backfill and cast in place concrete.
5. Provide 192 C.Y. of Electrical underground ducts and manholes, underground duct banks, for cast-in-place concrete, over 5 C.Y., excludes excavation, backfill and cast in place concrete, add.
6. Provide 276 L.F. of Electrical underground ducts and manholes, underground duct banks ready for concrete fill, PVC, type EB, 2 @ 3 IN diameter, excludes excavation, backfill and cast in place concrete.
7. Provide and install 240 L.F. of Trench duct, steel with cover, standard adjustable, straight, single compartment, depths to 4 IN, 24 IN wide.
8. Provide and install 4 Ea. of Industrial safety fixture, eye and face wash, combination fountain, stainless steel, pedestal mounted, excludes rough-in.
9. Provide and install 4 L.F. of Public sanitary utility sewerage piping, piping polyvinyl chloride pipe, B & S, 20 FT lengths, 4 IN diameter, SDR 35, excludes excavation or backfill.
10. Provide and install 8 L.F. of Pipe, plastic, CPVC, socket joint, 3/4 IN diameter, schedule 40, includes couplings 10 FT OC, and hangers 3 per 10 FT.
11. Provide and install 760 L.F. of public storm utility drainage piping, drainage and sewage, corrugated HDPE, type S, bell and spigot, with gaskets, 6 IN diameter, excludes excavation and backfill.
12. Provide excavation for 1440 B.C.Y. of Trench or continuous footing, common earth, 1/2 C.Y. excavator, 4 FT to 6 FT deep, excludes sheeting or dewatering.
13. Provide 1440 L.C.Y. of Fill by borrow and utility bedding, for pipe and conduit, sand, dead or bank, excludes compaction.
14. Provide and install 760 S.Y. of Concrete pavement highway, 4500 psi, fixed form, unreinforced, 12 FT pass, 8 IN thick, includes joints, finishing, and curing.
15. Provide and install 760 S.Y. of Base course drainage layers, aggregate base course for roadways and large paved areas, stone base, compacted, 3/4 IN stone base, to 6 IN deep.
16. Provide and install 920 L.F. of Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per LF, 6 IN high curb, 6 IN thick gutter, 30 IN wide, includes concrete.
17. Provide and install 1440 S.F. of Sidewalks, driveways, and patios, sidewalk, concrete, cast-in-place with 6 x 6 - W1.4 x

W1.4 mesh, broomed finish, 3,000 psi, 4 IN thick, excludes base.

18. Provide 476 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
19. Provide 200 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
20. Provide 24 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
21. Provide 60 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
22. Provide 152 C.Y. of Structural concrete, placing, duct bank, direct chute, excludes material.
23. Provide 228 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
24. Provide 200 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
25. Provide 24 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
26. Provide 60 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
27. Provide 24 C.Y. of Structural concrete, placing, slab on grade, direct chute, up to 6 IN thick, includes leveling (strike off) & consolidation, excludes material.
28. Provide 72 C.Y. of Structural concrete, placing, slab on grade, direct chute, up to 6 IN thick, includes leveling (strike off) & consolidation, excludes material.
29. Provide and install 8 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
30. Provide and install 5 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
31. Provide and install 1 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
32. Provide and install 2 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
33. Provide excavation for 208 B.C.Y. of bulk, dozer, open site, bank measure, common earth, 80 HP dozer, 150 FT haul.
34. Provide 52 B.C.Y. of Backfill, bulk, 6 IN to 12 IN lifts, dozer backfilling, compaction with vibrating roller.
35. Provide and install 4176 S.Y. of Base course drainage layers, aggregate base course for roadways and large paved areas, stone base, compacted, 3/4 IN stone base, to 6 IN deep.
36. Provide and install 544 L.F. of Column, structural, 2-tier, W12x87, A992 steel, incl shop primer, splice plates, bolts.
37. Provide and install 456 L.F. of Column, structural, 2-tier, W8x31, A992 steel, incl shop primer, splice plates, bolts.
38. Provide 144 L.F. of Curb edging, structural steel angle w/ anchors, on concrete forms, 12.3 plf, 6 IN x 4 IN, shop fabricated.
39. Provide 240 L.F. of Curb edging, structural steel channel w/ anchors, on concrete forms, 11.5 plf, 8 IN, shop fabricated.
40. Provide and install 24 S.F. of Steel plate, structural, for connections & stiffeners, 1/4 IN T, shop fabricated, incl shop primer.

41. Provide and install 32 S.F. of Steel plate, structural, for connections & stiffeners, 3/4 IN T, shop fabricated, incl shop primer.
42. Provide and install 1200 Ea. of High strength bolt, 5/8 IN dia x 2 IN L, A325 Type 1, incl washer & nut.
43. Provide and install 73600 Lb. of Column, structural, concrete filled, for galvanizing, add.
44. Provide and install 272 L.F. of Column, structural, 2-tier, W10x68, A992 steel, incl shop primer, splice plates, bolts.
45. Provide and install 124 L.F. of Column, structural, 2-tier, W8x31, A992 steel, incl shop primer, splice plates, bolts.
46. Provide and install 84 L.F. of Curb edging, structural steel angle w/ anchors, on concrete forms, 12.3 plf, 6 IN x 4 IN, shop fabricated.
47. Provide and install 72 L.F. of Curb edging, structural steel channel w/ anchors, on concrete forms, 11.5 plf, 8 IN, shop fabricated.
48. Provide and install 12 S.F. of Steel plate, structural, for connections & stiffeners, 1/4 IN T, shop fabricated, incl shop primer.
49. Provide and install 12 S.F. of Steel plate, structural, for connections & stiffeners, 3/4 IN T, shop fabricated, incl shop primer.
50. Provide and install 400 Ea. of High strength bolt, 5/8 IN dia x 2 IN L, A325 Type 1, incl washer & nut.
51. Provide and install 26080 Lb. of Column, structural, concrete filled, for galvanizing, add.
52. Provide and install 536 L.F. of Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per LF, 6 IN high curb, 6 IN thick gutter, 30 IN wide, includes concrete.
53. Provide 3840 S.Y. of Gravel .
54. Provide 4 Ea. of Storage of removal equipment/recycling/decommissioning.
55. Provide 4 Ea. of Regular Waste Disposal & hazardous.

D. Grounding

1. Provide and install 340 CFT of 4/0 Bare copper conductor.
2. Provide and install 11 CFT of #6 AWG Bare copper conductor.
3. Provide and install 6 CFT of 2/0 Copper conductor, XLPE insulation.
4. Provide and install 1828 EA of 4/0 to 4/0 compression connectors (Burndy #YGHC2929).
5. Provide and install 196 EA of 4/0 to 2/0 compression connectors (Burndy #YGHC29C26).
6. Provide and install 260 EA of #6AWG to 2/0 compression connectors (Burndy #YGHC26C2).
7. Provide and install 808 EA of #6AWG to barbed wire compression connectors.
8. Provide and install 816 EA of #6AWG to 6 guage chain link compression connectors.
9. Provide and install 28 EA of 4/0 to 4/0 Tee connector (exothermic).
10. Provide and install 132 EA of 4/0 to 4/0 Cross connector (exothermic).
11. Provide and install 28 EA of 4/0 to Ground rod Through connector (exothermic).
12. Provide and install 1532 EA of 4/0 to Flat Mechanical Connectors (Burndy #GC2929).
13. Provide and install 248 EA of 4/0 Braid to pipe U-bolt, mechanical connector (Burndy #GD2029).

14. Provide and install 292 EA of #6AWG to Fence post (1.25 IN) connector (Burndy #GAR1626).
15. Provide and install 112 EA of 2/0 to Fence post (3 IN) connector (Burndy #GAR2026).
16. Provide and install 84 EA of 2/0 to Fence post (4 IN) connector (Burndy #GAR2226).
17. Provide and install 416 EA of 3/4 IN Ground Rods (10 feet).
18. Provide and install 888 EA of Cadwelds.
19. Provide and install 204 EA of Fence post connector.
20. Provide 416 EA of Welding material, 115.
21. Provide 364 EA of Welding material, 150.
22. Provide 1972 EA of Welding material, 200.
23. Provide 16 EA of Handle clamp.
24. Provide and place 8524 cyd of Insulating gravel, crushed granite, 3000 ohm-m.
25. Provide and install 124 EA of Ground mat (conductor size #4, length = 96 IN, width=72 IN).
26. Provide and install 40 FT of Bonding strap, 48 kcmil (Flexible copper braided #4AWG equivalent).
27. Provide and install 1760 FT of Bonding strap, 231.552 kcmil (Flexible copper braided #4/0 equivalent).
28. Provide and install 1000 EA of Cable strap, 4/0 (#T&B 1347).
29. Provide selective demolition for 4 Ea. of utility poles & cross arms, cross arms, wood, 4 FT -6 FT long.
30. Provide selective demolition for 4 Ea. of utility poles & cross arms, utility poles, wood, 35 FT-45 FT high

E. Emergency Generator

1. Provide and install 1 Ea. of Generator set, natural gas/LP, liquid cooled, 3 ph 4 wire, 120/240 V, 48kW, aluminum enclosure.
2. Provide and install 1 Ea. of Automatic transfer switches, enclosed, 3 pole, 480 volt, 100 amp.
3. Provide 1 Ea. of Excavation and dewatering.
4. Provide and install 100 S.F. of Foundation, Slab on grade, 8 IN thick, heavy industrial, reinforced.
5. Provide and install 50 L.F. of Electrical power installation and interconnection work, (trench work) for Telecommunication Shelter 2 IN PVC Sch 40 conduits .
6. Provide and install 6 Ea. of PVC conduit elbows, 2 IN diameter, to 15 FT H.
7. Provide and install 2 C.L.F. of Wire, copper, stranded, 600 volt, 3/0, type THWN-THHN, normal installation conditions in wireway, conduit, cable tray

F. Demolition Disposal

1. Provide 32 Hr. of Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 5000 gallons, minimum charge, 4 hours, 2 compartment.
2. Provide 60 Ton of Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum.
3. Provide 4 Ea. of Demolition, removal and disposal , structures, breakers, and other miscellaneous equipment. .

4. Provide 48 months of Site preparation foundation (water truck, safety officer, etc Plan CES).
5. Provide 4 EA of Lead and Asbestos Testing and Disposal for structures & demolitions.
6. Provide 4 Ea. of Storage of removal equipment/recycling/decommissioning.
7. Provide 4 Ea. of Regular Waste Disposal & Hazardous.
8. Provide chain trencher excavation for 800 L.F. of utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.

G. Physical Electrical GIS 230-115- 46KV

1. Provide and install 12 Ea. of Insulators, pedestal type.
2. Provide and install 2 Ea. of 115-230 kV Dead End Suspension Insulator Bells, 3 phases, 6 Bells Per phase (18 Bells).
3. Provide and install 3 MVA of TRANSFORMER 115/40 kV – 67 / 90 / 112 MVA.
4. Provide and install 2 Ea. of TRANSFORMER 115/13.2KV, 44 MVA.
5. Provide and install 1 Ea. of TRANSFORMER 38/4.16KV, 14 MVA .
6. Provide and install 6 Ea. of Lightning arresters, 230 kV.
7. Provide and install 1 Ea. of Substation 115kV GIS (Gas Insulated Switchgear).
8. Provide and install 1 Ea. of Substation 46kV GIS (Gas Insulated Switchgear).
9. Provide and install 1 Ea. of Substation 15kV GIS (Gas Insulated Switchgear).
10. Provide and install 16 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
11. Provide and install 200 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.
12. Provide and install 30 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.
13. Provide and install 90 Ea. of PVC conduit couplings, 1-1/2 IN diameter, to 15 FT H.
14. Provide and install 16 C.L.F. of Ground wire, copper wire, bare stranded, 300 kcmil.
15. Provide and install 4 Ea. of Exothermic weld, cadweld exothermic welding kit, multi vertical.
16. Provide and install 800 C.L.F. of Ground wire, copper wire, bare stranded, 4/0.
17. Provide and install 800 Ea. of Grounding rod, copper clad, 10 FT long, 3/4 IN diameter.
18. Provide chain trencher excavation for 144 L.F. of utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.
19. Provide and install 6 Ea. of Chain link fences & gates, gate, chain link, galvanized steel, double gate, 3 strand barbed wire, 12 FT x 7 FT, excludes excavation.
20. Provide and install 400 L.F. of Fence, chain link industrial, galvanized steel, 3 strands barb wire, 2 IN posts @ 10 FT OC, 9 ga. wire, 6 FT high, schedule 40, includes excavation, & concrete.
21. Provide and install 400 Ea. of Fence, fabric & accessories, extension arms, 3 strands, barbed wire.
22. Provide 2 C.Y. of Structural concrete, in place, free-standing wall (3000 psi), 8 IN thick x 8 FT high, includes forms (4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing.

- 23. Provide and install 2 Ea. of Cable terminations, indoor, insulation diameter range, 25 kV, 1.05 IN to 1.8 IN, pad mount.
- 24. Provide and install 4 Ea. of Cable terminations, outdoor systems, 15 kV, 1,000 kcmil.
- 25. Provide and install 1 Ea. of Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 150 kVA.
- 26. Provide and install 1 Ea. of MTR 500kVA Padmounted Transformer for Remote metering

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. For more details, please refer to LUMA LPCE.

Estimated Budget for Architectural & Engineering Design:	\$4.44 M
Estimated Budget for Procurement & Construction:	\$88.09 M
Estimated Overall Budget for the Project:	\$92.54 M

v0 Project 550950 Cost Summary:

Work to be Completed (WTBC) Cost: \$92,540,065.25

Architectural & Engineering Design (A&E) Cost, Deduction: -\$4,443,609.52

Project Total: \$88,096,455.73

Project Notes

- 1) The expected area of impact for the construction work at Monacillo Substation and adjacent campus is 3.32 acres as identified in the DSOW KMZ files and associated mapping. All construction activities identified will be executed within the identified areas and will include Boring Plans, Mobile substation, generator installations, staging and laydown yards, new substation construction actions and ground disturbance activities. Transmission Lines will be submitted separately.
- 2) Scope of work with items, quantities, and dimensions considered in the Class 5 Cost estimate. This has not been reviewed by A&E firm.
- 3) During project construction the scope of work will need to be coordinated with System Operations to prevent any alternative activities that affect the following facilities:

- 115 kV equipment connected to buses 3 and 4.
 - 38 kV equipment connected to buses 1 and 2 and to auxiliary bus.
- 4) To minimize service interruptions during construction works, Mobile substations and generators for powering the loads connected to this station shall be vetted.
- 5) For this project, also enable synchro phasor technology (PMU) in conjunction with the relay replacement scope to reduce event investigation and restoration times. If additional costs are incurred to enable this technology, it will be pursued under FEMA 406.
- 6) EHP considerations will be identified and evaluated during the preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction documents to be approved by FEMA prior to construction activities.
- 7) Prior to the start of any demolition activities, inspections will be conducted by a trained and certified contractor for the presence and quantities of asbestos and lead based paint containing materials. These hazardous materials will be managed and disposed as required by applicable federal and state regulations.
- 8) Demolition contaminated materials will be delivered to the approved waste disposal that complies with the applicable federal and state regulations.
- 9) Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General and construction Waste). If equipment is to be salvaged, it will be loaded and removed from the site. The debris will be separated and taken to an approved waste disposal facility.
- 10) While completing all demolition activities, a water source will be onsite to mitigate dust.
- 11) The equipment expected to be used includes Skid Steer, Excavator, Hydrovacs, Dump trucks, Man lifts, 120-Ton Motor Crane, Boom Trucks 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Oil Tanker, Filtering Machine and Flatbed platform. All equipment used will comply with Tier 4 EPA Emission Standards, if available.
- 12) Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the Approved Supplier List Directory PR (see Appendix H). LUMA will provide actual suppliers documentation as a Condition of FEMA Record of Environmental Considerations.
- 13) It is not anticipated that the proposed project will involve dredging or disposal of dredged material, excavation, the addition of fill material, or result in any modification to water bodies or wetlands designated as "waters of the United States" as identified by the U.S. Army Corps of Engineers or on the National Wetland Inventory.
- 14) The Monacillo TC was constructed in 1961. There are no available records of prior structure repairs, remodeling and/or rehabilitation of the property.
- 15) Boreholes will be required for the project design. Typical boreholes will be approximately 4-8 IN in diameter and up to 25ft in depth.
- 16) The excess of soil material will be stockpiled temporarily onsite in the staging area or within the substation. Disposal of soil will be handled according to the applicable federal and state regulations. LUMA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.
- 17) This is a mostly paved and developed area, and it is unlikely that the project could result in any adverse effects to any native or endangered species. To avoid any potential impacts, the project will follow the U.S. Fish and Wildlife Service monitoring requirements and conservation measures.

18) The substation's structure tallest point is the Telecommunication tower. The Tower reach a height of 131.5 FT (120 FT tower structure over a 10 FT tall foundation).

19) The following list is for the expected permits requirements. LUMA will provide proof of all permits.

