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

IN RE:	**CASE NO. NEPR-MI-2021-0002**
IN RE: REVIEW OF THE PUERTO RICO ELECTRIC POWER AUTHORITY'S 10-YEAR INFRASTRUCTURE PLAN-DECEMBER 2020	**SUBJECT: Motion Submitting Three (3) Amended FEMA Approvals of Project and Four (4) Initial FEMA Approvals of Project, Request for Confidential Treatment, and Supporting Memorandum of Law**

MOTION SUBMITTING THREE (3) AMENDED FEMA APPROVALS OF PROJECT AND FOUR (4) INITIAL FEMA APPROVALS OF PROJECT, REQUEST FOR CONFIDENTIAL TREATMENT, AND SUPPORTING MEMORANDUM OF LAW

TO THE PUERTO RICO ENERGY BUREAU:

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

I. Relevant Procedural Background

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, on the progress of all ongoing efforts related to the approval of the submitted Projects that the

Energy Bureau has not yet approved.[1] The Energy Bureau thereafter determined that this directive applies to both PREPA and LUMA. *See* Resolution and Order of August 20, 2021.

2. On August 30, 2021, LUMA filed a *Motion Requesting Clarification of a Portion of the Energy Bureau's Resolution and Order Entered on August 20, 2021, and Submitting Updated List of Transmission and Distribution Projects and Twenty-Nine Scopes of Work* ("August 30th Motion"). In the August 30th Motion, LUMA submitted twenty-nine (29) scopes of work ("SOWs") for T&D Projects for the Energy Bureau's review and approval prior to submitting them to COR3 and FEMA. Among the twenty-nine (29) SOWs, LUMA submitted the "38 kV Transmission Priority Poles and Structures Replacements" and the "Distribution Streetlighting" SOWs.

3. On September 22, 2021, the Energy Bureau issued a Resolution and Order ("September 22nd Order") determining that most of the SOWs for T&D Projects that LUMA submitted in the August 30th Motion were necessary to improve the system's reliability. Therefore, it approved most of the Projects presented in the August 30th Motion, including the "38 kV Transmission Priority Poles and Structures Replacements" and the "Distribution Streetlighting" SOWs. The Energy Bureau also ordered LUMA to submit, within ten (10) days of receiving such approval, a copy of the approval by COR3 and/or FEMA of each Project, which shall contain the costs obligated for that Project.

4. On April 24, 2023, LUMA submitted a *Motion Submitting Scope of Work and Request for Confidentiality and Supporting Memorandum of Law* ("April 24th Motion"), whereby it submitted one (1) SOW for the Energy Bureau's review and approval prior to submitting it to

[1] On April 22, 2026, the Energy Bureau issued a Resolution and Order ("April 22nd Order"), in which it extended the March 26th Order's reporting period for an additional five (5) years. *See* April 22nd Order, p. 2. The Energy Bureau stated that all the other provisions of the March 26th Order would remain in full force and effect. *Id*.

COR3 and FEMA. LUMA submitted the SOW for the "Island-Wide Vegetation Clearing" T&D Project.

5. On May 5, 2023, the Energy Bureau issued a Resolution and Order in which it approved the "Island-Wide Vegetation Clearing" SOW and determined it necessary to improve the system's reliability ("May 5th Order"). Further, the Energy Bureau ordered LUMA to submit a copy of the approval by COR3 and/or FEMA of the projects, which shall contain the costs obligated for each project within ten (10) days of receiving such approval.

6. The "38 kV Transmission Priority Poles and Structures Replacement" SOW T&D Project was reassessed to address specific 38 kV lines individually. As a result, FEMA approved T&D Projects for Line 16500 Fajardo TC to Dos Marinas labeled as the "1066730 – FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] (Transmission)"[2] and for Line 5900 San Juan to Crematorio TC labeled as the "1066980 – FAAST [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] (Transmission)".[3]

7. The "Distribution Streetlighting" SOW was also divided into individual projects, among them, the "1068664 – FAAST [Ciales Streetlighting] (Distribution)"[4], the "1068670 – FAASt [Penuelas Streetlighting] (Distribution)"[5], and the "1068671 – FAASt [Quebradillas Streetlighting] (Distribution)"[6] T&D Projects.

8. The "Island-Wide Vegetation Clearing" SOW was further divided into separate projects by region, which include the "1070365 – FAASt [38kV Line 6500 – Entire Line]

[2] Former FEMA FAASt project 811923.
[3] Former FEMA FAASt project 753786.
[4] Former FEMA FAASt project 724669.
[5] Former FEMA FAASt project 724781.
[6] Former FEMA FAASt project 724716.

(Vegetation)" and the "1068647 – FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] (Vegetation)",[7] T&D Projects.

II. Submittal of Three Amended FEMA Approvals of Project

9. On October 16, 2026, LUMA filed a *Motion Submitting Eleven (11) Amended FEMA Approvals of Projects and Thirteen (13) FEMA Approvals of Projects, Request for Confidential Treatment and Supporting Memorandum of Law* ("October 16th Motion"), whereby, in compliance with the September 22nd and May 5th Orders, LUMA submitted copies of the project approvals issued by FEMA on October 8, 2026, for the "1066730 – FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] (Transmission)", the "1066980 – FAAST [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] (Transmission)" and the "1068647 – FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] (Vegetation)" T&D Projects. *See* October 16th Motion, p. 6.

10. In compliance with the September 22nd and May 5th Orders, LUMA hereby submits a copy of the "1066980 – FAAST [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] (Transmission)" amended approval, which states that FEMA re-obligated the Project on **November 3, 2026**. LUMA also submits copies of the "1066730 – FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] (Transmission)" and the "1068647 – FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] (Vegetation)" amended approvals, which state that FEMA re-obligated these Projects on **November 6, 2026**. *See* **Exhibit 1** to this Motion.[8]

[7] Former FEMA FAASt project 740410.
[8] Please note that **Exhibit 1** has digitalization and table format issues, which are found in the documents as issued by FEMA.

11. As explained in prior motions,[9] FEMA has clarified how it processes certain Sub-FAASt transactions involving both positive and negative cost adjustments under Section 428 Public Assistance and Section 406 Hazard Mitigation. Because FEMA's system cannot process both adjustments in the same version, it processes the positive adjustment in the current version and the corresponding negative adjustment in a subsequent version. This procedure explains temporary discrepancies between project costs listed in the Consolidated Project List and amounts shown in individual FEMA versions. The amended FEMA approvals discussed herein reflect this subsequent-version process for negative adjustments. FEMA will address obligations that did not receive Section 406 funding in subsequent versions.

12. Version 1 of the "1066730 – FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] (Transmission) (HM Cost alignment version)", the "1066980 – FAAST [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] (Transmission) (HM Cost alignment version)" and the "1068647 – FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] (Vegetation) (HM Cost Alignment)" approved T&D Projects were created as administrative amendments to add the Hazard Mitigation costs pending in their previous versions because IFMIS (the finance system) cannot currently accommodate two separate accounting streams within a single transaction. *See, respectively,* **Exhibit 1** to this Motion, "1066730 – FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] (Transmission)" Cost Approval, p. 14; *Id.*, "1066980 – FAAST [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] (Transmission)" Cost Approval, p. 15; *Id.*,

[9] *See, e.g., Motion Submitting Two (2) Amended FEMA Approvals of Project, Statement on New FEMA Guidance, Request for Confidential Treatment, and Supporting Memorandum of Law* filed by LUMA on September 1, 2026, in the present docket.