- Construction General Permit (CGP).
- Environmental Compliance Determination - Oficina de Gerencia de Permisos (OGPe)
- Consolidated General Permit – Environmental Quality Board (EQB) / Department of Natural & Environmental Resources (DNER).
- San Juan Municipality Notifications
- Excavation and Demolition Notification - Department of Transportation and Public Works (DTOP)

20) For detailed information, refer to documents/attachments labeled

- 550950 -Monacillo TC (Substations)- FEMA Project Detailed Scope of Work (Rev 10.31.23).pdf
- 550950-DR-4339PR- Appendix B - Monacillo LUMA LPCE (10.31.23).xlsx
- 550950 -Monacillo TC (Substations)- FEMA Project Detailed Scope of Work Rev 10.31.23.pdf

21) This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project

23) Architectural and Engineering (A&E) costs are deducted given previously obligated Global A&E Project for the subject FAASt PREPA work (see project: 335168 - PREPA Island Wide FAASt Project).

406 HMP Scope

It was agreed with sub-applicant this project will be moved forward without HMP. Sub-applicant will develop this project by Design & Build process (EPC: Expedited Procurement & Construction). Once the sub-applicant's A&E firm completes the Design and Class 5 Cost Estimate then the proposed HMP measures will be evaluated and validated.

Cost

Code	Quantity	Unit	Total Cost	Section
3510 (v0 Engineering and Design Services, Deduction - PREPA FAASSt Global A&E 335168)	1.00	Lump Sum	(\$4,443,609.52)	Uncompleted
9001 (v0 Contract - PREPA FAASSt Donor Project 136271)	1.00	Lump Sum	\$92,540,065.25	Uncompleted

CRC Gross Cost \$88,096,455.73

Total 406 HMP Cost \$0.00

Total Insurance Reductions \$0.00

CRC Net Cost \$88,096,455.73

Federal Share (90.00%) \$79,286,810.16

Non-Federal Share (10.00%) \$8,809,645.57

Award Information

Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
0	Eligible	Awarded	PA-02-PR-4339-PW-11557(14573)	\$88,096,455.73	90 %	\$79,286,810.16	12/18/2023

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
No Records				

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
-----------	----------------	----------------	------------	--------------	--------------------

Subgrant Conditions

- As described in Title 2 Code of Federal Regulations (C.F.R.) § 200.333, financial records, supporting documents, statistical records and all other non-Federal entity records pertinent to a Federal award must be retained for a period of three (3) years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a subrecipient. Federal awarding agencies and pass-through entities must not impose any other record retention requirements upon non-Federal entities. Exceptions are stated in 2 C.F.R. §200.333(a) – (f)(1) and (2). All records relative to this project are subject to examination and audit by the State, FEMA and the Comptroller General of the United States and must reflect work related to disaster-specific costs.
- In the seeking of proposals and letting of contracts for eligible work, the Applicant/Subrecipient must comply with its Local, State (provided that the procurements conform to applicable Federal law) and Federal procurement laws, regulations, and procedures as required by FEMA Policy 2 CFR Part 200, Procurement Standards, §§ 317-326.
- The Recipient must submit its certification of the subrecipient's completion of this project, the final claim for payment, and supporting documentation within 180 days from the date that the applicant completes the scope of work, or the project deadline, whichever occurs first. FEMA reimburses Large Projects (those with costs above the large project threshold) based on the actual eligible final project costs. Therefore, during the final project reconciliation (closeout), the project may be amended to reflect the reconciliation of actual eligible costs.
- When any individual item of equipment purchased with PA funding is no longer needed, or a residual inventory of unused supplies exceeding \$5,000 remains, the subrecipient must follow the disposition requirements in Title 2 Code of Federal Regulations (C.F.R.) § 200.313-314.
- The terms of the FEMA-State Agreement are incorporated by reference into this project under the Public Assistance award and the applicant must comply with all applicable laws, regulations, policy, and guidance. This includes, among others, the Robert T. Stafford Disaster Relief and Emergency Assistance Act; Title 44 of the Code of Federal Regulations; FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide; and other applicable FEMA policy and guidance.
- The DHS Standard Terms and Conditions in effect as of the declaration date of this emergency declarations or major disaster, as applicable, are incorporated by reference into this project under the Public Assistance grant, which flow down from the Recipient to subrecipients unless a particular term or condition indicates otherwise.
- The Uniform Administrative Requirements, Cost Principles, and Audit Requirements set forth at Title 2 Code of Federal Regulations (C.F.R.) Part 200 apply to this project award under the Public Assistance grant, which flow down from the Recipient to all subrecipients unless a particular section of 2 C.F.R. Part 200, the FEMA-State Agreement, or the terms and conditions of this project award indicate otherwise. See 2 C.F.R. §§ 200.101 and 110.
- The subrecipient must submit a written request through the Recipient to FEMA before it makes a change to the approved scope of work in this project. If the subrecipient commences work associated with a change before FEMA approves the change, it will jeopardize financial assistance for this project. See FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- Pursuant to section 312 of the Stafford Act, 42 U.S.C. 5155, FEMA is prohibited from providing financial assistance to any entity that receives assistance from another program, insurance, or any other source for the same work. The subrecipient agrees to repay all duplicated assistance to FEMA if they receive assistance for the same work from another Federal agency, insurance, or any other source. If an subrecipient receives funding from another federal program for the same purpose, it must notify FEMA through the Recipient and return any duplicated funding.

Insurance

Additional Information

11/8/2023

GENERAL INFORMATION

Event: DR4339-PR

Project: SP 550950

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

Incident Period: 9/17/2017 to 11/15/2017

Total Public Assistance Amount: CRC Gross Cost \$88,096,455.73

COMMERCIAL INSURANCE INFORMATION

Does the applicant have a Commercial Policy that extends coverage for this facility: Yes

Policies Issued by: Willis Towers Watson, Multinational Insurance Company and Mapfre

Policy Numbers: Willis Towers Watson (B0804Q1966F17, B0804Q14312F17, B0804Q19673F17, B0804Q19672F17, B0804Q18529F17, B0804Q14312F17, B0804Q19674F17, B0804Q18411F17, B0804Q14310F17, B0804Q11038F17, B0804Q14507F17, B0804Q14312F17)

Mapfre Praico Insurance Company (1398178000644)

Multinational Insurance Company (88-CP-000307831-2, 88-CP-000318673-0, 88-CP000318674-0, 88-CP-000318675-0, 88-CP-000318676-0, 88-CP-000318677-0)

Policy Period: From: 5/15/2017 To: 5/15/2018

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

Deductible Amount \$25,000,000.00 each and every occurrence property damage and 30 days each and every occurrence business interruption in respect of Named Windstorm.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: Yes

The amount of the deductible being funded in this project is \$0.00

The amount of the deductible previously funded in other projects is \$25,000,000.00

Final Insurance Settlement Status: Insurance proceeds for this project are anticipated

The amount of Anticipated Insurance Reduction applied for Project: \$0.00

NUMBER OF DAMAGED LOCATIONS INCLUDED IN THIS PROJECT: (1)

Damaged Inventory (DI) #921057:

FAASt [Monacillo Transmission Center]

Location Description: Monacillo Transmission Center

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Sub-Stations"

SOV / Schedule Amount: \$1,345,700,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$88,096,455.73

-

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

No insurance reduction will be applied to this project. An anticipated insurance reduction of \$193,746,436.00 was applied to FFAST project # 136271 for anticipated insurance proceeds for Hurricane Maria losses. For ease of reference, please see table of insurance allocations: "PREPA Allocation Plan – All Disasters" file.

-

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain") for the FFAST Monacillo Transmission Center in the amount of \$87,437,332.77 (CRC Gross Cost \$88,096,455.73 – Uninsurable items \$659,122.96); please see "SP550950 – Cost Estimate - Insurance" file.

Insurance Proceeds Statement:

FEMA acknowledges that the Applicant is in negotiations with their insurance carrier at the time of the FEMA insurance review and might have received partial settlements. In accordance with 44 CFR §206.250-253, in the absence of an actual settlement, anticipated insurance recoveries will be deducted from this project based on Applicant's insurance policy limits. FEMA subsequently adjusts the eligible costs based on the actual amount of insurance proceeds the Applicant receives after a final settlement.

FEMA's Recovery Policy FP 206-086-1, Public Assistance Policy on Insurance (June 29, 2015), requires applicants to take reasonable efforts to recover insurance proceeds that it is entitled to receive from its insurers. FEMA will consider final insurance settlements that may be less than the insurance policy limits when an applicant demonstrates that it has taken reasonable efforts to recover insurance proceeds that it is entitled to on a case-by-case basis.

Standard Insurance Comments

FEMA Policy 206-086-1

PART 2: Other Insurance-Related Provisions. (Sections 312 and 406(d) of the Stafford Act)

A. Duplication of Benefits. FEMA cannot provide assistance for disaster-related losses that duplicate benefits available to an applicant from another source, including insurance.

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.
2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.
3. Applicants must take reasonable efforts to recover insurance proceeds that they are entitled to receive from their insurer(s).

...

5. If an applicant has an insurance requirement from a previous event:

- a. FEMA will reduce assistance by the actual or anticipated insurance proceeds, or the amount of insurance required in the previous disaster, whichever is greater.
- b. FEMA will only consider insolvent insurers, legal fees, or apportionment of proceeds as described in Section VII, Part 2(A)(3) and (4) when the applicant's anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster.

FEMA Policy 206-086-1

H. Subsequent Assistance. When a facility that received assistance is damaged by the same hazard in a subsequent disaster:

1. If the applicant failed to maintain the required insurance from the previous disaster, then the facility is not eligible for assistance in any subsequent disaster.
2. Upon proof that the applicant maintained its required insurance, FEMA will reduce assistance in the subsequent disaster by the amount of insurance required in the previous disaster regardless of:
 - a. The amount of any deductible or self-insured retention the applicant assumed (i.e., "retained risk").

...

4. If the applicant's anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster, FEMA will reduce assistance by that amount in accordance with Section VII, Part 2(A) of this policy.

Obtain and Maintain Requirements:

44 CFR § 206.253 Insurance requirements for facilities damaged by disasters other than flood.

(a) Prior to approval of a Federal grant for the restoration of a facility and its contents which were damaged by a disaster other than flood, the recipient shall notify the Regional Administrator of any entitlement to insurance settlement or recovery for such facility and its contents. The Regional Administrator shall reduce the eligible costs by the actual amount of insurance proceeds relating to the eligible costs.

(b)

(1) Assistance under section 406 of the Stafford Act will be approved only on the condition that the recipient obtain and maintain such types and amounts of insurance as are reasonable and necessary to protect against future loss to such property from the types of hazard which caused the major disaster. The extent of insurance to be required will be based on the eligible damage that was incurred to the damaged facility as a result of the major disaster. The Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.

(2) Due to the high cost of insurance, some applicants may request to insure the damaged facilities under a blanket insurance policy covering all their facilities, an insurance pool arrangement, or some combination of these options. Such an arrangement may be accepted for other than flood damages. However, if the same facility is damaged in a similar future disaster, eligible costs will be reduced by the amount of eligible damage sustained on the previous disaster.

(c) The Regional Administrator shall notify the recipient of the type and amount of insurance required. The recipient may request that the State Insurance Commissioner review the type and extent of insurance required to protect against future loss to a disaster-damaged facility, the Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.

(d) The requirements of section 311 of the Stafford Act are waived when eligible costs for an insurable facility do not exceed \$5,000. The Regional Administrator may establish a higher waiver amount based on hazard mitigation initiatives which reduce the risk of future damages by a disaster similar to the one which resulted in the major disaster declaration which is the basis for the application for disaster assistance.

(e) The recipient shall provide assurances that the required insurance coverage will be maintained for the anticipated life of the restorative work or the insured facility, whichever is the lesser.

(f) No assistance shall be provided under section 406 of the Stafford Act for any facility for which assistance was provided as a result of a previous major disaster unless all insurance required by FEMA as a condition of the previous assistance has been obtained and maintained.

Final Obtain and Maintain requirement amount will be determined during the closeout process after the final actual eligible costs to repair or replace the insurable facility have been determined.

FEMA Policy 206-086-1

F. Timeframes for Obtaining Insurance. FEMA will only approve assistance under the condition that an applicant obtains and maintains the required insurance.

The applicant must document its commitment to comply with the insurance requirement with proof of insurance.

If an applicant cannot insure a facility prior to grant approval (for example, if a building is being reconstructed), the applicant may provide a letter of commitment stating that they agree to the insurance requirement and will obtain the types and extent of insurance required, followed at a later date by proof of insurance once it is obtained. In these cases, the applicant should insure the property:

- a. When the applicant resumes use of or legal responsibility for the property (for example, per terms of construction contract or at beneficial use of the property); or
- b. When the scope of work is complete.

FEMA and the recipient will verify proof of insurance prior to grant closeout to ensure the applicant has complied with the insurance requirement.

An applicant should notify FEMA—in writing through the recipient—of changes to their insurance which impact their ability to satisfy the insurance requirement after it provides proof of insurance to FEMA. This includes changes related to self-insurance. If an applicant fails to do this, FEMA may de-obligate assistance and not provide assistance in a future disaster.

Jean-Carlo Echevarria, PA Insurance Specialist, CRC Atlantic, Guaynabo, PR

O&M Requirements

Insured Peril	Item Type	Description	Required Coverage Amount
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain") for the FAAS Monacillo Transmission Center in the amount of \$87,437,332.77.	\$87,437,332.77

406 Mitigation

There is no additional mitigation information on **FAAS - EPC - [Monacillo TC] (Substations)**.

Environmental Historical Preservation

Is this project compliant with EHP laws, regulations, and executive orders?

Yes

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- Clean Air Act (CAA): For Installation and operation of emergency power generators: Applicant is required to obtain a Source of Emission Permit (PFE) from Puerto Rico Department of Natural and Environmental Resources (PR DNER) or

General Permit for Emergency Power Generators (PG GE) from the PR Office of Permits Management (OGPe) prior to construction and operation of the proposed source of emissions. Documentation of DNER and other state, local or federal guideline compliance, may be required as a condition of closeout.

- National Historic Preservation Act (NHPA): 1. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. 2. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. 3. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout.
- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA): 1. The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. The applicant is responsible to ensure damaged transformers are handled, managed, and disposed of in accordance with all federal and state laws and requirements. Downed electrical equipment may contain toxic and hazardous materials, such as polychlorinated biphenyls (PCBs), and may spill these materials if a rupture occurs. Applicant is responsible for screening transformers that do or may contain PCBs and the area where any related spill occurred. The applicant is then responsible to handle, manage, dispose of, or recycle damaged equipment and contaminated soil as appropriate. Where possible, temporary measures should be implemented to prevent, treat, or contain further releases or mitigate the migration of PCBs into the environment. If damaged equipment or material storage containers must be stored temporarily, containers should be placed on hardened surface areas, such as a concrete or an asphalt for no more than 90 days. Excavated contaminated material should be disposed of in accordance with federal and state laws and requirements. 3. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- NEPA Determination: All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt - EPC - [Monacillo TC] (Substations)**.

Final Reviews

Final Review

Reviewed By Amaro, Luis N.

Reviewed On 12/01/2023 6:16 AM PST

Review Comments

LNA 12/01/23. This project has been reviewed, found eligible and cost reasonable, and it is ready to continue the award process.

Recipient Review

Reviewed By Salgado, Gabriel

Reviewed On 12/04/2023 4:13 AM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements and PA policy. Project is ready for applicant review.

Project Signatures

Signed By Miller, Thomas

Signed On 12/04/2023

Department of Homeland Security Federal Emergency Management Agency

General Info

Project #	723077	PW#	11556	Project Type	Specialized	
Project Category	F - Utilities	Applicant	PR Electric Power Authority (000-UA2QU-00)			
Project Title	FAASt - EPC - [Sabana Llana TC] (Substation)				Event	4339DR-PR (4339DR)
Project Size	Large	Declaration Date	9/20/2017			
Activity Completion Date	9/20/2027	Incident Start Date	9/17/2017			
Process Step	Obligated	Incident End Date	11/15/2017			

Damage Description and Dimensions

The Disaster # 4339DR, which occurred between **09/17/2017** and **11/15/2017**, caused:

Damage #1331959; FAASt [Sabana Llana TC]

DDD for this facility codified in the 136271 - MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Sabana Llana TC
- **Facility Description:** The Sabana Llana TC switchyard consists of facilities that operate at nominal voltages of 230 kV, 115 kV, and 38 kV. This facility includes: A. Seven (7) 38 kV circuit breakers: • Four (4) oil circuit breakers (OCBs) • Three (3) gas circuit breakers (GCBs) B. Thirteen (13) 115 kV circuit breakers • Four (4) oil circuit breakers (OCBs) • Nine (9) gas circuit breakers (GCBs) C. Six (6) 230 kV gas circuit breakers (GCBs) D. One (1) 230/115 kV, 270/360/450/504 MVA autotransformer (Year 2001). E. One (1) out of service 230/115 kV, 547 MVA autotransformer at site. F. One (1) 115/38 kV, 60/80/100/112 MVA autotransformer (Year 1995). G. Two (2) Capacitor Banks connected at 115 kV. H. One (1) 115/13.2 kV, 24/44.8 MVA, step down transformer for substation 1647 Sabana Llana. I. One (1) 115/13.2 kV, 24/44.8 MVA, step down transformer for substation 1646 Sabana Llana.
- **Approx. Year Built:** 1980
- **GPS Latitude/Longitude:** [REDACTED]

General Damage Information:

- **Date Damaged:** 9/20/2017
- **Cause of Damage:** High winds & wind driven rain, caused by Cat 4 Hurricane Maria

Final Scope

1331959 **FAASt [Sabana Llana TC]**

Sabana Llana TC Overview

Project Name:	Sabana Llana TC
Project Type:	Restore to Codes and Standards
Region:	San Juan
Damage Number:	1331959
Damaged Inventory/Asset Category:	Island Wide Substations
FEMA Project Number: <i>(Formerly Project Worksheet)</i>	180326

Introduction

The purpose of this document is to submit to COR3 and FEMA the detailed Scope of Work ("SOW") for the Sabana Llana Transmission Center repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane that occurred during the period of Sep 17, 2017, to Nov 15, 2017.