"1068647 – FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] (Vegetation)" Cost Approval, p. 18.

III. Submittal of Four Initial FEMA Approvals of Project

13. In compliance with the September 22nd and May 5th Orders, LUMA hereby submits copies of the following Initial FEMA Cost Approvals for T&D Projects, which state that they were obligated on **November 3, 2026**: "1068664 – FAAST [Ciales Streetlighting] (Distribution)", "1068670 – FAASt [Penuelas Streetlighting] (Distribution)", "1068671 – FAASt [Quebradillas Streetlighting] (Distribution)" and "1070365 – FAASt [38kV Line 6500 – Entire Line] (Vegetation)" T&D Projects. *See* **Exhibit 2**.[10] The document contains the FEMA initial approvals and includes the costs obligated for each project.

IV. Submittal of Projects Cost Validation Report

14. Following discussions with the Energy Bureau's consultants, LUMA agreed to prepare a Projects Cost Validation Report, which is submitted herewith as **Exhibit 3**. The report explains how project costs, as reported to the Energy Bureau, have changed relative to the amounts obligated by FEMA. This new Exhibit is intended to identify the adjustments made to the FEMA funds as obligated and re-obligated in the FEMA Approvals versus what was reported in the Consolidated Project List.

V. Request for Confidential Treatment of Exhibits 1 and 2

15. LUMA is submitting herein redacted public versions of the Amended FEMA approvals (**Exhibit 1**) and the Initial FEMA approvals (**Exhibit 2**) (collectively, the "FEMA Approvals") that protect confidential information associated with Critical Energy Infrastructure Information ("CEII"). As explained below, portions of the FEMA Approvals of Projects are

[10] Please note that **Exhibit 2** has digitalization and table format issues, which are found in the documents as issued by FEMA.

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.

VI. Memorandum of Law in Support of Request for Confidentiality

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

16. 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 (2026). 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).

17. 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).

18. 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.

19. Moreover, the Energy Bureau's Policy on Management of Confidential Information details the procedures a party should follow to request that a document or portion thereof be afforded confidential treatment. In essence, the referenced Policy requires identifying confidential information and filing a memorandum of law explaining the legal basis and support for a request to file information confidentially. *See* CEPR-MI-2016-0009, Section A, as amended by the Resolution of September 20, 2016, CEPR-MI-2016-0009. The memorandum should also include a table that identifies the confidential information, a summary of the legal basis for the confidential designation, and why each claim or designation conforms to the applicable legal basis of confidentiality. *Id.* at ⁋ 3. The party who seeks confidential treatment of information filed with the Energy Bureau must also file both a "redacted" or "public version" and an "unredacted" or "confidential" version of the document that contains confidential information. *Id.* at ⁋ 6.

20. The Energy Bureau's Policy on Management of Confidential Information states the following with regard to access to validated CEII:

> 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).

21. 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

22. Portions of the FEMA Approvals included in **Exhibits 1 and 2** contain CEII that, under relevant federal law and regulations, is protected from public disclosure. LUMA stresses that portions of 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.

23. This Energy Bureau has granted LUMA's requests for confidential treatment of portions of the amended FEMA Approvals submitted in the present case. Notably, 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.

24. 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.

25. CEII or critical infrastructure information is generally exempt 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.

26. 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.*

27. 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").[11] 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).[12]

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

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

[12] 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

28. Portions of the FEMA Approvals in **Exhibits 1 and 2** qualify as CEII because these documents contain the express coordinates and physical addresses of power transmission and distribution facilities (18 C.F.R. § 388.113(iv)), and these specific coordinates and addresses could potentially be helpful to a person planning an attack on the energy facilities listed as part of these FEMA Approvals. The information is not common knowledge and is not publicly available. Therefore, LUMA respectfully submits that, on balance, the public interest in protecting CEII weighs in favor of protecting the relevant portions of the FEMA Approvals in **Exhibits 1 and 2** from disclosure, given the nature and scope of the details included in those portions.

29. Based on the above, LUMA respectfully submits that the Energy Bureau should designate portions of the FEMA Approvals 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 **Exhibits 1 and 2**. 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 kept confidential to safeguard their integrity and protect them from external threats.

C. Identification of Confidential Information

30. In compliance with the Energy Bureau's Policy on Management of Confidential Information (CEPR-MI-2016-0009), below is a table summarizing the portions of the FEMA Approvals for which LUMA requests confidential treatment.

(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.

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
Exhibit 1	1066730 – FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] (Transmission) (HM Cost alignment version)	Pages 1-3, 5, 7, 14-16, 18, 20	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026
Exhibit 1	1066980 – FAAST [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] (Transmission) (HM Cost alignment version)	Pages 1-2, 4, 8, 15-16, 18, 22	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026
Exhibit 1	1068647 – FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] (Vegetation) (HM Cost alignment version)	Pages 1, 3, 18, 20	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026
Exhibit 2	1068664 – FAAST [Ciales Streetlighting] (Distribution)	Pages 1, 5, 7	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
Exhibit 2	1068670 – FAASt [Penuelas Streetlighting] (Distribution)	Pages 1, 6, 9	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026
Exhibit 2	1068671 – FAASt [Quebradillas Streetlighting] (Distribution)	Pages 1, 5, 7	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026
Exhibit 2	1070365 – FAASt [38kV Line 6500 – Entire Line] (Vegetation)	Pages 1, 3	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	November 13, 2026

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** the copies of the FEMA Approvals attached hereto as **Exhibits 1 and 2**; and **grant** the request for confidential treatment of **Exhibits 1 and 2**.

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 via Alexis Rivera, alexis.rivera@prepa.pr.gov, and through its counsel of record, Natalia Zayas Godoy, nzayas@gmlex.net, and Mirelis Valle Cancel, mvalle@gmlex.net; and to Genera PR LLC, through

its counsel of record, Jorge Fernández-Reboredo, jfernandez@ecija.com, José J. Díaz Alonso, jdiaz@ecija.com, and Ernesto R. Ramos Maldonado, eramos@ecija.com.

In Guaynabo, Puerto Rico, on this 13th day of November 2026.

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Exhibit 1

(public version, confidential version to be filed under seal of confidentiality)

Department of Homeland Security
Federal Emergency Management Agency

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General Info

Project #	1066730 **P/W #** 108244	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
		Incident Start Date	9/17/2017
Project Size	Large	**Incident End Date**	11/15/2017
Activity Completion Date	9/20/2027		
Process Step	Obligated		

Damage Description and Dimensions

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

The facilities listed below are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500 from Fajardo TC – Dos Marinas segment. This line is a Near-Term rebuild priority identified by LUMA. However, these structures were identified as having System Remediation Plan (SRP) issues and were considered degraded during a High-Level Assessment (HLA). Due to the degraded condition of these structures, they will be replaced through the Transmission Priority Pole Replacement Program on an expedited basis.

Damage #1516533; FAASt [Transmission Priority Pole Replacement Program Line 16500 Fajardo TC-Dos Marinas]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 16500 -Fajardo TC – Dos Marinas
- **Facility Description:** The facilities listed below are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500 from Fajardo TC – Dos Marinas segment.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1516533

FAASt [Transmission Priority Pole Replacement Program Line 16500 Fajardo TC-Dos Marinas]

5.0 INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed. The SOW may include § 406 hazard mitigation proposals ("HMPs"). The SOW defines the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates. FEMA also recognizes that, generally, architects and engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews. Therefore, in those cases,

subrecipients must ensure to submit all the information described [in the SOP] and not limit the submission to a drawing set. Refer to PartC - II. "Recipient/Subrecipient Checklist for Submissions as a guide to review completeness." SOP at 4.

This document contains the detailed SOW for FEMA PA Project 1066730 – **Transmission Priority Pole Replacement Program Line 16500** under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of Public Assistance "PA" construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for Public Assistance "PA" funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to "Subrecipient" herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

6.0 PROJECT DESCRIPTION

LUMA determined that the two (2) pole structure replacements and eight (8) critical repairs identified in Section 7.0 of this DSOW were degraded during a high-level assessment. This two (2) pole and eight (8) critical repairs are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500. This project will replace the two (2) degraded pole through the Transmission Priority Pole Replacement Program on an expedited basis. As a hazard mitigation measure, LUMA proposes to install a 12-sided galvanized steel pole to withstand 160mph winds.

7.0 FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

7.2 FACILITIES LIST – OTHER FACILITIES

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any line work, coordinates listed below are the beginning and end points.

See Appendix A for the coordinates of each structure included in this project.

Line Segment	Line Number	GPS Start	GPS End	Voltage (kV)
Fajardo TC – Dos Marinas	16500	[redacted]	[redacted]	38

The following table identifies the location of each critical repair in this project.

Critical Repairs:

Pole	FID	Lat	Long
1	12062516	[redacted]	
2	30980257		
3	12062527		
4	12374182		
5	12374186		
6	12373431		
7	12374309		

8	12374093	[redacted]	[redacted]

Structure Replacement:

Pole	FID	Lat.	Long.
1	12373511	[redacted]	
2	12373359		

8.0 PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see the attached map on document named:1066730 (811923)-DR4339PR-Detailed SOW-T-Pole TL16500 Fajardo TC-Dos Marinas Rev 2 - signed.pdf

9.0 SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

(X) Standard Project: Restores the facility/facilities to pre-disaster design and function to locally adopted codes/standards and FEMA-approved industry standards.

__ Improved Project: Restores the pre-disaster function of the facilities and incorporates

__ Subrecipient's request letter included, see Appendix .

__ Recipient's approval letter included, see Appendix .

__ Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

_ Subrecipient's request letter included, see **Appendix** _.

_ Recipient's approval letter included, see **Appendix** _.

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The Scope of Work entails the removal and replacement of infrastructure necessary to restore the facility in compliance with applicable codes and standards.

1. Poles and components will be replaced per the design methodology and Project Design Criteria.
2. Fajardo TC – Dos Marinas. Structures Scopes:
    - Remove one (1) 45ft wood pole and replace with one (1) 70ft galvanized steel (round) poles in the same location.
    - Remove one (1) 65ft wood pole and replace with one (1) 70ft galvanized steel (round) poles in the same location.
    - Remove and replace four (4) cross arms, twenty-four (24) 69kV disk insulators (primary circuit), twelve (12) 69kV disk insulators (underbuilt circuits), ten (10) 69kV polymer insulators, and all associated hardware.
    - Perform critical repairs for replacing three (3) guy wires and repairing switches and install grounding on five (5) structures, to address critical system repairs.

9.2 CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and FEMA-approved industry standards used for this project are provided below:

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

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

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

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

10.0 SECTION 406 HAZARD MITIGATION PROPOSAL

(Refer to document: 1066730 (811923)-DR4339PR-Detailed SOW-T-Pole TL16500 Fajardo TC-Dos Marinas Rev 2 - signed.pdf)

11.0 COMMON EHP INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope and location of the selected activity.

(X) **Ground disturbance inside of existing footprint.** If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.

1. Installation of two (2) pole includes ground disturbance of 10' Depth x 5' Diameter.

2. **See: Appendix F Project Consideration for location.**

3. Skid steer, excavator, dump trucks, manlifts, 120-Ton motor crane, boom trucks 45-ton crane, zoom boom, air compressor, truck digger and flatbed platform.

4. All equipment used will comply with Tier 4 EPA Emission Standards, if available.

__ **Soil testing or boring to be performed as part of pre-construction activities.** If checked, provide a description, location, and dimensions of the testing/boring activities.

__ **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

(X) **Vegetative Removal.** If checked, describe the removal work to be performed, its location, and its extent.

Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project **[Project 1066730] FAASt [Region San Juan] High Density (Vegetation)**. The vegetation removal process will be managed in accordance with federal and state regulations.

(X) **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.

1. The types of debris to be removed during the demolition process include insulated and bare aluminum and copper cables, PVC conduits, concrete, metal scrap, construction waste, and wood. The debris will be separated and taken to an authorized waste disposal facility.

2. PCBs (Polychlorinated Biphenyls), oil from the transformers, breakers, sealants, and chemical waste will be handled and disposed of according to applicable state and federal regulations. LUMA will provide actual disposal locations and quantities.

Pole disposal will be performed per applicable regulations. Final debris disposal site location will be provided at closeout.

(X) Staging **areas, landing area for air transport, and access roads.** If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

1. The construction of **access roads** is not required for this scope of work. All work for this program will be performed within the current easement of the municipality(ies). Poles are near the roads and are site accessible without need for a new access road.

2. All materials will be stored and dispatched from LUMA's assigned Regional Warehouse. No additional or temporary staging areas are required to store or dispose of them. The existing Regional Warehouse to be utilized as a **staging area** for this project is the Fajardo Region Warehouse (A21), whose coordinates are [redacted].

(X) **Fill material.** If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).

1. Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the **Appendix A** – Approved Supplier List Directory PR.

__ **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands.** If checked, provide a description of the activities to be performed in water or wetlands.

12.0 PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) for completing the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to the referenced appendix/appendices.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 47,131.78**	**$ 1,457.68**	**$ 48,589.46**
MANAGEMENT	**$ 16,626.96**	**$ 514.21**	**$ 17,141.17**
Transmission Pole Replacement for 38 KV TL 16500 Fajardo TC to Dos Marinas, FAAST #: 1066730	**$ 248,300.25**	**$ 7,701.98**	**$ 256,002.23**
GENERAL CONDITIONS	**$ 12,345.77**	**$ 381.81**	**$ 12,727.58**
COST TOTALS	**$ 324,404.76**	**$ 10,055.68**	**$ 334,460.44**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE?		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT #: 1066730 - 428		$ 256,605.84
	FAAST PROJECT #: 1066730 - 406 HM		$ 10,055.68
	FAAST PROJECT #: 1066730 TOTAL:		**$ 266,661.52**

	FAASt A&E # 335168 - 428	$ 51,601.44
	FAASt A&E # 335168 - 406 HM	$ 1,595.91
	FAASt A&E # 335168 TOTAL	**$ 53,197.35**
	FAASt E&M #673691 - 428	$ 16,197.48
	FAASt E&M #673691 - 406 HM	$ 2,440.52
	FAASt E&M #673691 TOTAL	**$ 18,638.00**

Project Cost Summary, 428 Version 0:

Work to be Completed (WTBC): $324,404.76

A&E Deduction (Global A&E FAASt 335168): -$51,601.44

E&M Deduction (Global E&M FAASt 673691): -$16,197.48

Project Total: $256,605.84

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: *"1066730 (811923)-DR4339PR-Detailed SOW-T-Pole TL16500 Fajardo TC-Dos Marinas Rev 2 - signed.pdf".*

2. Refer to detailed Cost Estimate provided in document labeled: *"1066730-DR4339PR-Appendix E - Detailed Cost Estimate TL16500 Rev 8.xlsx".*

3. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as shown in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

4. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and Materials, as shown in the table above. Only the base cost of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.