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 detailed scope of work, 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. Puerto Rico Electric Power Authority (PREPA) is the agency that owns the facilities, sites, and systems identified in this Scope of Work that are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

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

Facilities

Facilities List:

Name	GPS Coordinates	Voltage (kV)	Construction Year
Sabana Llana Transmission Center		230 kV, 115 kV, & 38 kV	1980 approx.

Facilities Description:

The Sabana Llana TC switchyard consists of facilities that operate at nominal voltages of 230 kV, 115 kV, and 38 kV. This facility includes:

- A. Seven (7) 38 kV circuit breakers:
 - Four (4) oil circuit breakers (OCBs)
 - Three (3) gas circuit breakers (GCBs)
- B. Thirteen (13) 115 kV circuit breakers
 - Four (4) oil circuit breakers (OCBs)
 - Nine (9) gas circuit breakers (GCBs)
- C. Six (6) 230 kV gas circuit breakers (GCBs)
- D. One (1) 230/115 kV, 270/360/450/504 MVA autotransformer (Year 2001).
- E. One (1) out of service 230/115 kV, 547 MVA autotransformer at site.
- F. One (1) 115/38 kV, 60/80/100/112 MVA autotransformer (Year 1995).
- G. Two (2) Capacitor Banks connected at 115 kV.
- H. One (1) 115/13.2 kV, 24/44.8 MVA, step down transformer for substation 1647 Sabana Llana.
- I. One (1) 115/13.2 kV, 24/44.8 MVA, step down transformer for substation 1646 Sabana Llana.

There are also transmission lines emanating out of Sabana Llana TC that are considered important interconnections between nearby TCs in the San Juan region, including the transmission line 36800, which is a critical transmission line in Puerto Rico which line runs from the Sabana Llana TC, heading east to Fajardo TC, and has experienced reliability issues with the existing metal clad and apparatus.

Sabana Llana TC substation is a Critical Facility, meaning it is proven to have very large, cascading impact on the Puerto Rico transmission network because of its size and the importance of the generators it connects to the grid. A catastrophic failure in this substation can rapidly propagate into other parts of the transmission system and result in widespread blackouts.

The proposed project will bring this station to LUMA Energy and industry standards, improve system resiliency and reliability, mitigate safety hazards, and address environmental concerns.

Project Scope Summary

Sabana Llana TC must be refurbished to address the risk and vulnerability it imposes on the system, to remedy its poor reliability record. The detailed Scope of Work consists of the repair, replace and addition of the following engineering and construction components to construct a new transmission center facility (Sabana Llana TC) switchyard as shown in the proposed one-line diagram, with the 230kV, 115kV, and 38kV Transmission infrastructure, at its current location. This reconstruction work will be done in phases.

I. Transmission Infrastructure

A. 230 kV infrastructure

1) 230 kV existing breaker-and-a-half (BAAH) configuration with six (6) GCBs with services for:

- Line 50800 to Yabucoa TC
- Line 51000 to Aguas Buenas TC
- Evaluation will be completed to determine whether future site expansion is possible and impacts of such site expansion.
- Existing T1: 230/115 kV, 270/360/450/504 MVA
- New T2: 230/115 kV, 270/360/450/504 MVA • Recommend replacing existing transformer with a new one. The impedance of this transformer must be similar to that of the existing transformer.

B. 230 kV switchyards

1) For 230 kV switchyards evaluate equipment status and conditions:

- Replace the circuit breakers associated disconnect switches, two per breaker.
- Replace the lines switches with new motor operated disconnect (MOD) switches.
- Evaluate condition of existing GCBs, including ampacity and kAIC requirements.
- Replace surge arresters.
- Replace insulators as needed.
- Replace voltage transformers.
- Low and high sides of the 115/38 kV transformers and 230/115 kV autotransformers shall be connected to different bays and different adjacent buses to increase system reliability under contingencies at either bus.
- Evaluate the buses infrastructure to determine if replacements are needed.
- The design and layout drawings shall consider space provision for future plans of switchyard expansion.
- New control enclosure with protection, control, telecom and automation for 38, 115, 230kv systems

C. 115 kV Infrastructure

1) 115 kV new breaker-and-a-half (BAAH) configuration with fifteen (15) GCBs with services for:

- Line 38900 to Parque Escorial
- Line 36800 to Canóvanas TC
- One Capacitor Bank 50 MVAR connected at 115 kV
- Space provision for BESS Plant
- Spare Service
- Existing T1: 230/115 kV, 270/360/450/504 MVA autotransformer
- One 115/13.2 kV transformer with a 24/44.8 MVA capacity, Delta-Wye for sub-1646
- Two lines connection to the twelve (12) GCBs 115 kV BAAH switchyard
- Replacement of existing T1: 115/38 kV 60/80/100/112 MVA transformer
- Recommend replacing existing transformer with a new one, since it had been in service since 1995 and is reaching the end of its useful life. The impedance of this transformer must be similar to that of the existing transformer.

2) 115 kV new breaker-and-a-half (BAAH) configuration with twelves (12) GCBs with services for:

- Line 37900 to Monacillo TC
- Line 41200 to Canóvanas TC
- One (1) Capacitor Bank 50 MVAR connected at 115 kV
- New T2: 115/38 kV 60/80/100/112 MVA transformer
- One (1) 115/13.2 kV transformer with a 24/44.8 MVA capacity, Delta-Wye for sub-1647
- Two lines connection to the fifteen (15) GCBs 115 kV BAAH switchyard
- New T2: 230/115 kV, 270/360/450/504 MVA autotransformer
- The design and layout drawings shall consider space provision for future plans of switchyard expansion

D. 38 kV infrastructure

1) 38 kV new breaker-and-a-half (BAAH) configuration with nine (9) GCBs with services for:

- Line 3600 to Los Angeles Sec.
- Line 1000 to Villa Prades Sec.
- Line 3600 to Monacillo TC
- Two lines connection to the nine (9) GCBs 38 kV BAAH switchyard
- The design and layout drawings shall consider space provision for future plans of switchyard expansion.
- Replacement of existing T1: 115/38 kV 60/80/100/112 MVA transformer
- 38 kV new breaker-and-a-half (BAAH) configuration with nine (9) GCBs with services for:

- Line 3100 Monacillo TC
- Line 18800
- Line 3100 to Canóvanas TC
- Two lines connection to the twelve (12) GCBs 38 kV BAAH switchyard
- New T2: 115/38 kV 60/90/112 MVA transformer

II. Distribution Infrastructure

A. Rebuild existing substation 1646 and 1647 substations.

1) Major equipment requirements for substation 1646 rebuild:

- One (1) 115/13.2 kV transformer with a 24/44.8 MVA capacity, Delta-Wye
- Twelve (12) 15 kV breakers, 2,000 A in ring bus configuration
- One (1) 13.2 kV bus tie breaker, 2,000 A. This breaker will interconnect the 13.2 kV buses of the rebuilt 1646 substation and 1647.
- Install ION meter and related metering equipment.
- Provide for current measurement for all phases of each distribution feeder.

2) Major equipment requirements for substation 1647:

- One (1) 115/13.2 kV transformer with a 24/44.8 MVA capacity, Delta-Wye
- Eleven (11) 15 kV breakers, 2,000 A in ring bus configuration
- One (1) 13.2 kV bus tie breaker, 2,000 A. This breaker will interconnect the 13.2 kV buses of the rebuilt 1646 substation and 1647.
- Install ION meter and related metering equipment.
- Provide for current measurement for all phases of each distribution feeder.

III. General Equipment

- 1) To support the Smart Grid and IEC 61850 requirements for this substation, space for a minimum seven (7) telecom cabinets (7ft height x 3ft) will be established.
- 2) The substation site generator will be shared for telecommunications backup requirements.
- 3) Telecommunications rooms will be located out of the flood zone and or provide alternative to correct the risk of damage.

Scope of Work Description:

A. SCADA

1. Provide and install 15 Ea. of Conversion equipment, battery chargers.
2. Provide and install 60 C.L.F. of Tray cable, type TC, copper, 600 V, #12-9 conductor.
3. Provide and install 60 C.L.F. of Tray cable, type TC, copper, 600 V, #12-12 conductor.
4. Provide and install 60 C.L.F. of Tray cable, type TC, copper, 600 V, #10-4 conductor.

5. Provide and install 60 C.L.F. of Tray cable, type TC, copper, 600 V, #10-7 conductor.
6. Provide and install 60 C.L.F. of Tray cable, type TC, copper, 600 V, #10-12 conductor.
7. Provide and install 7.5 Ea. of SEL-487E Transformer Differential Relay with conventional secondary inputs, standard with voltage, frequency, directional overcurrent and Volts-per-hertz elements, 125-250VDC or 110-240Vac.
8. Provide and install 7.5 Ea. of SEL-451 Overcurrent Protection Relay, with conventional secondary inputs 125-250Vdc or 110-240Vac.
9. Provide and install 67.5 Ea. of SEL-751 Feeder Protection Relay, 5-inch color touchscreen with 8 push buttons, 110-250Vdc (110-240Vac).
10. Provide and install 22.5 Ea. of SEL-2440 Discrete Programmable Automation Controller (DPAC), Horizontal Rack mount, 125Vdc/Vac.
11. Provide and install 7.5 Ea. of SEL-2488 Satellite Synchronized Network Clock, Horizontal Rack mount, 125Vdc or Vac.
12. Provide and install 7.5 Ea. of SEL-3555, Real Time Automation controller, 3U Horizontal Rack mount.
13. Provide and install 7.5 Ea. of Touchscreen monitor kit(19in ELO monitor PNE331019, Display Port VGA HDMI, Rack Mount Bracket, 120/240Vac, 125/250Vdc).
14. Provide and install 60 Ea. of ABB FT-19R switches 4RU, Steel RAL 7035, Gray, Screw terminals, Standard Depth, Full length, Clear cover.
15. Provide and install 37.5 C.L.F. of Wire, copper, stranded, 600 volt, 2/0, type THW, normal installation conditions in wireway, conduit, cable tray.
16. Provide and install 30 C.L.F. of Wire, copper, stranded, 600 volt, 4/0, type THW, normal installation conditions in wireway, conduit, cable tray.
17. Provide and install 150 C.L.F. of Tray cable, type TC, copper, 600 V, #14-7 conductor.
18. Provide and install 75 C.L.F. of Coaxial cable, 50 ohm, RG A/U #58 cable.
19. Provide and install 157.5 C.L.F. of Fiber optic cable, 12 strand, multi mode.
20. Provide and install 7.5 Ea. of ION 8650 meter 128MB, 9S/29S/36S, 60Hz.
21. Provide and install 7.5 Ea. of Phoenix mini PS 100-240VAC_24DC Power supply.
22. Provide and install 45 Ea. of ICT240DB-8IRC 12/24/48VDC Dual Bus 1RU distribution panel.
23. Provide and install 7.5 Ea. of IDEC PS5R-VC12 power supply 30W 12VDC.
24. Provide and install 30 Ea. of Phoenix contact 2315162.
25. Provide and install 60 Ea. of UP-TSF200-12, 48VDC battery .
26. Provide and install 15 Ea. of Hoffman Relay Cabinet, SCADA cabinet, Telecom cabinet.
27. Provide and install 300 Ea. of Fuses, cartridge, non-renewable, 250 V, 30 amp.
28. Provide and install 7.5 Ea. of GE 400A Infinity-S Dual Molex LVBD.
29. Provide and install 7.5 Ea. of SEL ICON.
30. Provide and install 7.5 Ea. of Battery, deep cycle, 400Ah, 125V.
31. Provide and install 270 Ea. of Fiber optic patch panel, 12 ports
32. Provide and install 75 C.L.F. of Fiber optic cable, 12 strand, single mode.
33. Provide and install 3750 L.F. of Fiber optics cable, 50 microns, 12 fiber, indoor.
34. Provide and install 30 Ea. of Corning CCH-04U, Housing.
35. Provide and install 22.5 Ea. of GE Critical Power NE050AC48ATEZ 50A Rectifier.
36. Provide and install 7.5 Ea. of SCADA Panel.

37. Provide and install 360 Ea. of Coming CCH-CS12-55-P00RE, Splice Cassette.
38. Provide and install 7.5 Ea. of Coming CC1-120TR-1259H Anylan Integrated 1RU.
39. Provide and install 22.5 Ea. of Internal Panel Wiring.
40. Provide and install 7.5 Ea. of Wiring from GIS building to Outdoor equipment.

B. Telecommunication

1. Provide and install 1 Ea. of Rack mount USB, Keyboard/Drawer with mouse.
2. Provide and install 100 Ea. of Marathon 1512STD, 12 positions.
3. Provide and install 3 Ea. of Cisco IEM-3400-8S expansion model.
4. Provide and install 3 Ea. of Cisco IE-3400-8T2S Industrial Ethernet switch.
5. Provide and install 3 Ea. of Cisco ISA-3000-2C2F-K9 Industrial Security Appliance.
6. Provide and install 1 Ea. of Startech 2 Port USB display port KVM switch.
7. Provide 1 Ea. of ADAM data acquisition module 6017.
8. Provide and install 4 Ea. of Switching and routing equipment, network switch, KVM, 10/100/1000/10000 Mbps, 28 port, Industrial Ethernet, rear ports.
9. Provide and install 5 Ea. of Telecom Panels.
10. Provide and install 1 Ea. of Cisco MPLS Router N540-24Z8Q2C-SYS.
11. Provide and install 4 Ea. of Cisco IE-4010-4S24P switch.
12. Provide and install 2 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
13. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.
14. Provide and install 1 Ea. of Aviat Networks microwave WTM 4100 Radio, Antenna 18Ghz.
15. Provide and install 18 C.Y. of Cable Bridge (galvanized steel, 24 IN W grip-strut channel, universal cantilevers and pipe columns).
16. Provide and install 18 L.F. of Concrete Foundation for Cable Bridge Steel Column 3500psi (8 IN wide).
17. Provide 5 Ea. of Testing and Commissioning for Telecom.
18. Provide and install 1 Ea. of Communications transmission tower, radio towers self-supporting, wind load 70 mph basic wind speed, 120FT high.
19. Provide and install 0.25 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.

C. Demolition Disposal

1. Provide 24 Hr. of Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 5000 gallons, minimum charge, 4 hours, 2 compartment.
2. Provide 15 Ton of Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum.
3. Provide 3 Ea. of Demolition, removal and disposal, structures, breakers, and other miscellaneous equipment. .
4. Provide 24 months of Site preparation foundation (water truck, safety officer, etc Plan CES).
5. Provide 3 EA of Lead and Asbestos Testing and Disposal for structures & demolitions.
6. Provide 3 Ea. of Storage of removal equipment/recycling/decommissioning.
7. Provide 3 Ea. of Regular Waste Disposal & Hazardous.

8. Provide 600 L.F. of Excavating, chain trencher, utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.
9. Provide and place 1 Ea. of Prefabricated Control house, Stainless Steel, elevated with personnel platforms, doors, stairs, relay panels AC and DC power, station batteries, charger etc.

D. Physical Electrical GIS 230-115-46 KV

1. Provide and install 12 Ea. of Insulators, pedestal type.
2. Provide and install 2 Ea. of 46 kV Dead End Suspension Insulator Bells, 3 phases, 6 Bells Per phase (18 Bells).
3. Provide and install 2 MVA of TRANSFORMER 115/40 kV – 67 / 90 / 112 MVA.
4. Provide and install 2 Ea. of TRANSFORMER 230/115KV, 544 MVA.
5. Provide and install 24 Ea. of Lightning arresters, 230 kV.
6. Provide and install 1 Ea. of Substation 230kV GIS (Gas Insulated Switchgear).
7. Provide and install 1 Ea. of Substation 115kV GIS (Gas Insulated Switchgear).
8. Provide and install 4 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
9. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.
10. Provide and install 0.5 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.
11. Provide and install 500 Ea. of PVC conduit couplings, 1-1/2 IN diameter, to 15 FT H.
12. Provide and install 16 C.L.F. of Ground wire, copper wire, bare stranded, 300 kcmil.
13. Provide and install 200 Ea. of Exothermic weld, cadweld exothermic welding kit, multi vertical.
14. Provide and install 30 C.L.F. of Ground wire, copper wire, bare stranded, 4/0.
15. Provide and install 90 Ea. of Grounding rod, copper clad, 10 FT long, 3/4 IN diameter.
16. Provide chain trencher excavation for 5400 L.F. of utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.
17. Provide 144 C.Y. of Structural concrete, in place, free-standing wall (3000 psi), 8 IN thick x 8 FT high, includes forms (4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing.
18. Provide and install 12 Ea. of Cable terminations, indoor, insulation diameter range, 25 kV, 1.05 IN to 1.8 IN, pad mount.
19. Provide and install 36 Ea. of Cable terminations, outdoor systems, 15 kV, 1,000 kcmil.
20. Provide and install 1 Ea. of Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 150 kVA.
21. Provide and install 1 Ea. of Industrial safety fixture, eye and face wash, combination fountain, stainless steel, pedestal mounted, excludes rough-in.
22. Provide and install 6 Ea. of Insulators, pedestal type.
23. Provide and install 1 Ea. of 46 kV Dead End Suspension Insulator Bells, 3 phases, 6 Bells Per phase (18 Bells).
24. Provide and install 3 Ea. of Lightning arresters, 46 kV.
25. Provide and install 1 Ea. of Substation 15kV GIS (Gas Insulated Switchgear).
26. Provide and install 1 Ea. of Prefabricated GIS enclosure, Stainless Steel, elevated with personnel platforms, doors, stairs, relay panels AC and DC power, station batteries, charger etc.
27. Provide and install 2 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
28. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.