5. This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project.697.

6. Attachments:

   A. 1066730-DR4339PR-Appendix A - Approved Supplier List.pdf

   B. 1066730-DR4339PR-Appendix B - General Arrangement1.pdf

   C. 1066730-DR4339PR-Appendix C - Engineering Plans1.pdf

   D. 1066730-DR4339PR-Appendix D - Consent to Federal Funding Letter - FEMA COR31.pdf

   E. 1066730-DR4339PR-Appendix E - Detailed Cost Estimate TL16500 Rev 8.xlsx

   F. 1066730-DR4339PR-Appendix F - Project Considerations TL165001.xlsx

   G. 1066730-DR4339PR-Appendix G - Cost Effective Hazard Mitigation Measures1.pdf

   H. 1066730-DR4339PR-Appendix H - HM Narative 16500_May.18.2026.pdf

   I. 1066730-DR4339PR-Appendix I Staging Area Plan 165001.pdf

406 HMP Scope

Project number: 1066730 FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission)

Damage: 1516533; FAASt [Transmission Priority Pole Replacement Program Line 16500 Fajardo TC-Dos Marinas]

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

Location: San Juan, Puerto Rico.

GPS Latitude/Longitude: Start: [redacted]; End: [redacted]

Hazard Mitigation Narrative

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

The Method of Repair (MOR) included the replacement of the damaged critical distribution pole (wood), cross-arms, insulators, guy wires, and all associated hardware needed for the new structure. The facilities listed below are part of the 5.1 circuit miles of 38kV Overhead Transmission Line 16500 from Fajardo TC to Dos Marinas segment. The Subrecipient determined that two (2) poles were degraded during a high-level assessment. Given that, this project will replace the two (2) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis.

In order to minimize the damages in a future event, the sub-recipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a new steel galvanized, 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 145mph sustained winds. However, the new 2021 PREPA Standard updates the design-criteria to a 160mph sustained winds resistant. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

In order to prevent, reduce and/or eliminate future natural disaster damage, the subrecipient proposed the following mitigation measures:

Mitigation Measures (Supplementary): Foundations

To avoid damage during future events, the Subrecipient proposes as a mitigation measure, the construction of a concrete base foundation for the utility poles to increase the wind tolerance to 160mph and reduce soil instability. This measure improves the structures resilience against potential flooding and the associated hydrostatic and hydrodynamic forces. 406 HM will cover 100% of the strategy.

Mitigation Measures (Replacement): Poles

To avoid damage in a future event, the Subrecipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V5.

➢ [Distribution Critical Poles Replacement] 406 Mitigation Scope of Work:

Fajardo TC – Dos Marinas.

1. Replace two (2) 70 ft round galvanized steel poles of 145mph windspeed resistance ASCE/SEI 48-19 with two (2) new 70ft 12-sided galvanized steel poles, tapered shaft distribution pole to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

2. Install one (1ea) concrete foundation for one (1ea) 70ft 12-sided galvanized steel pole. {[(4'/2)^2x3.14x10'] - [(2'/2)^2x3.14x10']} / 27 = 3.49CY x 1ea = 3.49 CY

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 7,387.22
+ HM (Recipient A&E, Management & General Conditions) =	$ 2,668.46
Hazard Mitigation Total Cost =	$ 10,055.68

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 2,440.52
Architecture and Engineering (A&E) =	$ 1,595.91
Construction Cost =	$ 6,019.25
Hazard Mitigation Total Cost =	$ 10,055.68

HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The Hazard Mitigation Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

The Island Wide Benefit Cost Analysis (IWBCA) created for the PREPA infrastructure defines a maximum potential benefit using the incurred costs of the PREPA FEMA Accelerated Award Strategy (FAASt) fixed cost estimate, the mission assignments utilized for the reconnection effort, and the costs associated with loss of service. This maximum benefit has been developed to fund all mitigation projects from both Public Assistance Hazard Mitigation and the Hazard Mitigation Grant program.

It is the Subrecipient responsibility to maintain a record of approved IWBCA related projects to avoid running out of funds for their Mitigation portion projects. Please see attached IWBCA Package

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$10,055.68 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

***See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents. (HMP, HMP cost estimate, Supporting documents file).*

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($51,601.44)	Uncompleted
9001	1	Lump Sum	$324,404.76	Uncompleted
9001	1	Lump Sum	($16,197.48)	Uncompleted

CRC Gross Cost	$256,605.84
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$256,605.84
Federal Share (90.00%)	$230,945.26
Non-Federal Share (10.00%)	$25,660.58

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard requirements.
- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA’s completion of the

EHP review, it jeopardizes PA funding for the entire project.

- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.

Insurance

Additional Information

10/14/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:28 PM PST

Review Comments

Project 1066730 Proposed restoration includes two (2) pole structure replacements and eight (8) critical repairs identified in Section 7.0 of this DSOW were degraded during a high-level assessment. This two (2) pole and eight (8) critical repairs are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500. This project will replace the two (2) degraded pole through the Transmission Priority Pole Replacement Program on an expedited basis. As a hazard mitigation measure, LUMA proposes to install a 12-sided galvanized steel pole to withstand 160mph winds. This version 0 includes only PA 428 funds for a total of $230,945.26 federal share. Version 1 will include HM 406 funds.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/24/2026 9:08 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

v1

General Info

Project #	1066730 **P/W #** 108244	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
		Incident Start Date	9/17/2017
Project Size	Large	**Incident End Date**	11/15/2017
Activity Completion Date	9/20/2027		
Process Step	Obligated		

Damage Description and Dimensions

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

The facilities listed below are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500 from Fajardo TC – Dos Marinas segment. This line is a Near-Term rebuild priority identified by LUMA. However, these structures were identified as having System Remediation Plan (SRP) issues and were considered degraded during a High-Level Assessment (HLA). Due to the degraded condition of these structures, they will be replaced through the Transmission Priority Pole Replacement Program on an expedited basis.

Damage #1516533; FAASt [Transmission Priority Pole Replacement Program Line 16500 Fajardo TC-Dos Marinas]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 16500 -Fajardo TC – Dos Marinas
- **Facility Description:** The facilities listed below are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500 from Fajardo TC – Dos Marinas segment.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1516533

FAASt [Transmission Priority Pole Replacement Program Line 16500 Fajardo TC-Dos Marinas]

********** Version 1 **********

Version 1 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the hazard mitigation cost alignment that was pending in the previous version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

SOW from previous Versions has been removed from current SOW. It can be found in the "Versioning and Amendments" tab in GM.

5.0 INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed. The SOW may include § 406 hazard mitigation proposals ("HMPs"). The SOW defines the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates. FEMA also recognizes that, generally, architects and engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews. Therefore, in those cases, subrecipients must ensure to submit all the information described [in the SOP] and not limit the submission to a drawing set. Refer to PartC - II. "Recipient/Subrecipient Checklist for Submissions as a guide to review completeness." SOP at 4.

This document contains the detailed SOW for FEMA PA Project 1066730 – **Transmission Priority Pole Replacement Program Line 16500** under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of Public Assistance "PA" construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for Public Assistance "PA" funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to "Subrecipient" herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

6.0 PROJECT DESCRIPTION

LUMA determined that the two (2) pole structure replacements and eight (8) critical repairs identified in Section 7.0 of this DSOW were degraded during a high-level assessment. This two (2) pole and eight (8) critical repairs are part of the 5.1 circuit miles of overhead transmission for 38kV Line 16500. This project will replace the two (2) degraded pole through the Transmission Priority Pole Replacement Program on an expedited basis. As a hazard mitigation measure, LUMA proposes to install a 12-sided galvanized steel pole to withstand 160mph winds.