29. Provide 0.25 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.
30. Provide and install 250 Ea. of PVC conduit couplings, 1-1/2 IN diameter, to 15 FT H.
31. Provide and install 8 C.L.F. of Ground wire, copper wire, bare stranded, 300 kcmil.
32. Provide and install 100 Ea. of Exothermic weld, cadweld exothermic welding kit, multi vertical.
33. Provide and install 15 C.L.F. of Ground wire, copper wire, bare stranded, 4/0.
34. Provide and install 45 Ea. of Grounding rod, copper clad, 10 FT long, 3/4 IN diameter.
35. Provide chain trencher excavation for 2700 L.F. of utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.
36. Provide and install 2 Ea. of Chain link fences & gates, gate, chain link, galvanized steel, double gate, 3 strand barbed wire, 12 FT x 7 FT, excludes excavation.
37. Provide and install 400 L.F. of Fence, chain link industrial, galvanized steel, 3 strands barb wire, 2 IN posts @ 10 FT OC, 9 ga. wire, 6 FT high, schedule 40, includes excavation, & concrete.
38. Provide and install 400 Ea. of Fence, fabric & accessories, extension arms, 3 strands, barbed wire.
39. Provide 72 C.Y. of Structural concrete, in place, free-standing wall (3000 psi), 8 IN thick x 8 FT high, includes forms (4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing.
40. Provide and install 3 Ea. of Cable terminations, indoor, insulation diameter range, 25 kV, 1.05 IN to 1.8 IN, pad mount.
41. Provide and install 12 Ea. of Cable terminations, outdoor systems, 15 kV, 1,000 kcmil.
42. Provide and install 1 Ea. of Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 150 kVA.
43. Provide and install 1 Ea. of Industrial safety fixture, eye and face wash, combination fountain, stainless steel, pedestal mounted, excludes rough-in.
44. Provide and install 1 Ea. of MTR 500kVA Padmounted Transformer for Remote metering.
45. Provide and install 2 Ea. of Disconnecting switches, gang manual operation, 46 kV.

E. Civil Structural

1. Provide, install, and remove 1095 L.F. of Synthetic erosion control, silt fence, 3 FT high.
2. Provide, install, and remove 360 L.F. of Erosion control, straw bale, 3 FT Long.
3. Provide 3 Ea. of Electrical underground ducts and manholes, man holes, precast w/iron racks & pulling irons, C.I. frame and cover, 6 FT x 10 FT x 7 FT deep, excludes excavation, backfill and cast in place concrete.
4. Provide and install 918 L.F. of Electrical underground ducts and manholes, underground duct banks, PVC, 4 @ 6 IN diameter, excludes excavation, backfill and cast in place concrete.
5. Provide and install 144 C.Y. of Electrical underground ducts and manholes, underground duct banks, for cast-in-place concrete, over 5 C.Y., excludes excavation, backfill and cast in place concrete, add.
6. Provide and install 207 L.F. of Electrical underground ducts and manholes, underground duct banks ready for concrete fill, PVC, type EB, 2 @ 3 IN diameter, excludes excavation, backfill and cast in place concrete.
7. Provide and install 180 L.F. of Trench duct, steel with cover, standard adjustable, straight, single compartment, depths to 4 IN, 24 IN wide.
8. Provide and install 1 Ea. of Industrial safety fixture, eye and face wash, combination fountain, stainless steel, pedestal mounted, excludes rough-in.
9. Provide and install 1 L.F. of Public sanitary utility sewerage piping, piping polyvinyl chloride pipe, B & S, 20 FT lengths, 4 IN diameter, SDR 35, excludes excavation or backfill.
10. Provide and install 2 L.F. of Pipe, plastic, CPVC, socket joint, 3/4 IN diameter, schedule 40, includes couplings 10 FT OC, and hangers 3 per 10 FT.
11. Provide and install 570 L.F. of Public storm utility drainage piping, drainage and sewage, corrugated HDPE, type S, bell and spigot, with gaskets, 6 IN diameter, excludes excavation and backfill.

12. Provide and install 1080 B.C.Y. of Excavating, trench or continuous footing, common earth, 1/2 C.Y. excavator, 4 FT to 6 FT deep, excludes sheeting or dewatering.
13. Provide 1080 L.C.Y. of Fill by borrow and utility bedding, for pipe and conduit, sand, dead or bank, excludes compaction.
14. Provide 570 S.Y. of Concrete pavement highway, 4500 psi, fixed form, unreinforced, 12 FT pass, 8 IN thick, includes joints, finishing, and curing.
15. Provide and install 570 S.Y. of Base course drainage layers, aggregate base course for roadways and large paved areas, stone base, compacted, 3/4 IN stone base, to 6 IN deep.
16. Provide and install 690 L.F. of Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per LF, 6 IN high curb, 6 IN thick gutter, 30 IN wide, includes concrete.
17. Provide and install 1080 S.F. of Sidewalks, driveways, and patios, sidewalk, concrete, cast-in-place with 6 x 6 - W1.4 x W1.4 mesh, broomed finish, 3,000 psi, 4 IN thick, excludes base.
18. Provide 357 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
19. Provide 150 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
20. Provide 18 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
21. Provide 45 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
22. Provide and install 114 C.Y. of Structural concrete, placing, duct bank, direct chute, excludes material.
23. Provide 171 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
24. Provide 150 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
25. Provide 18 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
26. Provide 45 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
27. Provide 18 C.Y. of Structural concrete, placing, slab on grade, direct chute, up to 6 IN thick, includes leveling (strike off) & consolidation, excludes material.
28. Provide 54 C.Y. of Structural concrete, placing, slab on grade, direct chute, up to 6 IN thick, includes leveling (strike off) & consolidation, excludes material.
29. Provide 6 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
30. Provide 23.4 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
31. Provide 0.6 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
32. Provide 1.2 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
33. Provide 156 B.C.Y. of Excavating, bulk, dozer, open site, bank measure, common earth, 80 HP dozer, 150 FT haul.
34. Provide 39 B.C.Y. of Backfill, bulk, 6 IN to 12 IN lifts, dozer backfilling, compaction with vibrating roller.
35. Provide 3132 S.Y. of Base course drainage layers, aggregate base course for roadways and large paved areas, stone base, compacted, 3/4 IN stone base, to 6 IN deep.
36. Provide 408 L.F. of Column, structural, 2-tier, W12x87, A992 steel, incl shop primer, splice plates, bolts.
37. Provide 342 L.F. of Column, structural, 2-tier, W8x31, A992 steel, incl shop primer, splice plates, bolts.

38. Provide 108 L.F. of Curb edging, structural steel angle w/ anchors, on concrete forms, 12.3 plf, 6 IN x 4 IN, shop fabricated.
39. Provide 180 L.F. of Curb edging, structural steel channel w/ anchors, on concrete forms, 11.5 plf, 8 IN, shop fabricated.
40. Provide and install 18 S.F. of Steel plate, structural, for connections & stiffeners, 1/4 IN T, shop fabricated, incl shop primer.
41. Provide and install 24 S.F. of Steel plate, structural, for connections & stiffeners, 3/4 IN T, shop fabricated, incl shop primer.
42. Provide and install 900 Ea. of High strength bolt, 5/8 IN dia x 2 IN L, A325 Type 1, incl washer & nut.
43. Provide and install 355200 Lb. of Column, structural, concrete filled, for galvanizing, add.
44. Provide and install 204 L.F. of Column, structural, 2-tier, W10x68, A992 steel, incl shop primer, splice plates, bolts.
45. Provide and install 93 L.F. of Column, structural, 2-tier, W8x31, A992 steel, incl shop primer, splice plates, bolts.
46. Provide and install 63 L.F. of Curb edging, structural steel angle w/ anchors, on concrete forms, 12.3 plf, 6 IN x 4 IN, shop fabricated.
47. Provide and install 54 L.F. of Curb edging, structural steel channel w/ anchors, on concrete forms, 11.5 plf, 8 IN, shop fabricated.
48. Provide and install 9 S.F. of Steel plate, structural, for connections & stiffeners, 1/4 IN T, shop fabricated, incl shop primer.
49. Provide and install 9 S.F. of Steel plate, structural, for connections & stiffeners, 3/4 IN T, shop fabricated, incl shop primer.
50. Provide and install 300 Ea. of High strength bolt, 5/8 IN dia x 2 IN L, A325 Type 1, incl washer & nut.
51. Provide and install 19560 Lb. of Column, structural, concrete filled, for galvanizing, add.
52. Provide and install 402 L.F. of Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per LF, 6 IN high curb, 6 IN thick gutter, 30 IN wide, includes concrete.
53. Provide and place 2880 S.Y. of Gravel .
54. Provide 1 Ea. of Storage of removal equipment/recycling/decommissioning.
55. Provide 1 Ea. of Regular Waste Disposal & hazardous.

F. Emergency Generator

1. Provide and install 1 Ea. of Generator set, natural gas/LP, liquid cooled, 3 ph 4 wire, 120/240 V, 48kW, aluminum enclosure.
2. Provide and install 1 Ea. of Automatic transfer switches, enclosed, 3 pole, 480 volt, 100 amp.
3. Provide 1 Ea. of Excavation and dewatering.
4. Provide and install 100 S.F. of Foundation, Slab on grade, 8 IN thick, heavy industrial, reinforced.
5. Provide 50 L.F. of Electrical power installation and interconnection work, (trench work) for Telecommunication Shelter
2 IN PVC Sch 40 conduits
6. Provide and install 6 Ea. of PVC conduit elbows, 2 IN diameter, to 15 FT H.
7. Provide and install 2 C.L.F. of Wire, copper, stranded, 600 volt, 3/0, type THWN-THHN, normal installation conditions in wireway, conduit, cable tray.

G. Grounding

1. Provide and install 85 CFT of 4/0 Bare copper conductor.
2. Provide and install 2.83 CFT of #6 AWG Bare copper conductor.
3. Provide and install 1.46 CFT of 2/0 Copper conductor, XLPE insulation.

4. Provide and install 457 EA of 4/0 to 4/0 compression connectors (Burndy #YGHC2929).
5. Provide and install 49 EA of 4/0 to 2/0 compression connectors (Burndy #YGHC29C26).
6. Provide and install 65 EA of #6AWG to 2/0 compression connectors (Burndy #YGHC26C2).
7. Provide and install 202 EA of #6AWG to barbed wire compression connectors.
8. Provide and install 204 EA of #6AWG to 6 guage chain link compression connectors.
9. Provide and install 7 EA of 4/0 to 4/0 Tee connector (exothermic).
10. Provide and install 33 EA of 4/0 to 4/0 Cross connector (exothermic).
11. Provide and install 7 EA of 4/0 to Ground rod Through connector (exothermic).
12. Provide and install 383 EA of 4/0 to Flat Mechanical Connectors (Burndy #GC2929).
13. Provide and install 62 EA of 4/0 Braid to pipe U-bolt, mechanical connector (Burndy #GD2029).
14. Provide and install 73 EA of #6AWG to Fence post (1.25 IN) connector (Burndy #GAR1626).
15. Provide and install 28 EA of 2/0 to Fence post (3 IN) connector (Burndy #GAR2026).
16. Provide and install 21 EA of 2/0 to Fence post (4 IN) connector (Burndy #GAR2226).
17. Provide and install 104 EA of 3/4 IN Ground Rods (10 feet).
18. Provide and install 222 EA of Cadwelds.
19. Provide 51 EA of Fence post connector.
20. Provide 104 EA of Welding material, 115.
21. Provide 91 EA of Welding material, 150.
22. Provide 493 EA of Welding material, 200.
23. Provide 4 EA of Handle clamp.
24. Provide and install 2131 cyd of Insulating gravel, crushed granite, 3000 ohm-m.
25. Provide and install 31 EA of Ground mat (conductor size #4, length = 96 IN, width=72 IN).
26. Provide and install 10 FT of Bonding strap, 48 kcmil (Flexible copper braided #4AWG equivalent).
27. Provide and install 440 FT of Bonding strap, 231.552 kcmil (Flexible copper braided #4/0 equivalent).
28. Provide and install 1043 EA of Cable strap, 4/0 (#T&B 1347).

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. For more details, please refer to LUMA LPCE.

Estimated Budget for Architectural & Engineering Design:	\$4,850,983.03
Estimated Budget for Procurement & Construction:	\$100,686,731.41
Estimated Overall Budget for the Project:	\$105,537,714.44

v0 Project 723077 Cost Summary:

Work to be Completed (WTBC) Cost: \$105,537,714.44

Architectural & Engineering Design (A&E) Cost, Deduction: -\$4,850,983.03

Project Total: \$100,686,731.41

Project Notes:

- 1) Scope of work with items, quantities, and dimensions considered in the Class 5 Cost estimate. This has not been reviewed by A&E firm.
- 2) The expected area of impact for the construction work at Sabana Llana Substation is 2.86 acres (0.86 acre for new construction + 2.0 acre where some demolition is expected) as identified in the DSOW KMZ files and associated mapping. All construction activities identified will be executed within this 2.86 acre area and will include Boring Plans, Mobile substation, and generator installations, staging and laydown yards, new substation construction actions and ground disturbance activities to include the topsoil stripping.
- 3) The intent of the vegetation removal associated with this scope of work is addressing the necessary “incidental” work required to carry out repairs or replacements to the damaged asset(s). A separate project was developed for HM 406 vegetation removal work, and it is addressing the remediation work across the island, i.e., work that is limited to what is necessary to directly reduce the potential of future, similar damage to the Transmission & Distribution system, and exceeds what is necessary to simply clear vegetation to access facilities to carry out repairs.
- 4) To maintain the completed work within this project SOW, a post vegetation maintenance plan and team is required. A Vegetation Management Team will be tasked with executing the LUMA Vegetation Management Plan, which is found in the Documents Section of our Applicant Profile for Maria in Grants Portal and will be staffed by Subject Matter Experts with functional responsibility for vegetation maintenance work being performed in the field.
- 5) During project construction, the scope of work will be coordinated with System Operations to prevent any alternative activities that affect the following facilities:
 - 230 kV equipment connected to buses 1 and 2.
 - 115 kV equipment connected to buses 1 and 2.
 - 38 kV equipment connected to bus.
- 6) To minimize service interruptions during construction works, Mobile substations and generators for powering the loads connected shall be vetted.
- 7) Other scopes, including SCADA and RTU replacements, microwave point-to-point network, transport network, and field area network, may be provided as part of separate projects in the future.
- 8) EHP considerations will be identified and evaluated during the preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction documents to be approved by FEMA prior to construction activities.
- 9) Prior to the start of any demolition activities, inspections will be conducted by a trained and certified contractor for the presence and quantities of asbestos and lead based paint containing materials. These hazardous materials will be managed and disposed as required by applicable federal and state regulations.
- 10) Demolition contaminated materials will be delivered to the approved waste disposal that complies with the applicable federal and state regulations.
- 11) Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General and construction Waste). If equipment is to be

salvaged, it will be loaded and removed from the site. The debris will be separated and taken to an approved waste disposal facility.

12) The equipment expected to be used includes Skid Steer, Excavator, Hydrovacs, Dump trucks, Man lifts, 120-Ton Motor Crane, Boom Trucks 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Oil Tanker, Filtering Machine and Flatbed platform. All equipment used will comply with Tier 4 EPA Emission Standards, If available.

13) Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the Approved Supplier List Directory PR (see Appendix F). LUMA will provide actual suppliers documentation as a Condition of FEMA Record of Environmental Considerations.

14) While completing all demolition activities, a water source will be onsite to mitigate dust.

15) It is not anticipated that the proposed project will involve dredging or disposal of dredged material, excavation, the addition of fill material, or result in any modification to water bodies or wetlands designated as "waters of the United States" as identified by the U.S. Army Corps of Engineers or on the National Wetland Inventory.

16) Boreholes will be required for the project design. Typical boreholes will be approximately 4-8" in diameter and up to 25ft in depth.

17) The excess of soil material will be stockpiled temporarily onsite in the staging area or within the substation. Disposal of soil will be handled according to the applicable federal and state regulations. LUMA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.