7.0 FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

7.2 FACILITIES LIST – OTHER FACILITIES

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any line work, coordinates listed below are the beginning and end points.

See Appendix A for the coordinates of each structure included in this project.

Line Segment	Line Number	GPS Start	GPS End	Voltage (kV)
Fajardo TC – Dos Marinas	16500	[redacted]	[redacted]	38

The following table identifies the location of each critical repair in this project.

Critical Repairs:

Pole	FID	Lat	Long

1	12062516	[redacted]	
2	30980257		
3	12062527		
4	12374182		
5	12374186		
6	12373431		
7	12374309		
8	12374093		

Structure Replacement:

Pole	FID	Lat.	Long.
1	12373511	[redacted]	[redacted]
2	12373359	[redacted]	[redacted]

8.0 PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see the attached map on document named:1066730 (811923)-DR4339PR-Detailed SOW-T-Pole TL16500 Fajardo TC-Dos Marinas Rev 2 - signed.pdf

9.0 SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

(X) Standard Project: Restores the facility/facilities to pre-disaster design and function to locally adopted codes/standards and FEMA-approved industry standards.

__ Improved Project: Restores the pre-disaster function of the facilities and incorporates

__ Subrecipient's request letter included, see Appendix .

__ Recipient's approval letter included, see Appendix .

__ Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

_ Subrecipient's request letter included, see **Appendix** _.

_ Recipient's approval letter included, see **Appendix** _.

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The Scope of Work entails the removal and replacement of infrastructure necessary to restore the facility in compliance with applicable codes and standards.

1. Poles and components will be replaced per the design methodology and Project Design Criteria.
2. Fajardo TC – Dos Marinas. Structures Scopes:
    - Remove one (1) 45ft wood pole and replace with one (1) 70ft galvanized steel (round) poles in the same location.
    - Remove one (1) 65ft wood pole and replace with one (1) 70ft galvanized steel (round) poles in the same location.
    - Remove and replace four (4) cross arms, twenty-four (24) 69kV disk insulators (primary circuit), twelve (12) 69kV disk insulators (underbuilt circuits), ten (10) 69kV polymer insulators, and all associated hardware.
    - Perform critical repairs for replacing three (3) guy wires and repairing switches and install grounding on five (5) structures, to address critical system repairs.

9.2 CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and FEMA-approved industry standards used for this project are provided below:

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

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

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

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

10.0 SECTION 406 HAZARD MITIGATION PROPOSAL

(Refer to document: 1066730 (811923)-DR4339PR-Detailed SOW-T-Pole TL16500 Fajardo TC-Dos Marinas Rev 2 - signed.pdf)

11.0 COMMON EHP INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope and location of the selected activity.

(X) **Ground disturbance inside of existing footprint.** If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.

1. Installation of two (2) pole includes ground disturbance of 10' Depth x 5' Diameter.

2. **See: Appendix F Project Consideration for location.**

3. Skid steer, excavator, dump trucks, manlifts, 120-Ton motor crane, boom trucks 45-ton crane, zoom boom, air compressor, truck digger and flatbed platform.

4. All equipment used will comply with Tier 4 EPA Emission Standards, if available.

__ **Soil testing or boring to be performed as part of pre-construction activities.** If checked, provide a description, location, and dimensions of the testing/boring activities.

__ **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

(X) **Vegetative Removal.** If checked, describe the removal work to be performed, its location, and its extent.

Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project **[Project 1066730] FAASt [Region San Juan] High Density (Vegetation)**. The vegetation removal process will be managed in accordance with federal and state regulations.

(X) **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.

1. The types of debris to be removed during the demolition process include insulated and bare aluminum and copper cables, PVC conduits, concrete, metal scrap, construction waste, and wood. The debris will be separated and taken to an authorized waste disposal facility.

2. PCBs (Polychlorinated Biphenyls), oil from the transformers, breakers, sealants, and chemical waste will be handled and disposed of according to applicable

state and federal regulations. LUMA will provide actual disposal locations and quantities.

Pole disposal will be performed per applicable regulations. Final debris disposal site location will be provided at closeout.

(X) Staging **areas, landing area for air transport, and access roads.** If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

1. The construction of **access roads** is not required for this scope of work. All work for this program will be performed within the current easement of the municipality(ies). Poles are near the roads and are site accessible without need for a new access road.

2. All materials will be stored and dispatched from LUMA's assigned Regional Warehouse. No additional or temporary staging areas are required to store or dispose of them. The existing Regional Warehouse to be utilized as a **staging area** for this project is the Fajardo Region Warehouse (A21), whose coordinates are [redacted].

(X) **Fill material.** If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).

1. Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the **Appendix A** – Approved Supplier List Directory PR.

__ **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands.** If checked, provide a description of the activities to be performed in water or wetlands.

12.0 PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) for completing the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to the referenced appendix/appendices.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 47,131.78**	**$ 1,457.68**	**$ 48,589.46**
MANAGEMENT	**$ 16,626.96**	**$ 514.21**	**$ 17,141.17**
Transmission Pole Replacement for 38 KV TL 16500 Fajardo TC to Dos Marinas, FAAST #: 1066730	**$ 248,300.25**	**$ 7,701.98**	**$ 256,002.23**
GENERAL CONDITIONS	**$ 12,345.77**	**$ 381.81**	**$ 12,727.58**
COST TOTALS	**$ 324,404.76**	**$ 10,055.68**	**$ 334,460.44**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE?		**$ -**

FAASt ALLOCATIONS	FAAST PROJECT #: 1066730 - 428	$ 256,605.84
	FAAST PROJECT #: 1066730 - 406 HM	$ 10,055.68
	FAAST PROJECT #: 1066730 TOTAL:	**$ 266,661.52**
	FAASt A&E # 335168 - 428	$ 51,601.44
	FAASt A&E # 335168 - 406 HM	$ 1,595.91
	FAASt A&E # 335168 TOTAL	**$ 53,197.35**
	FAASt E&M #673691 - 428	$ 16,197.48
	FAASt E&M #673691 - 406 HM	$ 2,440.52
	FAASt E&M #673691 TOTAL	**$ 18,638.00**

Project Cost Summary, 428 Version 0:

Work to be Completed (WTBC): $324,404.76

A&E Deduction (Global A&E FAASt 335168): -$51,601.44

E&M Deduction (Global E&M FAASt 673691): -$16,197.48

Project Total: $256,605.84

Summary of Key Changes:

V0: $256,605.84 (WTBC)

V1: $0.00 (HM cost alignment)

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: *"1066730 (811923)-DR4339PR-Detailed SOW-T-Pole TL16500 Fajardo TC-Dos Marinas Rev 2 - signed.pdf".*

2. Refer to detailed Cost Estimate provided in document labeled: *"1066730-DR4339PR-Appendix E - Detailed Cost Estimate TL16500 Rev 8.xlsx".*

3. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as shown in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

4. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and

Materials, as shown in the table above. Only the base cost of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.

5. This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project.697.
6. Attachments:
   A. 1066730-DR4339PR-Appendix A - Approved Supplier List.pdf
   B. 1066730-DR4339PR-Appendix B - General Arrangement1.pdf
   C. 1066730-DR4339PR-Appendix C - Engineering Plans1.pdf
   D. 1066730-DR4339PR-Appendix D - Consent to Federal Funding Letter - FEMA COR31.pdf
   E. 1066730-DR4339PR-Appendix E - Detailed Cost Estimate TL16500 Rev 8.xlsx
   F. 1066730-DR4339PR-Appendix F - Project Considerations TL165001.xlsx
   G. 1066730-DR4339PR-Appendix G - Cost Effective Hazard Mitigation Measures1.pdf
   H. 1066730-DR4339PR-Appendix H - HM Narative 16500_May.18.2026.pdf
   I. 1066730-DR4339PR-Appendix I Staging Area Plan 165001.pdf

406 HMP Scope

Project number: 1066730 FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission)

Damage: 1516533; FAASt [Transmission Priority Pole Replacement Program Line 16500 Fajardo TC-Dos Marinas]

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

Location: San Juan, Puerto Rico.

GPS Latitude/Longitude: Start: [redacted]; End: [redacted]

Hazard Mitigation Narrative

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

The Method of Repair (MOR) included the replacement of the damaged critical distribution pole (wood), cross-arms, insulators, guy wires, and all associated hardware needed for the new structure. The facilities listed below are part of the 5.1 circuit miles of 38kV Overhead Transmission Line 16500 from Fajardo TC to Dos Marinas segment. The Subrecipient determined that two (2) poles were degraded during a high-level assessment. Given that, this project will replace the two (2) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis.

In order to minimize the damages in a future event, the sub-recipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a new steel galvanized, 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 145mph sustained winds. However, the new 2021 PREPA Standard updates the design-criteria to a 160mph sustained winds resistant. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

In order to prevent, reduce and/or eliminate future natural disaster damage, the subrecipient proposed the following mitigation measures:

Mitigation Measures (Supplementary): Foundations

To avoid damage during future events, the Subrecipient proposes as a mitigation measure, the construction of a concrete base foundation for the utility poles to increase the wind tolerance to 160mph and reduce soil instability. This measure improves the structures resilience against potential flooding and the associated hydrostatic and hydrodynamic forces. 406 HM will cover 100% of the strategy.

Mitigation Measures (Replacement): Poles

To avoid damage in a future event, the Subrecipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V5.

Ø [Distribution Critical Poles Replacement] 406 Mitigation Scope of Work:

Fajardo TC – Dos Marinas.

1. Replace two (2) 70 ft round galvanized steel poles of 145mph windspeed resistance ASCE/SEI 48-19 with two (2) new 70ft 12-sided galvanized steel poles, tapered shaft distribution pole to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

2. Install one (1ea) concrete foundation for one (1ea) 70ft 12-sided galvanized steel pole. {[(4'/2)^2x3.14x10'] - [(2'/2)^2x3.14x10']} / 27 = 3.49CY x 1ea = 3.49 CY

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 7,387.22
+ HM (Recipient A&E, Management & General Conditions) =	$ 2,668.46
Hazard Mitigation Total Cost =	$ 10,055.68

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 2,440.52
Architecture and Engineering (A&E) =	$ 1,595.91
Construction Cost =	$ 6,019.25
Hazard Mitigation Total Cost =	$ 10,055.68

HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis, BCA, methodology evaluates the expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide, PAPPG, Version 3.1, April 2018, Chapter 2, Section VII.C, page 98, considers mitigation measures to be cost-effective when they are demonstrated through an acceptable BCA using FEMA's BCA methodologies and have a resulting Benefit-Cost Ratio, or BCR, equal to or greater than 1.0.

For PREPA infrastructure under FEMA DR-4339-PR, FEMA developed an Island Wide Benefit Cost Analysis, or IWBCA, to evaluate cost-effectiveness at the electrical system level rather than through separate project-specific BCAs. The IWBCA characterizes the PREPA/LUMA system as a single project for mitigation purposes, focuses on system-wide resiliency, and supports the development of cost-effective mitigation projects while avoiding double counting, or duplication, of benefits. The IWBCA applies one BCA to the entire FAASt project and includes benefits based on future costs avoided from physical damage to infrastructure, costs related to the response and reconnection effort, and loss of function for electric service caused by the storm.

The IWBCA established a maximum potential mitigation benefit for the PREPA system of $7.6 billion. This figure represents the estimated total potential mitigation benefit with the highest confidence and was developed using the incurred costs of the PREPA FEMA Accelerated Award Strategy, FAASt, fixed cost estimate, FCE, the mission assignments used for the reconnection effort, and costs associated with loss of service. The IWBCA results were developed by the PA Mitigation team using the best available data and were further refined and concurred with by FEMA Region 2 PA Mitigation team members and FEMA HQ groups, including the Community Infrastructure Resilience, CIR, Branch and Disaster Implementation, DI, Branch. This maximum potential benefit must be tracked to ensure that the combined cost of all approved mitigation proposals does not exceed the maximum potential benefit.

The Hazard Mitigation Proposal, HMP, described herein has a total Hazard Mitigation cost of [$10,055.68]. In accordance with FEMA's internal IWBCA benefit tracking, the maximum potential benefit remaining in the IWBCA is [$4,969,173,354.82]. The cost of this HMP, when combined with all other approved IWBCA-related proposals funded, does not exceed the remaining available IWBCA benefit. Therefore, this HMP is deemed cost-effective under the FEMA PAPPG Version 3.1, April 2018, Chapter 2, Section VII.C, BCA Rule, because the IWBCA demonstrates an acceptable BCA with a Benefit-Cost Ratio equal to or greater than 1.0.

For validation, reviewers should refer to the attached IWBCA Package, including the IWBCA narrative and backup documentation, which define the IWBCA methodology, inputs, and supporting calculations. Reviewers should also confirm that the project has been included in the current IWBCA benefit tracking record to verify that the total approved IWBCA-related mitigation costs remain below the maximum potential benefit and that no duplication of benefits has occurred.

This Hazard Mitigation Proposal meets the eligible repair and restoration cost-effectiveness requirements. See the Mitigation Profile Documents Tab in Grants Manager for the complete supporting documentation, including the HMP cost estimate and supporting documents file.

**See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents. (HMP, HMP cost estimate, Supporting documents file).*

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($51,601.44)	Uncompleted
9001	1	Lump Sum	$324,404.76	Uncompleted
9001	1	Lump Sum	($16,197.48)	Uncompleted

CRC Gross Cost	$256,605.84
Total 406 HMP Cost	$10,055.68
Total Insurance Reductions	$0.00
CRC Net Cost	$266,661.52
Federal Share (90.00%)	$239,995.37
Non-Federal Share (10.00%)	$26,666.15

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard requirements.
- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA’s completion of the

EHP review, it jeopardizes PA funding for the entire project.

- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.
- 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

10/14/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission) (HM Cost alignment version)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 10/27/2026 7:21 PM PST

Review Comments

Version 1 contemplates $9,050.11, (federal share) only HM Cost Alignment for Priority Pole Replacement Program (Line 16500 Fajardo TC-Dos Marinas)] / Former project 811923 (Transmission).