18) The substation's structure tallest point is the Telecommunication tower. The Tower reach a height of 131.5 FT (120 FT tower structure over a 10 FT tall foundation). Refer to Appendix for drawing example.

19) The following list is for the expected permits requirements. LUMA will provide proof of all permits.

- Environmental Compliance Determination - Oficina de Gerencia de Permisos (OGPe)
- Consolidated General Permit - Environmental Quality Board (EQB) / Department of Natural & Environmental Resources (DNER).
- Construction General Permit (CGP).
- Carolina Municipality Notifications.
- Excavation and Demolition Notification - Department of Transportation and Public Works (DTOP).
- Asbestos Permit - EQB/DNER.
- Lead Permit - EQB/DNER.
- Hazardous Waste Disposal Permit - EQB/DNER.

20) For detailed information, refer to documents/attachments labeled

- DR-4339- FAAS 723077- Sabana LLana FEMA Detailed Scope of Work 10.31rev.pdf
- DR-4339PR- Appendix B - Sabana Llana TC LUMA LPCE (10.31.23).xlsx
- 723077 -DR-4339PR- Appendix E - Sabana Llana General Arrangement plans.kmz

21) This project is part of Donor FAAS 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAAS Project.

22) Architectural and Engineering (A&E) costs are deducted given previously obligated Global A&E Project for the subject FAAS PREPA work (see project: 335168 - PREPA Island Wide FAAS Project).

It was agreed with sub-applicant this project will be moved forward without HMP. Sub-applicant will develop this project by Design & Build process (EPC: Expedited Procurement & Construction). Once the sub-applicant's A&E firm completes the Design and Class 5 Cost Estimate then the proposed HMP measures will be evaluated and validated.

Cost

Code	Quantity	Unit	Total Cost	Section
3510 (v0 Engineering and Design Services, Deduction - PREPA FAAS ^t Global A&E 335168)	1.00	Lump Sum	(\$4,850,983.03)	Uncompleted
9201 (PAAP Fixed Estimate (No Value - Tracking Purposes Only))	1.00	Lump Sum	\$0.00	Completed
9001 (v0 Contract - PREPA FAAS ^t Donor Project 136271)	1.00	Lump Sum	\$105,537,714.44	Uncompleted

CRC Gross Cost \$100,686,731.41

Total 406 HMP Cost \$0.00

Total Insurance Reductions \$0.00

CRC Net Cost \$100,686,731.41

Federal Share (90.00%) \$90,618,058.27

Non-Federal Share (10.00%) \$10,068,673.14

Award Information

Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
0	Eligible	Awarded	PA-02-PR-4339-PW-11556(14572)	\$100,686,731.40	90 %	\$90,618,058.27	12/18/2023

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
No Records				

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
-----------	----------------	----------------	------------	--------------	--------------------

Subgrant Conditions

- As described in Title 2 Code of Federal Regulations (C.F.R.) § 200.333, financial records, supporting documents, statistical records and all other non-Federal entity records pertinent to a Federal award must be retained for a period of three (3) years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a subrecipient. Federal awarding agencies and pass-through entities must not impose any other record retention requirements upon non-Federal entities. Exceptions are stated in 2 C.F.R. §200.333(a) – (f)(1) and (2). All records relative to this project are subject to examination and audit by the State, FEMA and the Comptroller General of the United States and must reflect work related to disaster-specific costs.
- In the seeking of proposals and letting of contracts for eligible work, the Applicant/Subrecipient must comply with its Local, State (provided that the procurements conform to applicable Federal law) and Federal procurement laws, regulations, and procedures as required by FEMA Policy 2 CFR Part 200, Procurement Standards, §§ 317-326.
- The Recipient must submit its certification of the subrecipient's completion of this project, the final claim for payment, and supporting documentation within 180 days from the date that the applicant completes the scope of work, or the project deadline, whichever occurs first. FEMA reimburses Large Projects (those with costs above the large project threshold) based on the actual eligible final project costs. Therefore, during the final project reconciliation (closeout), the project may be amended to reflect the reconciliation of actual eligible costs.
- When any individual item of equipment purchased with PA funding is no longer needed, or a residual inventory of unused supplies exceeding \$5,000 remains, the subrecipient must follow the disposition requirements in Title 2 Code of Federal Regulations (C.F.R.) § 200.313-314.
- The terms of the FEMA-State Agreement are incorporated by reference into this project under the Public Assistance award and the applicant must comply with all applicable laws, regulations, policy, and guidance. This includes, among others, the Robert T. Stafford Disaster Relief and Emergency Assistance Act; Title 44 of the Code of Federal Regulations; FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide; and other applicable FEMA policy and guidance.
- The DHS Standard Terms and Conditions in effect as of the declaration date of this emergency declarations or major disaster, as applicable, are incorporated by reference into this project under the Public Assistance grant, which flow down from the Recipient to subrecipients unless a particular term or condition indicates otherwise.
- The Uniform Administrative Requirements, Cost Principles, and Audit Requirements set forth at Title 2 Code of Federal Regulations (C.F.R.) Part 200 apply to this project award under the Public Assistance grant, which flow down from the Recipient to all subrecipients unless a particular section of 2 C.F.R. Part 200, the FEMA-State Agreement, or the terms and conditions of this project award indicate otherwise. See 2 C.F.R. §§ 200.101 and 110.
- The subrecipient must submit a written request through the Recipient to FEMA before it makes a change to the approved scope of work in this project. If the subrecipient commences work associated with a change before FEMA approves the change, it will jeopardize financial assistance for this project. See FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- Pursuant to section 312 of the Stafford Act, 42 U.S.C. 5155, FEMA is prohibited from providing financial assistance to any entity that receives assistance from another program, insurance, or any other source for the same work. The subrecipient agrees to repay all duplicated assistance to FEMA if they receive assistance for the same work from another Federal agency, insurance, or any other source. If an subrecipient receives funding from another federal program for the same purpose, it must notify FEMA through the Recipient and return any duplicated funding.

Insurance

Additional Information

11/9/2023

GENERAL INFORMATION

Event: DR4339-PR

Project: SP 723077

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

Incident Period: 9/17/2017 to 11/15/2017

Total Public Assistance Amount: CRC Gross Cost \$100,686,731.41

COMMERCIAL INSURANCE INFORMATION

Does the applicant have a Commercial Policy that extends coverage for this facility: Yes

Policies Issued by: Willis Towers Watson, Multinational Insurance Company and Mapfre

Policy Numbers: Willis Towers Watson (B0804Q1966F17, B0804Q14312F17, B0804Q19673F17, B0804Q19672F17, B0804Q18529F17, B0804Q14312F17, B0804Q19674F17, B0804Q18411F17, B0804Q14310F17, B0804Q11038F17, B0804Q14507F17, B0804Q14312F17)

Mapfre Praico Insurance Company (1398178000644)

Multinational Insurance Company (88-CP-000307831-2, 88-CP-000318673-0, 88-CP000318674-0, 88-CP-000318675-0, 88-CP-000318676-0, 88-CP-000318677-0)

Policy Period: From: 5/15/2017 To: 5/15/2018

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

Deductible Amount \$25,000,000.00 each and every occurrence property damage and 30 days each and every occurrence business interruption in respect of Named Windstorm.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: Yes

The amount of the deductible being funded in this project is \$0.00

The amount of the deductible previously funded in other projects is \$25,000,000.00

Final Insurance Settlement Status: Insurance proceeds for this project are anticipated

The amount of Anticipated Insurance Reduction applied for Project: \$0.00

NUMBER OF DAMAGED LOCATIONS INCLUDED IN THIS PROJECT: (1)

Damaged Inventory (DI) #1331959:

FAASt [Sabana Llana TC]

Location Description: Sabana Llana TC

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Sub-Stations"

SOV / Schedule Amount: \$1,345,700,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$100,686,731.41

-

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

No insurance reduction will be applied to this project. An anticipated insurance reduction of \$193,746,436.00 was applied to FFAST project # 136271 for anticipated insurance proceeds for Hurricane Maria losses. For ease of reference, please see table of insurance allocations: "PREPA Allocation Plan – All Disasters" file.

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain") for the FFAST Sabana Llana TC in the amount of \$100,177,459.61 (CRC Gross Cost \$100,686,731.41 – Uninsurable Items \$509,271.80). Please see "SP723077 - Cost Estimate - Insurance" file.

Insurance Proceeds Statement:

FEMA acknowledges that the Applicant is in negotiations with their insurance carrier at the time of the FEMA insurance review and might have received partial settlements. In accordance with 44 CFR §206.250-253, in the absence of an actual settlement, anticipated insurance recoveries will be deducted from this project based on Applicant's insurance policy limits. FEMA subsequently adjusts the eligible costs based on the actual amount of insurance proceeds the Applicant receives after a final settlement.

FEMA's Recovery Policy FP 206-086-1, Public Assistance Policy on Insurance (June 29, 2015), requires applicants to take reasonable efforts to recover insurance proceeds that it is entitled to receive from its insurers. FEMA will consider final insurance settlements that may be less than the insurance policy limits when an applicant demonstrates that it has taken reasonable efforts to recover insurance proceeds that it is entitled on a case-by-case basis.

Standard Insurance Comments

FEMA Policy 206-086-1

PART 2: Other Insurance-Related Provisions. (Sections 312 and 406(d) of the Stafford Act)

A. Duplication of Benefits. FEMA cannot provide assistance for disaster-related losses that duplicate benefits available to an applicant from another source, including insurance.

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.
2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.
3. Applicants must take reasonable efforts to recover insurance proceeds that they are entitled to receive from their insurer(s).

...

5. If an applicant has an insurance requirement from a previous event:

- a. FEMA will reduce assistance by the actual or anticipated insurance proceeds, or the amount of insurance required in the previous disaster, whichever is greater.
- b. FEMA will only consider insolvent insurers, legal fees, or apportionment of proceeds as described in Section VII, Part 2(A)(3) and (4) when the applicant's anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster.

FEMA Policy 206-086-1

H. Subsequent Assistance. When a facility that received assistance is damaged by the same hazard in a subsequent disaster:

1. If the applicant failed to maintain the required insurance from the previous disaster, then the facility is not eligible for assistance in any subsequent disaster.
2. Upon proof that the applicant maintained its required insurance, FEMA will reduce assistance in the subsequent disaster by the amount of insurance required in the previous disaster regardless of:
 - a. The amount of any deductible or self-insured retention the applicant assumed (i.e., "retained risk").

...

4. If the applicant's anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster, FEMA will reduce assistance by that amount in accordance with Section VII, Part 2(A) of this policy.

Obtain and Maintain Requirements:

44 CFR § 206.253 Insurance requirements for facilities damaged by disasters other than flood.

(a) Prior to approval of a Federal grant for the restoration of a facility and its contents which were damaged by a disaster other than flood, the recipient shall notify the Regional Administrator of any entitlement to insurance settlement or recovery for such facility and its contents. The Regional Administrator shall reduce the eligible costs by the actual amount of insurance proceeds relating to the eligible costs.

(b)

(1) Assistance under section 406 of the Stafford Act will be approved only on the condition that the recipient obtain and maintain such types and amounts of insurance as are reasonable and necessary to protect against future loss to such property from the types of hazard which caused the major disaster. The extent of insurance to be required will be based on the eligible damage that was incurred to the damaged facility as a result of the major disaster. The Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.

(2) Due to the high cost of insurance, some applicants may request to insure the damaged facilities under a blanket insurance policy covering all their facilities, an insurance pool arrangement, or some combination of these options. Such an arrangement may be accepted for other than flood damages. However, if the same facility is damaged in a similar future disaster, eligible costs will be reduced by the amount of eligible damage sustained on the previous disaster.

(c) The Regional Administrator shall notify the recipient of the type and amount of insurance required. The recipient may request that the State Insurance Commissioner review the type and extent of insurance required to protect against future loss to a disaster-damaged facility, the Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.

(d) The requirements of section 311 of the Stafford Act are waived when eligible costs for an insurable facility do not exceed \$5,000. The Regional Administrator may establish a higher waiver amount based on hazard mitigation initiatives which reduce the risk of future damages by a disaster similar to the one which resulted in the major disaster declaration which is the basis for the application for disaster assistance.

(e) The recipient shall provide assurances that the required insurance coverage will be maintained for the anticipated life of the restorative work or the insured facility, whichever is the lesser.

(f) No assistance shall be provided under section 406 of the Stafford Act for any facility for which assistance was provided as a result of a previous major disaster unless all insurance required by FEMA as a condition of the previous assistance has been obtained and maintained.

Final Obtain and Maintain requirement amount will be determined during the closeout process after the final actual eligible costs to repair or replace the insurable facility have been determined.

FEMA Policy 206-086-1

F. Timeframes for Obtaining Insurance. FEMA will only approve assistance under the condition that an applicant obtains and maintains the required insurance.

The applicant must document its commitment to comply with the insurance requirement with proof of insurance.

If an applicant cannot insure a facility prior to grant approval (for example, if a building is being reconstructed), the applicant may provide a letter of commitment stating that they agree to the insurance requirement and will obtain the types and extent of insurance required, followed at a later date by proof of insurance once it is obtained. In these cases, the applicant should insure the property:

- a. When the applicant resumes use of or legal responsibility for the property (for example, per terms of construction contract or at beneficial use of the property); or
- b. When the scope of work is complete.

FEMA and the recipient will verify proof of insurance prior to grant closeout to ensure the applicant has complied with the insurance requirement.

An applicant should notify FEMA—in writing through the recipient—of changes to their insurance which impact their ability to satisfy the insurance requirement after it provides proof of insurance to FEMA. This includes changes related to self-insurance. If an applicant fails to do this, FEMA may de-obligate assistance and not provide assistance in a future disaster.

Jean-Carlo Echevarria, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

Insured Peril	Item Type	Description	Required Coverage Amount
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain") for the FAASt Sabana Llana TC in the amount of \$100,177,459.61.	\$100,177,459.61

406 Mitigation

There is no additional mitigation information on **FAASt - EPC - [Sabana Llana TC] (Substation)**.

Environmental Historical Preservation

Is this project compliant with EHP laws, regulations, and executive orders? **Yes**

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- Clean Air Act (CAA) - Applicant is required to obtain a Source of Emission Permit (PFE) from Puerto Rico Department of

Natural and Environmental Resources (PR DNER) or General Permit for Emergency Power Generators (PG-GE) from the PR Office of Permits Management (OGPe) prior to construction and operation of the proposed source of emissions. Documentation of DNER and other state, local or federal guideline compliance, may be required as a condition of closeout.

- National Historic Preservation Act (NHPA) - a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout.
- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) 1. The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 3. The applicant is responsible to ensure damaged transformers are handled, managed, and disposed of in accordance with all federal and state laws and requirements. Downed electrical equipment may contain toxic and hazardous materials, such as polychlorinated biphenyls (PCBs), and may spill these materials if a rupture occurs. Applicant is responsible for screening transformers that do or may contain PCBs and the area where any related spill occurred. The applicant is then responsible to handle, manage, dispose of, or recycle damaged equipment and contaminated soil as appropriate. Where possible, temporary measures should be implemented to prevent, treat, or contain further releases or mitigate the migration of PCBs into the environment. If damaged equipment or material storage containers must be stored temporarily, containers should be placed on hardened surface areas, such as a concrete or an asphalt for no more than 90 days. Excavated contaminated material should be disposed of in accordance with federal and state laws and requirements.
- NEPA Determination - All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt - EPC - [Sabana Llana TC] (Substation)**.

Final Reviews

Final Review

Reviewed By Amaro, Luis N.

Reviewed On 11/30/2023 6:38 AM PST

Review Comments

LNA 11/30/23. This project has been reviewed, found eligible and cost reasonable, and it is ready to continue the award process.

Recipient Review

Reviewed By Salgado, Gabriel

Reviewed On 12/01/2023 3:24 AM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements and PA policy. Project is ready for applicant review.

Fixed Cost Offer

As a Public Assistance (PA) Subrecipient PR Electric Power Authority (000-UA2QU-00), in accordance with Section 428 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the Applicant agrees to accept a permanent work subaward based on a Fixed Cost Offer in the amount of \$100,686,731.41 for subaward number 11556 under Disaster # 4339. The Applicant accepts responsibility for all costs above the Fixed Cost Offer.

The Applicant understands that by participating in this pilot program they will be reimbursed for allowable costs in accordance with 2 CFR Part 200, and the reimbursement will not exceed the Fixed Cost Offer. The Applicant also understands that by agreeing to this Fixed Cost Offer, they will not receive additional funding related to the facilities or sites included in the subaward. The Applicant also acknowledges that failure to comply with the requirements of applicable laws and regulations governing assistance provided by FEMA and the PA Alternative Procedures Pilot Program Guidance (such as procurement and contracting; environmental and historic preservation compliance; and audit and financial accountability) may lead to loss of federal funding.