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 11/03/2026 8:21 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

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 #
0	10/8/2026	$230,945.26	90%	Accepted	4339DRPRP01082441
1	11/6/2026	$9,050.11	90%	Accepted	4339DRPRP01082441

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1066980 **P/W #** 108254	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
		Incident Start Date	9/17/2017
Project Size	Large	**Incident End Date**	11/15/2017
Activity Completion Date	9/20/2027		
Process Step	Obligated		

Damage Description and Dimensions

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

The proposed restoration includes repairs of eligible disaster damage up to required codes and standards and the upgrade of undamaged infrastructure to fully effectuate the restoration of disaster-damaged components and restore the system to an approved industry standard. The Detailed Scope of Work consists of the repair, removal and replacement of the following infrastructure: Line segment 5900 – San Juan SP – Crematorio TO (Remove 2 wood poles and replace with new round steel poles. Install 3 new round steel poles).

Damage #1387151; FAASt [5900 – San Juan SP – Crematorio TO]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 5900 - San Juan SP - Crematorio TO
- **Facility Description:** The facilities listed below are part of the 2 circuit miles of overhead transmission for 38kV Line 5900 – San Juan SP – Crematorio TO segment.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1387151 **FAASt [5900 – San Juan SP – Crematorio TO]**

5.0 INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed.The SOW may include § 406 hazard mitigation proposals ("HMPs"). The SOW de?nes the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs,including drawings and cost estimates. FEMA also recognizes that, generally, architects and engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews.Therefore, in those cases, subrecipients must ensure to submit all the information described [in the SOP] and not limit the submission to a drawing set. Refer to Part C - II. "Recipient/Subrecipient Checklist for Submissions as a guide to review completeness." SOP at 4.

This document contains the detailed SOW for FEMA PA Project 1066980– **Transmission Priority Pole Replacement Program Line 5900** under DR-4339-PR Public Assistance.The document provides a detailed description of the project, scope of Public Assistance "PA" construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost

estimates. LUMA is seeking approval from COR3 and FEMA for Public Assistance “PA” funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to “Subrecipient” herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

6.0 PROJECT DESCRIPTION

LUMA determined during a high-level assessment that the two (2) poles identi?ed in Section 7 of this DSOW were degraded. These two poles are part of the 5.1 circuit miles of overhead transmission for 38kV Line 5900. This project will replace the two (2) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis. The project will also install three additional (3) new poles. As a hazard mitigation measure, LUMA proposes to install a 12-sided galvanized steel poles to withstand 160mph winds.

7.0 FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

None.

7.2 FACILITIES LIST – OTHER FACILITIES

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any access roads or other line work, coordinates listed below are the beginning and end points.

Line Segment	Line Number	GPS Start	GPS End	Voltage (kV)
San Juan SP – Crematorio TO	5900	[redacted]	[redacted]	38

The following table identi?es the location of each pole to be replaced and installed in this project.

Pole	FID	Lat	Lo
1	14052208	[redacted]	
2	New		
3	New		
4	14052190		
5	New		

8.0 PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

See the map of the T-Pole 5900, in document: “*1066980-DR4339PR Detailed SOW Rev 4 T Pole Line 5900 2026-06-15 09_21.pdf*”.

The proposed type of work for this project:

X Standard Project: Restores the facility/facilities to pre-disaster design and function to locally adopted codes/standards and FEMA-approved industry standards.

__ Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.

__ Subrecipient's request letter included, see **Appendix** ___.

__ Recipient's approval letter included, see **Appendix** ___.

__ Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

__ Subrecipient's request letter included, see **Appendix** ___.

__ Recipient's approval letter included, see **Appendix** ___.

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

1. Poles and components will be replaced per the design methodology and Project Design Criteria.

2. San Juan SP to Crematorio TO. Structures Scopes:

- Remove two (2) wood utility poles and cross arms and replace with new 70 ft steel galvanized round structures and hardware.
- Install three (3) new midspan 70 ft steel galvanized round structures and hardware.
    - Dig holes for 5 poles.
    - Excavate for all poles - 4' Diameter x 10' Length.
    - Erect steel plate poles.
- Remove ten (10) ceramic insulators and replace them with ten (10) polymer insulators.
- Install seventeen (17) new polymer insulators.
- Remove and replace the existing 50 kVA transformer located on structure FID: 14052190.

9.2 CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and FEMA-approved industry standards used for this project are provided below:

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

10.0 § 406 HAZARD MITIGATION PROPOSAL

FEMA PAPPG v.3.1 provides, "Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects." Subrecipient proposes to lessen or eliminate long-term risk to people and property from future natural hazards and their effects by performing the work described in this project to Subrecipient's Transmission Design Criteria, which exceeds required codes and standards. Doing so will directly reduce the potential of the future, similar negative consequences of damage to the T&D system as occurred after Hurricane Maria by improving the system's physical resilience, functional resiliency, and/ or both.

Below is a description of the proposed mitigation opportunity and the proposed scope of work.

10.1 § 406 HAZARD MITIGATION OPPORTUNITY

The transmission system's main objective is to provide ef?cient and reliable interconnection of generation sources with the load centers distributed throughout the island. LUMA's transmission grid connects power generation plants, transmission centers, sectionalizers, and distribution substations through a complex and extensive network of lines, all dependent on one another.

LUMA has included 406 Hazard Mitigation measures in its preliminary design that meet these new and higher standards described above. These standards increase the resiliency of transmission structures in higher-risk exposed areas and incorporate robust structures that can withstand higher wind speeds in vulnerable regions on the island.

10.2 § 406 SCOPE OF WORK

Poles

1. Replace ?ve (5) round steel galvanized poles of 145mph wind speed resistance ASCE/SEI 48-19 with new 70 ft steel galvanized, 12-sided, tapered shaft distribution poles to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

11.0 COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope and location of the selected activity.

X **Ground disturbance inside of the existing footprint**. If checked, provide a description of the ground disturbing activities, including the extent, location, and depth of the disturbance.

1. Installation of all ?ve (5) poles includes ground disturbance with 10' Deep x 5' Diameter.

2. **See: Appendix F Project Consideration for locations**

3. Skid steer, excavator, dump trucks, manlifts, 120-Ton motor crane, boom trucks 45-ton crane, zoom boom, air compressor, truck digger and flatbed platform.

4. All equipment used will comply with Tier 4 EPA Emission Standards, if available.

__ **Soil testing or boring to be performed as part of pre-construction activities**. If checked, provide a description, location, and dimensions of the testing/boring activities.

__ **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

X **Vegetative Removal**. If checked, describe the removal work to be performed, its location, and its extent.

Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project **[Project 753786] FAAst [Region San Juan] High Density (Vegetation)** The vegetation removal process will be managed in accordance with federal and state regulations.

X **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) ?nal debris disposal location; and (4) ?nal debris disposal method.

1. The types of debris to be removed during the demolition process include insulated and bare aluminum and copper cables, PVC conduits, concrete, metal scrap, construction waste, and wood. The debris will be separated and taken to an authorized waste disposal facility.

2. PCBs (Polychlorinated Biphenyls), oil from the transformers, breakers, sealants, and chemical waste will be handled and disposed of according to applicable state and federal regulations. LUMA will provide actual disposal locations and quantities.

3. Pole disposal will be performed per applicable regulations.

X **Staging areas, landing areas for air transport, and access roads**. If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

1. The construction of **access roads** is not required for this scope of work. All work for this program will be performed within the current easement of the municipality(ies). Poles are near the roads and are site accessible without need for a new access road.

2. All materials will be stored and dispatched from LUMA's assigned Regional Warehouse. No additional or temporary staging areas are required to store or dispose of them. The existing Regional Warehouse to be utilized as a **staging area** for this project is the Palo Seco General Depot – Distribution Center Warehouse (A11), whose coordinates are [redacted].