Project Signatures

Signed By Miller, Thomas

Signed On 12/04/2023

Department of Homeland Security Federal Emergency Management Agency

General Info

Project #	723078	PW #	11555	Project Type	Specialized
Project Category	F - Utilities			Applicant	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt - EPC - [San Juan SP TC] (Substation)			Event	4339DR-PR (4339DR)
Project Size	Large			Declaration Date	9/20/2017
Activity Completion Date	9/20/2027			Incident Start Date	9/17/2017
Process Step	Obligated			Incident End Date	11/15/2017

Damage Description and Dimensions

The Disaster # 4339DR, which occurred between **09/17/2017** and **11/15/2017**, caused:

Damage #1331960; FAASt [San Juan SP TC]

DDD for this facility codified in the 136271 - MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** San Juan SP TC
- **Facility Description:** The San Juan SP TC switchyard consists of facilities that operate at nominal voltages of 115kV and 38kV. It includes:
 - Ten (10) 38 kV circuit breakers: - Seven (7) oil circuit breakers(OCBs) - Three (3) gas circuit breakers(GCBs)
 - Three (3) ESST transformers connected to the 38kVbuses
 - Twenty-one (21) 115kV circuit breakers - Six (6) oil circuit breakers(OCBs) - Fifteen (15) gas circuit breakers(GCBs)
 - One (1) 115/38kV, 60/80/100/112 MVA power transformer (Year1996)
 - One (1) deenergized 115/38kV, 90/120/150/168 MVA power transformer at site (Year2017)
 - Two (2) STM generation units with two (2) associated GT units connected at the 115kV buses
 - Four (4) generation units connected at the 115kV bus
- **Approx. Year Built:** 1980
- **GPS Latitude/Longitude:** [REDACTED]

General Damage Information:

- **Date Damaged:** 9/20/2017
- **Cause of Damage:** High winds & wind driven rain, caused by Cat 4 Hurricane Maria

Final Scope

1331960 **FAASt [San Juan SP TC]**

Overview

Project Name:	723078 - San Juan SP Transmission Center
Project Type:	To its pre-disaster design, function and capacity.
Region:	San Juan
Damage Inventory Number (DI):	1331960
Damaged Inventory/Asset Category:	Island Wide Substation
FEMA FAAS Project Number: <i>(Formerly Project Worksheet)</i>	723078

Introduction

The purpose of this document is to submit to COR3 and FEMA the detailed Scope of Work ("SOW") for the 723078 - San Juan SP Transmission Center repair. This facility was damaged by the strong winds and heavy rainfall during the atmospheric event Maria, a Category 4 hurricane that occurred during the period of Sep 17, 2017, to Nov 15, 2017.

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 detailed scope of work, 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. Puerto Rico Electric Power Authority (PREPA) is the agency that owns the facilities, sites, and systems identified in this Scope of Work that are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents.

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

Facilities

Facilities List:

Name	GPS Coordinates	Voltage (kV)	Construction Year
San Juan SP Transmission Center		115kV/38kV	1965

Facilities Description:

The San Juan SP TC switchyard consists of facilities that operate at nominal voltages of 115kV and 38kV. It includes:

- Ten (10) 38 kV circuit breakers:
 - Seven (7) oil circuit breakers (OCBs).
 - Three (3) gas circuit breakers (GCBs).
- A. Three (3) ESST transformers connected to the 38kV buses.
- B. Twenty-one (21) 115kV circuit breakers.
 - Six (6) oil circuit breakers (OCBs).
 - Fifteen (15) gas circuit breakers (GCBs).
- One (1) 115/38kV, 60/80/100/112 MVA power transformer (Year 1996).
- One (1) deenergized 115/38kV, 90/120/150/168 MVA power transformer at site (Year 2017).
- Two (2) STM generation units with two (2) associated GT units connected at the 115kV buses.
- Four (4) generation units connected at the 115kV bus.

This is a Critical Facility, meaning it is proven to have very large, cascading impact on the Puerto Rico transmission network because of its size and the importance of the generators it connects to the grid. A catastrophic failure in this substation can rapidly propagate into other parts of the transmission system and result in widespread blackouts. The San Juan SP is a connection to TL38000, a portion of the FAAS 168226-115kV Underground Loop.

The proposed project will bring this station to LUMA Energy and industry standards, improve system resiliency and reliability, mitigate safety hazards, and address environmental concerns.

Project Scope

Scope of Work Summary

As part of the island wide grid restoration, LUMA proposes the reconfiguration of the San Juan SP substation and constructing a new San Juan TC to improve the system resiliency against substation outages and render a more secure operation of the electrical grid. The project facilitates the adequate segregation of critical interconnecting transmission lines and reduce the risk of cascading electrical system failures making an island-wide outage less likely.

LUMA recommends the reconfiguration of this critical transmission station into two stations. The proposed project will reduce the likelihood of an extensive outage of the Puerto Rico power system, such as what occurred on February 21, 2022, or April 6, 2022. By reconfiguring the substation and separating the line interconnections, ordinary faults are less likely to lead to compounded outages and major loss of load. The project will also reduce loadings on 115kV and 38kV transmission lines and the San Juan 115/38kV transformers.

The new transmission station, to be named San Juan TC, will enhance the network interconnection among transmission centers, substations, and transmission control centers. In the proposed configuration, San Juan Combined Cycle Unit #5 & #6, and CT #8 are interconnected to the new 115kV switchyard (total 300 MW of generation), and San Juan CT #7, #9, & #10 are left on the existing 115 kV switchyard (total 260 MW). In addition, the establishment of a physical barrier between San Juan SP and the New San Juan TC, such as a tall perimeter wall around the new station, reduces the risk of physical failure propagation between the existing and new substation.

I. Phase 1: Repair and Replacement of Existing 115kV and 38kV Infrastructure

A. San Juan SP -Existing 115kV and 38kV Infrastructure:

- Evaluate the energization of the existing 38kV GIS and decommissioning existing 38kV yard.

Note: If the GIS manufacturer cannot recommend energization, a new GIS will be procured and installed in the existing building.

- Replace six (6) 115kV oil circuit breakers with new gas circuit breakers.
- Replace disconnect switches associated with the circuit breakers.
- Replace lines switches with new motor operated disconnect (MOD) switches.
- Replace surge arresters.
- Replace insulators as needed.
- Evaluate the condition of exiting GCBs to determine if replacements are needed.

- Evaluate the buses' infrastructure to determine if replacements are needed.
- Replace one (1) 115/38 kV, 60/80/100/112 MVA transformer since it is reaching the end of its useful life.
- Evaluate the construction of three (3) additional services in the 115kV for the two (2) underground 115kV lines and the existing transformer bank #2.
- Evaluate the construction of 5 or 6 GIS bays in the existing building to complete the requirements for the 115kV bus in Phase 2 of the project.

II. Phase 2: Design and construction of new 115kV and 38kV Infrastructure

Phase 2 includes the construction of a new 115 kV transmission center as a mitigation measure. The new substation, to be named San Juan TC, is considered to allow adequate segregation of critical interconnecting transmission lines and reduce the risk of cascading system failures. Establishing of a physical barrier between San Juan SP and the New San Juan TC, such as a tall perimeter wall around the new station, can reduce the risk of physical and failure propagation between the two. The new transmission center will consist of new 115kV and 38kV infrastructure.

The segregation of the generators, also require modifications in the connections of San Juan SP, with the need for new generator breakers.

A. San Juan SP 115 kV infrastructure:

Breakers shall constitute a breaker-and-a-half configuration with a total of eighteen (18) GCBs with services for:

- Line 38500 to Hato Rey TC
- Line 41600 to Palo Seco (*note that this line is critical since its part of the Metro UG loop, and should be reconstructed as soon as possible on Phase 1, provide temporary connection at 115 kV existing infrastructure*)
- Line 38300 to Mbnacillos TC
- Line 38100 to Viaducto TC
- New Line XXXXX San Juan SP #1
- New Line XXXXX San Juan SP #2
- New Line 38000 to Isla Grande TC (*note that this line is critical since its part of the Metro UG loop, and should be constructed as soon as possible on SCOPE 1, provide temporary connection at 115kV existing infrastructure*)
- Generation Unit #7 (*note that this service needs to consider the G&T Demarcation*)
- Generation Unit #9 (*note that this service needs to consider the G&T Demarcation*)
- Generation Unit #10 (*note that this service needs to consider the G&T Demarcation*)
- New T1: 115/38 kV, 60/80/100/112 MVA
- New T2: 115/38 kV, 60/80/100/112 MVA

B. San Juan SP 38 kV infrastructure:

- Evaluate the energization of the existing 38kV GIS, and decommissioning existing 38 kV yard
- Recommended new breaker-and-a-half configuration with a total of twelve (12) GCBs
- 38 kV switchyard to provide services for:
 - Line 5900 to Crematorio
 - Line 4400 to Caparra
 - Line 8200 Amelia
 - ESST 5&6 (*note that this service needs to consider the G&T Demarcation*)
 - ESST 9&10 (*note that this service needs to consider the G&T Demarcation*)
 - New T1: 115/38 kV, 60/80/100/112 MVA
 - New T2: 115/38 kV, 60/80/100/112 MVA

C. New San Juan TC 115 kV Infrastructure:

Breakers shall constitute a breaker-and-a-half configuration with a total of eighteen (18) GCBs with services for:

- Line 40400 to Hato Rey TC
- Line 38700 to Palo Seco
- Line 38600 to Bayamón TC
- Line 38400 to Viaducto TC
- One (1) Spare Service for future use
- New Line XXXXX to Viaducto TC
- New Line XXXXX San Juan SP #1
- New Line XXXXX San Juan SP #2
- Generation Unit #8

- STM#5
- STM#6
- New Transformer: 115/38 kV, 60/80/100/112 MVA

D. New San Juan TC 38 kV Infrastructure:

- New 5-breaker ring bus to provide services for:
 - Line 5800 to San Fernando
 - Line 3900 to Caparra
 - New Line 8200 to Cataño
 - ESST 7&8
 - New Transformer: 115/38 kV, 60/80/100/112 MVA

Scope of Work

1. Provide and install 2 Ea. of Conversion equipment, battery chargers.
2. Provide and install 53 C.L.F. of Tray cable, type TC, copper, 600 V, #12-9 conductor.
3. Provide and install 53 C.L.F. of Tray cable, type TC, copper, 600 V, #12-12 conductor.
4. Provide and install 53 C.L.F. of Tray cable, type TC, copper, 600 V, #10-4 conductor.
5. Provide and install 53 C.L.F. of Tray cable, type TC, copper, 600 V, #10-7 conductor.
6. Provide and install 53 C.L.F. of Tray cable, type TC, copper, 600 V, #10-12 conductor.
7. Provide and install 7 Ea. of SEL-487E Transformer Differential Relay with conventional secondary inputs, standard with voltage, frequency, directional overcurrent and Volts-per-hertz elements, 125-250VDC or 110-240Vac.
8. Provide and install 7 Ea. of SEL-451 Overcurrent Protection Relay, with conventional secondary inputs 125-250Vdc or 110-240Vac.
9. Provide and install 60 Ea. of SEL-751 Feeder Protection Relay, 5 inch color touchscreen with 8 push buttons, 110-250Vdc (110-240Vac) .
10. Provide and install 20 Ea. of SEL-2440 Discrete Programmable Automation Controller (DPAC), Horizontal Rack mount, 125Vdc/Vac.
11. Provide and install 7 Ea. of SEL-2488 Satellite Synchronized Network Clock, Horizontal Rack mount, 125Vdc or Vac.
12. Provide and install 7 Ea. of SEL-3555, Real Time Automation controller, 3U Horizontal Rack mount.
13. Provide and install 7 Ea. of Touchscreen monitor kit(19in ELO monitor PN:E331019, Display Port VGA HDMI, Rack Mount Bracket, 120/240Vac, 125/250Vdc).
14. Provide and install 53 Ea. of ABB FT-19R switches 4RU, Steel RAL 7035, Gray, Screw terminals, Standard Depth, Full length, Clear cover.
15. Provide and install 33 C.L.F. of Wire, copper, stranded, 600 volt, 2/0, type THW, normal installation conditions in wireway, conduit, cable tray.
16. Provide and install 27 C.L.F. of Wire, copper, stranded, 600 volt, 4/0, type THW, normal installation conditions in wireway, conduit, cable tray.
17. Provide and install 133 C.L.F. of Tray cable, type TC, copper, 600 V, #14-7 conductor.
18. Provide and install 66 C.L.F. of Coaxial cable, 50 ohm, RG A/U #58 cable.
19. Provide and install 139 C.L.F. of Fiber optic cable, 12 strand, multi mode.
20. Provide and install 7 Ea. of ION 8650 meter 128MB, 9S/29S/36S, 60Hz.
21. Provide and install 7 Ea. of Phoenix mini PS 100-240VAC_24DC Power supply.
22. Provide and install 40 Ea. of ICT240DB-8IRC 12/24/48VDC Dual Bus 1RU distribution panel.
23. Provide and install 5 Ea. of IDEC PS5R-VC12 power supply 30W 12VDC.
24. Provide and install 27 Ea. of Phoenix contact 2315162.
25. Provide and install 53 Ea. of UP-TSF200-12, 48VDC battery .
26. Provide and install 13 Ea. of Hoffman Relay Cabinet, SCADA cabinet, Telecom cabinet.
27. Provide and install 265 Ea. of Fuses, cartridge, nonrenewable, 250 V, 30 amp.
28. Provide and install 7 Ea. of GE 400A Infinity-S Dual Molex LVBD.
29. Provide and install 7 Ea. of SEL ICON.
30. Provide and install 7 Ea. of Battery, deep cycle, 400Ah, 125V.
31. Provide and install 239 Ea. of Fiber optic patch panel, 12 ports.
32. Provide and install 66 C.L.F. of Fiber optic cable, 12 strand, single mode.

33. Provide and install 3313 L.F. of Fiber optics cable, 50 microns, 12 fiber, indoor.
34. Provide and install 27 Ea. of Corning CCH-04U, Housing.
35. Provide and install 20 Ea. of GE Critical Power NE050AC48ATEZ 50A Rectifier.
36. Provide and install 7 Ea. of SCADA Panel.
37. Provide and install 318 Ea. of Corning CCH-CS12-55-P00RE, Splice Cassette.
38. Provide and install 7 Ea. of Corning CC1-120TR-1259H Anylan Integrated 1RU.
39. Provide and install 20 Ea. of Internal Panel Wiring.
40. Provide and install 7 Ea. of Wiring from GIS building to Outdoor equipment.
41. Provide and install 1 Ea. of Prefabricated control house enclosure, Stainless Steel, elevated with personnel platforms, doors, stairs, relay panels AC and DC power, station batteries, charger etc.
42. Provide and install 1 Ea. of Rack mount USB, Keyboard/Drawer with mouse.
43. Provide and install 100 Ea. of Marathon 1512STD, 12 positions.
44. Provide and install 3 Ea. of Cisco IEM-3400-8S expansion model.
45. Provide and install 3 Ea. of Cisco IE-3400-8T2S Industrial Ethernet switch.
46. Provide and install 3 Ea. of Cisco ISA-3000-2C2F-K9 Industrial Security Appliance.
47. Provide and install 1 Ea. of Startech 2 Port USB display port KVM switch.
48. Provide and install 1 Ea. of ADAM data acquisition module 6017.
49. Provide and install 4 Ea. of Switching and routing equipment, network switch,KVM, 10/100/1000/10000 Mbps, 28 port, Industrial Ethernet,rear ports.
50. Provide and install 5 Ea. of Telecom Panels.
51. Provide and install 1 Ea. of Cisco MPLS Router N540-24Z8Q2C-SYS.
52. Provide and install 4 Ea. of Cisco IE-4010-4S24P switch.
53. Provide and install 2 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
54. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.
55. Provide and install 1 Ea. of Aviat Networks microwave WTM 4100 Radio, Antenna 18Ghz.
56. Provide and install 18 C.Y. of Cable Bridge (galvanized steel, 24 IN W grip-strut channel, universal cantilevers and pipe columns).
57. Provide and install 18 L.F. of Concrete Foundation for Cable Bridge Steel Column 3500psi (8 IN wide).
58. Provide 5 Ea. of Testing and Commissioning for Telecom.
59. Provide and install 1 Ea. of Communications transmission tower, radio towers self-supporting, wind load 70 mph basic wind speed, 120 FT high.
60. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.
61. Provide and install 1 Ea. of Prefabricated Control house, Stainless Steel, elevated with personnel platforms, doors, stairs, relay panels AC and DC power, station batteries, charger etc.
62. Provide 16 Hr. of Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 5000 gallons, minimum charge, 4 hours, 2 compartment.
63. Provide 15 Ton of Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum.
64. Provide 2 Ea. of Demolition, removal and disposal , structures, breakers, and other miscellaneous equipment. .
65. Provide 24 months of Site preparation foundation (water truck, safety officer, etc Plan CES).
66. Provide 1 EA of Lead and Asbesto Testing and Disposal for structures & demolitions.
67. Provide 2 Ea. of Storage of removal equipment/recycling/decomissioning.
68. Provide 2 Ea. of Regular Waste Disposal & Hazardous.
69. Provide excavation for 400 L.F. of chain trencher, utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.
70. Provide and install 12 Ea. of Insulators, pedestal type.
71. Provide and install 2 Ea. of 115-230 kV Dead End Suspension Insulator Bells, 3 phases, 6 Bells Per phase (18 Bells).
72. Provide and install 3 MVA of TRANSFORMER 115/40 kV – 67 / 90 / 112 MVA.
73. Provide and install 1 Ea. of TRANSFORMER 115/13.2KV, 44 MVA.
74. Provide and install 9 Ea. of Lightning arresters, 230 kV.
75. Provide and install 1 Ea. of Substation 115kV GIS (Gas Insulated Switchgear): Supply a GIS according the engineering design in compliance with applicable DCD, codes & standards, specifications and EHP. It will be a compact low pressure SF6 (for insulation only not interruption).
76. Provide and install 1 Ea. of Substation 46kV GIS (Gas Insulated Switchgear): Supply a GIS according the engineering design in compliance with applicable DCD, codes & standards, specifications and EHP. It will be a compact low pressure SF6 (for insulation only not interruption).

77. Provide and install 4 M.L.F. of Medium-cable single cable, copper, XLP shielding, 15 kV, 500 kcmil, pulled in duct, excl splicing & terminations.
78. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, material handling & spotting.
79. Provide 1 W.Mile of Overhead line conductors & devices, conductors, primary circuits, per wire, 210 to 636 kcmil.
80. Provide and install 750 Ea. of PVC conduit couplings, 1-1/2 IN diameter, to 15 FT H.
81. Provide and install 24 C.L.F. of Ground wire, copper wire, bare stranded, 300 kcmil.
82. Provide and install 200 Ea. of Exothermic weld, cadweld exothermic welding kit, multi vertical.
83. Provide and install 30 C.L.F. of Ground wire, copper wire, bare stranded, 4/0.
84. Provide and install 90 Ea. of Grounding rod, copper clad, 10 FT long, 3/4 IN diameter.
85. Provide excavation for 8100 L.F. of chain trencher, utility trench, common earth, 12 HP, 6 IN wide, 12 IN deep, operator walking.
86. Provide 216 C.Y. of Structural concrete, in place, free-standing wall (3000 psi), 8 IN thick x 8 FT high, includes forms (4 uses), Grade 60 rebar, concrete (Portland cement Type I), placing and finishing.
87. Provide and install 9 Ea. of Cable terminations, indoor, insulation diameter range, 25 kV, 1.05 IN to 1.8 IN, pad mount.
88. Provide and install 36 Ea. of Cable terminations, outdoor systems, 15 kV, 1,000 kcmil.
89. Provide and install 1 Ea. of Transformer, dry-type, 3 phase 15 kV primary 277/480 volt secondary, 150 kVA.
90. Provide and install 1 Ea. of Industrial safety fixture, eye and face wash, combination fountain, stainless steel, pedestal mounted, excludes rough-in.
91. Provide and install 1 Ea. of MTR 500kVA Padmounted Transformer for Remote metering.
92. Provide and install 1095 L.F. of Synthetic erosion control, silt fence, 3 FT high.
93. Provide and install 360 L.F. of Erosion control, straw bale, 3 FT Long.
94. Provide and install 3 Ea. of Electrical underground ducts and manholes, manholes, precast w/iron racks & pulling irons, C.I. frame and cover, 6 FT x 10 FT x 7 FT deep, excludes excavation, backfill and cast in place concrete.
95. Provide and install 918 L.F. of Electrical underground ducts and manholes, underground duct banks, PVC, 4 @ 6 IN diameter, excludes excavation, backfill and cast in place concrete.
96. Provide and install 144 C.Y. of Electrical underground ducts and manholes, underground duct banks, for cast-in-place concrete, over 5 C.Y., excludes excavation, backfill and cast in place concrete, add.
97. Provide and install 207 L.F. of Electrical underground ducts and manholes, underground duct banks ready for concrete fill, PVC, type EB, 2 @ 3 IN diameter, excludes excavation, backfill and cast in place concrete.
98. Provide and install 180 L.F. of Trench duct, steel with cover, standard adjustable, straight, single compartment, depths to 4 IN, 24 IN wide.
99. Provide and install 1 Ea. of Industrial safety fixture, eye and face wash, combination fountain, stainless steel, pedestal mounted, excludes rough-in.
100. Provide and install 1 L.F. of Public sanitary utility sewerage piping, piping polyvinyl chloride pipe, B & S, 20 FT lengths, 4 IN diameter, SDR 35, excludes excavation or backfill.
101. Provide and install 2 L.F. of Pipe, plastic, CPVC, socket joint, 3/4 IN diameter, schedule 40, includes couplings 10 FT OC, and hangers 3 per 10 FT.
102. Provide and install 570 L.F. of Public storm utility drainage piping, drainage and sewage, corrugated HDPE, type S, bell and spigot, with gaskets, 6 IN diameter, excludes excavation and backfill.
103. Provide excavation for 1080 B.C.Y. of trench or continuous footing, common earth, 1/2 C.Y. excavator, 4 FT to 6 FT deep, excludes sheeting or dewatering.
104. Provide and install 1080 L.C.Y. of Fill by borrow and utility bedding, for pipe and conduit, sand, dead or bank, excludes compaction.
105. Provide and install 570 S.Y. of Concrete pavement highway, 4500 psi, fixed form, unreinforced, 12 FT pass, 8 IN thick, includes joints, finishing, and curing.
106. Provide and install 570 S.Y. of Base course drainage layers, aggregate base course for roadways and large paved areas, stone base, compacted, 3/4 IN stone base, to 6 IN deep.
107. Provide and install 690 L.F. of Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per LF, 6 IN high curb, 6 IN thick gutter, 30 IN wide, includes concrete.
108. Provide and install 1080 S.F. of Sidewalks, driveways, and patios, sidewalk, concrete, cast-in-place with 6 x 6 - W1.4 x W1.4 mesh, broomed finish, 3,000 psi, 4 IN thick, excludes base.
109. Provide and install 357 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
110. Provide and install 150 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
111. Provide and install 18 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local

- aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
112. Provide and install 45 C.Y. of Structural concrete, ready mix, heavyweight, high early, 4000 psi, includes local aggregate, sand, Portland cement (Type III) and water, delivered, excludes all additives and treatments.
 113. Provide and install 114 C.Y. of Structural concrete, placing, duct bank, direct chute, excludes material.
 114. Provide and install 171 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
 115. Provide and install 150 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
 116. Provide and install 18 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
 117. Provide and install 45 C.Y. of Structural concrete, placing, continuous footing, shallow, direct chute, includes leveling (strike off) & consolidation, excludes material.
 118. Provide and install 18 C.Y. of Structural concrete, placing, slab on grade, direct chute, up to 6 IN thick, includes leveling (strike off) & consolidation, excludes material.
 119. Provide and install 54 C.Y. of Structural concrete, placing, slab on grade, direct chute, up to 6 IN thick, includes leveling (strike off) & consolidation, excludes material.
 120. Provide and install 6 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
 121. Provide and install 23 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
 122. Provide and install 1 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
 123. Provide and install 1 Ton of Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories.
 124. Provide 156 B.C.Y. of Excavation, bulk, dozer, open site, bank measure, common earth, 80 HP dozer, 150 FT haul.
 125. Provide and install 39 B.C.Y. of Backfill, bulk, 6 IN to 12 IN lifts, dozer backfilling, compaction with vibrating roller.
 126. Provide and install 3132 S.Y. of Base course drainage layers, aggregate base course for roadways and large paved areas, stone base, compacted, 3/4 IN stone base, to 6 IN deep.
 127. Provide and install 408 L.F. of Column, structural, 2-tier, W12x87, A992 steel, incl shop primer, splice plates, bolts.
 128. Provide and install 342 L.F. of Column, structural, 2-tier, W8x31, A992 steel, incl shop primer, splice plates, bolts.
 129. Provide and install 108 L.F. of Curb edging, structural steel angle w/ anchors, on concrete forms, 12.3 plf, 6 IN x 4 IN, shop fabricated.
 130. Provide and install 180 L.F. of Curb edging, structural steel channel w/ anchors, on concrete forms, 11.5 plf, 8 IN, shop fabricated.
 131. Provide and install 18 S.F. of Steel plate, structural, for connections & stiffeners, 1/4 IN T, shop fabricated, incl shop primer.
 132. Provide and install 24 S.F. of Steel plate, structural, for connections & stiffeners, 3/4 IN T, shop fabricated, incl shop primer.
 133. Provide and install 900 Ea. of High strength bolt, 5/8 IN dia x 2 IN L, A325 Type 1, incl washer & nut.
 134. Provide and install 355200 Lb. of Column, structural, concrete filled, for galvanizing, add.
 135. Provide and install 204 L.F. of Column, structural, 2-tier, W10x68, A992 steel, incl shop primer, splice plates, bolts.
 136. Provide and install 93 L.F. of Column, structural, 2-tier, W8x31, A992 steel, incl shop primer, splice plates, bolts
 137. Provide and install 63 L.F. of Curb edging, structural steel angle w/ anchors, on concrete forms, 12.3 plf, 6 IN x 4 IN, shop fabricated.
 138. Provide and install 54 L.F. of Curb edging, structural steel channel w/ anchors, on concrete forms, 11.5 plf, 8 IN, shop fabricated.
 139. Provide and install 9 S.F. of Steel plate, structural, for connections & stiffeners, 1/4 IN T, shop fabricated, incl shop primer.
 140. Provide and install 9 S.F. of Steel plate, structural, for connections & stiffeners, 3/4 IN T, shop fabricated, incl shop primer.
 141. Provide and install 300 Ea. of High strength bolt, 5/8 IN DIA x 2 IN L, A325 Type 1, incl washer & nut.
 142. Provide and install 19560 Lb. of Column, structural, concrete filled, for galvanizing, add.
 143. Provide and install 402 L.F. of Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per LF, 6 IN high curb, 6 IN thick gutter, 30 IN wide, includes concrete.

144. Provide and install 2880 S.Y. of Gravel .
145. Provide 1 Ea. of Storage of removal equipment/recycling/decommissioning.
146. Provide 1 Ea. of Regular Waste Disposal & hazardous.
147. Provide and install 4 Ea. of Elevation structure for flood protection.
148. Provide and install 1 Ea. of Generator set, natural gas/LP,liquid cooled, 3 ph 4 wire, 120/240 V, 48kW, aluminum enclosure.
149. Provide and install 1 Ea. of Automatic transfer switches, enclosed, 3 pole, 480-volt, 100 amp.
150. Provide 1 Ea. of Excavation and dewatering.
151. Provide and install 100 S.F. of Foundation, Slab on grade, 8 IN thick, heavy industrial, reinforced.
152. Provide and install 50 L.F. of Electrical power installation and interconnection work, (trench work) for Telecommunication Shelter 2 IN PVC Sch 40 conduits.
153. Provide and install 6 Ea. of PVC conduit elbows, 2 IN diameter, to 15 FT H.
154. Provide and install 2 C.L.F. of Wire, copper, stranded, 600 volt, 3/0, type THWN-THHN, normal installation conditions in wireway, conduit, cable tray.
155. Provide and install 85 CFT of 4/0 Bare copper conductor.
156. Provide and install 3 CFT of #6 AWG Bare copper conductor.
157. Provide and install 1 CFT of 2/0 Copper conductor, XLPE insulation.
158. Provide and install 457 EA of 4/0 to 4/0 compression connectors (Burndy #YGHC2929).
159. Provide and install 49 EA of 4/0 to 2/0 compression connectors (Burndy #YGHC29C26).
160. Provide and install 65 EA of #6AWG to 2/0 compression connectors (Burndy #YGHC26C2).
161. Provide and install 202 EA of #6AWG to barbed wire compression connectors.
162. Provide and install 204 EA of #6AWG to 6-gauge chain link compression connectors.
163. Provide and install 7 EA of 4/0 to 4/0 Tee connector (exothermic).
164. Provide and install 33 EA of 4/0 to 4/0 Cross connector (exothermic).
165. Provide and install 7 EA of 4/0 to Ground rod Through connector (exothermic).
166. Provide and install 383 EA of 4/0 to Flat Mechanical Connectors (Burndy #GC2929).
167. Provide and install 62 EA of 4/0 Braid to pipe U-bolt, mechanical connector (Burndy #GD2029).
168. Provide and install 73 EA of #6AWG to Fence post (1.25 IN) connector (Burndy #GAR1626).
169. Provide and install 28 EA of 2/0 to Fence post (3 IN) connector (Burndy #GAR2026).
170. Provide and install 21 EA of 2/0 to Fence post (4 IN) connector (Burndy #GAR2226).
171. Provide and install 104 EA of 3/4 IN Ground Rods (10 feet).
172. Provide 222 EA of Cadwelds.
173. Provide and install 51 EA of Fence post connector.
174. Provide 104 EA of Welding material, 115.
175. Provide 91 EA of Welding material, 150.
176. Provide 493 EA of Welding material, 200.
177. Provide and install 4 EA of Handle clamp.
178. Provide and install 2131 cyd of Insulating gravel, crushed granite, 3000 ohm-m.
179. Provide and install 31 EA of Ground mat (conductor size #4, length = 96 IN, width=72 IN).
180. Provide and install 10 FT of Bonding strap, 48 kcmil (Flexible copper braided #4AWG equivalent).
181. Provide and install 440 FT of Bonding strap, 231.552 kcmil (Flexible copper braided #4/0 equivalent).
182. Provide and install 1043 EA of Cable strap, 4/0 (#T&B 1347).

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:	\$ 3,713,096.54
---	------------------------

Estimated Budget for Procurement & Construction:	\$61,558,468.95
Estimated Overall Budget for the Project:	\$65,271,565.49

v0 Project 723078 Cost Summary:

Work to be Completed (WTBC) Cost: \$65,271,565.49

Architectural & Engineering Design (A&E) Cost, Deduction: -\$3,713,096.54

Project Total: \$61,558,468.95

Project Notes

- 1) Scope of work with items, quantities, and dimensions considered in the Class 5 Cost estimate. This has not been reviewed by A&E firm.

- 2) The expected area of impact for the construction work at San Juan SP TC is 1.30 acre as identified in the DSOW KMZ files and associated mapping. All construction activities identified will be executed within this 1.30 acre area and will include Boring Plans, Mobile substation, and generator installations, staging and laydown yards, new substation construction actions and ground disturbance activities. Transmission Lines and related items will be addressed separately.

- 3) The intent of the vegetation removal associated with this scope of work is addressing the necessary “incidental” work required to carry out repairs or replacements to the damaged asset(s). A separate project was developed for HM 406 vegetation removal work, and it is addressing the remediation work across the island, i.e., work that is limited to what is necessary to directly reduce the potential of future, similar damage to the Transmission & Distribution system, and exceeds what is necessary to simply clear vegetation to access facilities to carry out repairs.

- 4) To maintain the completed work within this project SOW, a post vegetation maintenance plan and team is required. A Vegetation Management Team will be tasked with executing the LUMA Vegetation Management Plan, which is found in the Documents Section of our Applicant Profile for Maria in Grants Portal and will be staffed by Subject Matter Experts with functional responsibility for vegetation maintenance work being performed in the field.

- 5) During project construction, the scope of work will be coordinated with System Operations to prevent any alternative activities that affect the following facilities: - 115 kV equipment connected to buses 1 and 2. - 38 kV equipment connected to buses 1 and 2, auxiliary buses 3 and 4.

- 6) To minimize service interruptions during construction works, Mobile substations and generators for powering the loads

connected shall be vetted.

7) Other scopes, including SCADA and RTU replacements, microwave point-to-point network, transport network, and field area network, may be provided as part of separate projects in the future.

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

9) Prior to the start of any demolition activities, inspections will be conducted by a trained and certified contractor for the presence and quantities of asbestos and lead based paint containing materials. These hazardous materials will be managed and disposed of as required by applicable federal and state regulations.

10) Demolition contaminated materials will be delivered to the approved waste disposal that complies with the applicable federal and state regulations.

11) Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General and construction Waste). If equipment is to be salvaged, it will be loaded and removed from the site. The debris will be separated and taken to an approved waste disposal facility.

12) While completing all demolition activities, a water source will be onsite to mitigate dust.

13) The equipment expected to be used includes Skid Steer, Excavator, Hydrovacs, Dump trucks, Man lifts, 120-Ton Motor Crane, Boom Trucks 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Oil Tanker, Filtering Machine and Flatbed platform. All equipment used will comply with Tier 4 EPA Emission Standards, if available.

14) Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the Approved Supplier List Directory PR (see Appendix E). LUMA will provide actual suppliers documentation as a Condition of FEMA Record of Environmental Considerations.

15) It is not anticipated that the proposed project will involve dredging or disposal of dredged material, excavation, the addition of fill material, or result in any modification to water bodies or wetlands designated as "waters of the United States" as identified by the U.S. Army Corps of Engineers or on the National Wetland Inventory.

16) Boreholes will be required for the project design. Typical boreholes will be approximately 4-8" in diameter and up to 25ft in depth.

17) The excess of soil material will be stockpiled temporarily onsite in the staging area or within the substation. Disposal of soil will be handled according to the applicable federal and state regulations. LUMA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.

18) The San Juan SP TC was constructed in 1965. There are no available records of prior structure repairs, remodeling and/or rehabilitation of the property.

19) The substation's tallest structure is the Telecommunication tower. The Tower reaches a height of 131.5 FT (120 FT tower structure over a 10 FT tall foundation). Refer Appendix J - Tower example design.pdf for drawing example.

20) The following list is for the expected permits requirements. LUMA will provide proof of all permits.

- Environmental Compliance Determination - Oficina de Gerencia de Permisos (OGPe)
- Consolidated General Permit - Environmental Quality Board (EQB) / Department of Natural & Environmental Resources (DNER). • Construction General Permit (CGP)
- San Juan Municipality Notifications
- Excavation and Demolition Notification - Department of Transportation and Public Works (DTOP)
- Asbestos Permit - EQB/DNER
- Lead Permit - EQB/DNER
- Hazardous Waste Disposal Permit - EQB/DNER

21) For detailed information, refer to documents/attachments labeled

- 723078 - DR-4339PR- San Juan SP Transmission Center - FEMA Detailed Scope of Work No TL (11.03.23).pdf
- DR-4339PR- Appendix B - San Juan SP LUMA LPCE (10.31.23).xlsx

22) This project is part of Donor FAASSt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASSt Project.

23) Architectural and Engineering (A&E) costs are deducted given previously obligated Global A&E Project for the subject FAASSt PREPA work (see project: 335168 - PREPA Island Wide FAASSt Project).

406 HMP Scope

It was agreed with sub-applicant this project will be moved forward without HMP. Sub-applicant will develop this project by Design & Build process (EPC: Expedited Procurement & Construction). Once the sub-applicant's A&E firm completes the Design and Class 5 Cost Estimate then the proposed HMP measures will be evaluated and validated.

Cost

Code	Quantity	Unit	Total Cost	Section
3510 (v0 Engineering and Design Services, Deduction - PREPA FAAS ^t Global A&E 335168)	1.00	Lump Sum	(\$3,713,096.54)	Uncompleted
9201 (PAAP Fixed Estimate (No Value - Tracking Purposes Only))	1.00	Lump Sum	\$0.00	Completed
9001 (v0 Contract - PREPA FAAS ^t Donor Project 136271)	1.00	Lump Sum	\$65,271,565.49	Uncompleted

CRC Gross Cost \$61,558,468.95

Total 406 HMP Cost \$0.00

Total Insurance Reductions \$0.00

CRC Net Cost \$61,558,468.95

Federal Share (90.00%) \$55,402,622.06

Non-Federal Share (10.00%) \$6,155,846.89

Award Information

Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
0	Eligible	Awarded	PA-02-PR-4339-PW-11555(14571)	\$61,558,468.95	90 %	\$55,402,622.06	12/18/2023

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
No Records				

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
-----------	----------------	----------------	------------	--------------	--------------------

Subgrant Conditions

- As described in Title 2 Code of Federal Regulations (C.F.R.) § 200.333, financial records, supporting documents, statistical records and all other non-Federal entity records pertinent to a Federal award must be retained for a period of three (3) years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a subrecipient. Federal awarding agencies and pass-through entities must not impose any other record retention requirements upon non-Federal entities. Exceptions are stated in 2 C.F.R. §200.333(a) – (f)(1) and (2). All records relative to this project are subject to examination and audit by the State, FEMA and the Comptroller General of the United States and must reflect work related to disaster-specific costs.
- In the seeking of proposals and letting of contracts for eligible work, the Applicant/Subrecipient must comply with its Local, State (provided that the procurements conform to applicable Federal law) and Federal procurement laws, regulations, and procedures as required by FEMA Policy 2 CFR Part 200, Procurement Standards, §§ 317-326.
- The Recipient must submit its certification of the subrecipient's completion of this project, the final claim for payment, and supporting documentation within 180 days from the date that the applicant completes the scope of work, or the project deadline, whichever occurs first. FEMA reimburses Large Projects (those with costs above the large project threshold) based on the actual eligible final project costs. Therefore, during the final project reconciliation (closeout), the project may be amended to reflect the reconciliation of actual eligible costs.
- When any individual item of equipment purchased with PA funding is no longer needed, or a residual inventory of unused supplies exceeding \$5,000 remains, the subrecipient must follow the disposition requirements in Title 2 Code of Federal Regulations (C.F.R.) § 200.313-314.
- The terms of the FEMA-State Agreement are incorporated by reference into this project under the Public Assistance award and the applicant must comply with all applicable laws, regulations, policy, and guidance. This includes, among others, the Robert T. Stafford Disaster Relief and Emergency Assistance Act; Title 44 of the Code of Federal Regulations; FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide; and other applicable FEMA policy and guidance.
- The DHS Standard Terms and Conditions in effect as of the declaration date of this emergency declarations or major disaster, as applicable, are incorporated by reference into this project under the Public Assistance grant, which flow down from the Recipient to subrecipients unless a particular term or condition indicates otherwise.
- The Uniform Administrative Requirements, Cost Principles, and Audit Requirements set forth at Title 2 Code of Federal Regulations (C.F.R.) Part 200 apply to this project award under the Public Assistance grant, which flow down from the Recipient to all subrecipients unless a particular section of 2 C.F.R. Part 200, the FEMA-State Agreement, or the terms and conditions of this project award indicate otherwise. See 2 C.F.R. §§ 200.101 and 110.
- The subrecipient must submit a written request through the Recipient to FEMA before it makes a change to the approved scope of work in this project. If the subrecipient commences work associated with a change before FEMA approves the change, it will jeopardize financial assistance for this project. See FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- Pursuant to section 312 of the Stafford Act, 42 U.S.C. 5155, FEMA is prohibited from providing financial assistance to any entity that receives assistance from another program, insurance, or any other source for the same work. The subrecipient agrees to repay all duplicated assistance to FEMA if they receive assistance for the same work from another Federal agency, insurance, or any other source. If an subrecipient receives funding from another federal program for the same purpose, it must notify FEMA through the Recipient and return any duplicated funding.

Insurance

Additional Information

11/9/2023

GENERAL INFORMATION

Event: DR4339-PR

Project: SP 723078

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

Incident Period: 9/17/2017 to 11/15/2017

Total Public Assistance Amount: CRC Gross Cost \$61,558,468.95

COMMERCIAL INSURANCE INFORMATION

Does the applicant have a Commercial Policy that extends coverage for this facility: Yes

Policies Issued by: Willis Towers Watson, Multinational Insurance Company and Mapfre

Policy Numbers: Willis Towers Watson (B0804Q1966F17, B0804Q14312F17, B0804Q19673F17, B0804Q19672F17, B0804Q18529F17, B0804Q14312F17, B0804Q19674F17, B0804Q18411F17, B0804Q14310F17, B0804Q11038F17, B0804Q14507F17, B0804Q14312F17)

Mapfre Praico Insurance Company (1398178000644)

Multinational Insurance Company (88-CP-000307831-2, 88-CP-000318673-0, 88-CP000318674-0, 88-CP-000318675-0, 88-CP-000318676-0, 88-CP-000318677-0)

Policy Period: From: 5/15/2017 To: 5/15/2018

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

Deductible Amount \$25,000,000.00 each and every occurrence property damage and 30 days each and every occurrence business interruption in respect of Named Windstorm.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: Yes

The amount of the deductible being funded in this project is \$0.00

The amount of the deductible previously funded in other projects is \$25,000,000.00

Final Insurance Settlement Status: Insurance proceeds for this project are anticipated

The amount of Anticipated Insurance Reduction applied for Project: \$0.00

NUMBER OF DAMAGED LOCATIONS INCLUDED IN THIS PROJECT: (1)

Damaged Inventory (DI) #1331960:

FAASt [San Juan SP TC]

Location Description: San Juan SP TC

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Sub-Stations"

SOV / Schedule Amount: \$1,345,700,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$61,558,468.95

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

Reduction(s):

No insurance reduction will be applied to this project. An anticipated insurance reduction of \$193,746,436.00 was applied to FFAST project # 136271 for anticipated insurance proceeds for Hurricane Maria losses. For ease of reference, please see table of insurance allocations: "PREPA Allocation Plan – All Disasters" file.

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain") for the FFAST San Juan SP TC in the amount of \$60,913,956.28 (CRC Gross Cost \$61,558,468.95 – Uninsurable Items \$644,512.67). Please see "SP723078 - Cost Estimate - Insurance" file.

Insurance Proceeds Statement:

FEMA acknowledges that the Applicant is in negotiations with their insurance carrier at the time of the FEMA insurance review and might have received partial settlements. In accordance with 44 CFR §206.250-253, in the absence of an actual settlement, anticipated insurance recoveries will be deducted from this project based on Applicant's insurance policy limits. FEMA subsequently adjusts the eligible costs based on the actual amount of insurance proceeds the Applicant receives after a final settlement.

FEMA's Recovery Policy FP 206-086-1, Public Assistance Policy on Insurance (June 29, 2015), requires applicants to take reasonable efforts to recover insurance proceeds that it is entitled to receive from its insurers. FEMA will consider final insurance settlements that may be less than the insurance policy limits when an applicant demonstrates that it has taken reasonable efforts to recover insurance proceeds that it is entitled on a case-by-case basis.

Standard Insurance Comments

FEMA Policy 206-086-1

PART 2: Other Insurance-Related Provisions. (Sections 312 and 406(d) of the Stafford Act)

A. Duplication of Benefits. FEMA cannot provide assistance for disaster-related losses that duplicate benefits available to an applicant from another source, including insurance.

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.
2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.
3. Applicants must take reasonable efforts to recover insurance proceeds that they are entitled to receive from their insurer(s).

...

5. If an applicant has an insurance requirement from a previous event:

- a. FEMA will reduce assistance by the actual or anticipated insurance proceeds, or the amount of insurance required in the previous disaster, whichever is greater.
- b. FEMA will only consider insolvent insurers, legal fees, or apportionment of proceeds as described in Section VII, Part 2(A)(3) and (4) when the applicant's anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster.

FEMA Policy 206-086-1

H. Subsequent Assistance. When a facility that received assistance is damaged by the same hazard in a subsequent disaster:

1. If the applicant failed to maintain the required insurance from the previous disaster, then the facility is not eligible for assistance in any subsequent disaster.
2. Upon proof that the applicant maintained its required insurance, FEMA will reduce assistance in the subsequent disaster by the amount of insurance required in the previous disaster regardless of:
 - a. The amount of any deductible or self-insured retention the applicant assumed (i.e., "retained risk")....
4. If the applicant's anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster, FEMA will reduce assistance by that amount in accordance with Section VII, Part 2(A) of this policy.

Obtain and Maintain Requirements:

44 CFR § 206.253 Insurance requirements for facilities damaged by disasters other than flood.

(a) Prior to approval of a Federal grant for the restoration of a facility and its contents which were damaged by a disaster other than flood, the recipient shall notify the Regional Administrator of any entitlement to insurance settlement or recovery for such facility and its contents. The Regional Administrator shall reduce the eligible costs by the actual amount of insurance proceeds relating to the eligible costs.

- (b)
- (1) Assistance under section 406 of the Stafford Act will be approved only on the condition that the recipient obtain and maintain such types and amounts of insurance as are reasonable and necessary to protect against future loss to such property from the types of hazard which caused the major disaster. The extent of insurance to be required will be based on the eligible damage that was incurred to the damaged facility as a result of the major disaster. The Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.
 - (2) Due to the high cost of insurance, some applicants may request to insure the damaged facilities under a blanket insurance policy covering all their facilities, an insurance pool arrangement, or some combination of these options. Such an arrangement may be accepted for other than flood damages. However, if the same facility is damaged in a similar future disaster, eligible costs will be reduced by the amount of eligible damage sustained on the previous disaster.
- (c) The Regional Administrator shall notify the recipient of the type and amount of insurance required. The recipient may request that the State Insurance Commissioner review the type and extent of insurance required to protect against future loss to a disaster-damaged facility, the Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.
- (d) The requirements of section 311 of the Stafford Act are waived when eligible costs for an insurable facility do not exceed \$5,000. The Regional Administrator may establish a higher waiver amount based on hazard mitigation initiatives which reduce the risk of future damages by a disaster similar to the one which resulted in the major disaster declaration which is the basis for the application for disaster assistance.
- (e) The recipient shall provide assurances that the required insurance coverage will be maintained for the anticipated life of the restorative work or the insured facility, whichever is the lesser.
- (f) No assistance shall be provided under section 406 of the Stafford Act for any facility for which assistance was provided as a result of a previous major disaster unless all insurance required by FEMA as a condition of the previous assistance has been obtained and maintained.

Final Obtain and Maintain requirement amount will be determined during the closeout process after the final actual eligible costs to repair or replace the insurable facility have been determined.

FEMA Policy 206-086-1

F. Timeframes for Obtaining Insurance. FEMA will only approve assistance under the condition that an applicant obtains and maintains the required insurance.

The applicant must document its commitment to comply with the insurance requirement with proof of insurance.

If an applicant cannot insure a facility prior to grant approval (for example, if a building is being reconstructed), the applicant may provide a letter of commitment stating that they agree to the insurance requirement and will obtain the types and extent of insurance required, followed at a later date by proof of insurance once it is obtained. In these cases, the applicant should insure the property:

- a. When the applicant resumes use of or legal responsibility for the property (for example, per terms of construction contract or at beneficial use of the property); or
- b. When the scope of work is complete.

FEMA and the recipient will verify proof of insurance prior to grant closeout to ensure the applicant has complied with the insurance requirement.

An applicant should notify FEMA—in writing through the recipient—of changes to their insurance which impact their ability to satisfy the insurance requirement after it provides proof of insurance to FEMA. This includes changes related to self-insurance. If an applicant fails to do this, FEMA may de-obligate assistance and not provide assistance in a future disaster.

Jean-Carlo Echevarria, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

Insured Peril	Item Type	Description	Required Coverage Amount
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain") for the FAASt San Juan SP TC in the amount of \$60,913,956.28.	\$60,913,956.28

406 Mitigation

There is no additional mitigation information on **FAASt - EPC - [San Juan SP TC] (Substation)**.

Environmental Historical Preservation

Is this project compliant with EHP laws, regulations, and executive orders?

Yes

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- Executive Order 11988 - Floodplains - Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning

Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files.

- Clean Air Act (CAA) - 1. The Applicant is responsible for providing a Source of Emission Permit (PFE) from the Puerto Rico Department of Natural and Environmental Resources (PR DNER), or any coordination (emails, letters, documented calls) pertaining to these activities and compliance must be documented and maintained in the Applicant's permanent files. Applicant shall identify, handle, transport, and dispose of hazardous materials and/or toxic waste in accordance with Puerto Rico Department of Natural and Environmental Resources (PRDNER) requirements including completing required notifications of the permit.
- Clean Air Act (CAA) - 2. For Installation and operation of emergency power generators, Applicant is required to obtain a Source of Emission Permit (PFE) from Puerto Rico Department of Natural and Environmental Resources (PR DNER) or General Permit for Emergency Power Generators (PGGE) from the PR Office of Permits Management (OGPe) prior to construction and operation of the proposed source of emissions. Documentation of DNER and other state, local or federal guideline compliance, may be required as a condition of closeout.
- National Historic Preservation Act (NHPA) - 1. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. 2. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. 3. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) - 1. The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. The applicant is responsible to ensure damaged transformers are handled, managed, and disposed of in accordance with all federal and state laws and requirements. Downed electrical equipment may contain toxic and hazardous materials, such as polychlorinated biphenyls (PCBs), and may spill these materials if a rupture occurs. Applicant is responsible for screening transformers that do or may contain PCBs and the area where any related spill occurred. The applicant is then responsible to handle, manage, dispose of, or recycle damaged equipment and contaminated soil as appropriate. Where possible, temporary measures should be implemented to prevent, treat, or contain further releases or mitigate the migration of PCBs into the environment. If damaged equipment or material storage containers must be stored temporarily, containers should be placed on hardened surface areas, such as a concrete or an asphalt for no more than 90 days. Excavated contaminated material should be disposed of in accordance with federal and state laws and requirements. 3. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- NEPA Determination - All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt - EPC - [San Juan SP TC] (Substation)**.

Final Reviews

Final Review

Reviewed By Amaro, Luis N.

Reviewed On 11/30/2023 9:35 AM PST

Review Comments

LNA 11/30/23. This project has been reviewed, found eligible and cost reasonable, and it is ready to continue the award process.

Recipient Review

Reviewed By Salgado, Gabriel

Reviewed On 12/01/2023 3:45 AM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements and PA policy. Project is ready for applicant review.

Fixed Cost Offer

As a Public Assistance (PA) Subrecipient PR Electric Power Authority (000-UA2QU-00), in accordance with Section 428 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the Applicant agrees to accept a permanent work subaward based on a Fixed Cost Offer in the amount of \$61,558,468.95 for subaward number 11555 under Disaster # 4339. The Applicant accepts responsibility for all costs above the Fixed Cost Offer.

The Applicant understands that by participating in this pilot program they will be reimbursed for allowable costs in accordance with 2 CFR Part 200, and the reimbursement will not exceed the Fixed Cost Offer. The Applicant also understands that by agreeing to this Fixed Cost Offer, they will not receive additional funding related to the facilities or sites included in the subaward. The Applicant also acknowledges that failure to comply with the requirements of applicable laws and regulations governing assistance provided by FEMA and the PA Alternative Procedures Pilot Program Guidance (such as procurement and contracting; environmental and historic preservation compliance; and audit and financial accountability) may lead to loss of federal funding.

Project Signatures

Signed By Miller, Thomas

Signed On 12/04/2023