X **Fill material**. If the project includes the use of ?ll material, provide the source of the ?ll material including the provider's name and address (if known).

1. Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the **Appendix A**-*Approved Supplier List Directory PR.*

__ **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands**. If checked, provide a description of the activities to be performed in water or wetlands.

12.0 PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) for completing the project are summarized in the table(s) below. The cost estimate(s) were developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate, refer to the referenced appendix/appendices.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 72,725.87**	**$ 1,302.91**	**$ 74,028.78**
(A&E) Permitting and Assessments	$ 3,356.68	$ 60.14	$ 3,416.82
(A&E) Environmental Documentation & Management	$ 9,550.41	$ 171.10	$ 9,721.51
(A&E) Engineering Services & Design	$ 59,818.78	$ 1,071.67	$ 60,890.45
MANAGEMENT	**$ 24,854.63**	**$ 445.28**	**$ 25,299.91**
(A&E) Design Development Project Management A&E	$ 881.02	$ 15.78	$ 896.80
(A&E) - Design Lodging & Per Diem A&E	$ 3,984.12	$ 71.38	$ 4,055.50
Project Management	$ 4,992.48	$ 89.44	$ 5,081.92
Construction Management	$ 7,831.34	$ 140.30	$ 7,971.64
Contracting, Procurement & Contract Administration	$ 3,250.01	$ 58.22	$ 3,308.23
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 3,915.67	$ 70.15	$ 3,985.82
Transmission Pole Replacement and Critical Repairs 38 KV L 5900 San Juan SP to Crematorio TO, FAAST #: 1066980	**$ 407,388.10**	**$ 7,295.00**	**$ 414,683.10**

Transmission Pole Replacement and Critical Repairs 38 KV L 5900 San Juan SP to Crematorio TO, FAAST #: 1066980, material, labor and equipment.	$ 339,032.07	$ 6,101.30	$ 345,133.37
Start Up/Commissioning	$ 5,085.88	$ 91.12	$ 5,177.00
Construction Trespass	$ 1,725.66	$ -	$ 1,725.66
Transportation Expenses	$ 1,695.29	$ 30.37	$ 1,725.66
Security (Field 24 hr)	$ 3,051.53	$ 54.67	$ 3,106.20
Insurance	$ 6,848.99	$ 122.70	$ 6,971.69
Contingency	$ 38,201.67	$ 684.39	$ 38,886.06
Escalation	$ 11,747.01	$ 210.45	$ 11,957.46
GENERAL CONDITIONS	**$ 21,224.02**	**$ 380.23**	**$ 21,604.25**
Sales Tax	$ 4,271.07	$ 76.52	$ 4,347.59
Municipal Construction Tax	$ 16,952.94	$ 303.72	$ 17,256.66
COST TOTALS	**$ 526,192.62**	**$ 9,423.42**	**$ 535,616.04**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE?		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT #: 1066980 - 428		$ 407,819.90
	FAAST PROJECT #: 1066980 - 406 HM		$ 9,423.42

	FAAST PROJECT #: 1066980 TOTAL:	**$ 417,243.33**
	FAASt A&E # 335168 - 428	$ 77,591.01
	FAASt A&E # 335168 - 406 HM	$ 1,390.07
	FAASt A&E # 335168 TOTAL	**$ 78,981.08**
	FAASt E&M #673691 - 428	$ 40,781.70
	FAASt E&M #673691 - 406 HM	$ 6,101.30
	FAASt E&M #673691 TOTAL	**$ 46,883.00**

Refer to **Appendix E** - Detailed Cost Estimate.

428 Project Summary, Version 0:

Work to Be Completed (WTBC): $526,192.62

E&M Deduction (#673691) 428: -$40,781.70

A&E Deduction (Global A&E FAASt 335168): -$77,591.02 (used $0.02 to avoid rounding difference between Excel and GM total.)

Project Total Cost: $407,819.90

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document: "*1066980-DR4339PR Detailed SOW Rev 4 T Pole Line 5900 2026-06-15 09_21.pdf".*

2. Refer to detailed cost estimate in document: *"1066980-DR4339PR-Appendix E - Detailed Cost Estimate TL5900 Rev 8(1).xlsx*

3. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as show in in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

2. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and Materials, as shown in the table above. Only the base cost of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.

5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

6. Since in previous version the A&E and E&M dollar amount was deducted, now in version 1 a positive value has been added with the same amount to zero out the cost.

7. In the A&E Deduction cost used $0.02 to avoid rounding difference between Excel and GM total.

13.0 ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename

A	Approved Supplier List
B	General Arrangement
C	Engineering Plans
D	Consent to Federal Funding Letter – FEMA COR3
E	Detailed Cost Estimate TL 5900
F	Project Considerations
G	Cost Effective Hazard Mitigation Measures
H	HM Narrative TL5900
I	Staging Area Plan 5900

406 HMP Scope

Project number: [1066980] FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission)

Damage: 1387151; FAASt [5900 – San Juan SP – Crematorio TO]

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

Location: San Juan, Puerto Rico.

GPS Latitude/Longitude: Start: [redacted]; End: [redacted]

Hazard Mitigation Narrative

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

The Method of Repair (MOR) included the replacement of the damaged critical distribution pole (wood), cross-arms, insulators, guy wires, and all associated hardware needed for the new structure. The facilities listed below are part of the 2 circuit miles of 38kV Overhead Transmission Line 5900 from San Juan SP to Crematorio TO segment. The Subrecipient determined that two (2) poles were degraded during a high-level assessment. Given that, this project will replace the two (2) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis. The project will also install three additional (3) new poles. As a hazard mitigation measure, LUMA proposes to install 12-sided galvanized steel poles to withstand 160mph winds.

In order to minimize the damages in a future event, the sub-recipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a with new steel galvanized, 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 145mph sustained winds. However, the new 2021 PREPA Standard updates the design-criteria to a 160mph sustained winds resistant. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

In order to prevent, reduce and/or eliminate future natural disaster damage, the subrecipient proposed the following mitigation measures:

Mitigation Measures *(Replacement)*

To avoid damage in a future event, the Subrecipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V5.

➢ [Distribution Critical Poles Replacement] 406 Mitigation Scope of Work:

1. San Juan SP - Crematorio TO

Replace five (5) 70 ft round galvanized steel poles of 145mph windspeed resistance ASCE/SEI 48-19 with five (5) new 70ft 12-sided galvanized steel pole, tapered shaft distribution pole to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

–

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $ 7,011.63

+ HM (Subrecipient A&E, Management & General Conditions) = $ 2,411.80

Hazard Mitigation Total Cost = **$ 9,423.43**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) = $ 6,101.30

Architecture and Engineering (A&E) = $ 1,390.07

Construction Cost = $ 1,932.06

Hazard Mitigation Total Cost = **$9,423.43**

HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The Hazard Mitigation Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

The Island Wide Benefit Cost Analysis (IWBCA) created for the PREPA infrastructure defines a maximum potential benefit using the incurred costs of the PREPA FEMA Accelerated Award Strategy (FAASt) fixed cost estimate, the mission assignments utilized for the reconnection effort, and the costs associated with loss of service. This maximum benefit has been developed to fund all mitigation projects from both Public Assistance Hazard Mitigation and the Hazard Mitigation Grant program.

It is the Subrecipient responsibility to maintain a record of approved IWBCA related projects to avoid running out of funds for their Mitigation portion projects. Please see attached IWBCA Package

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$9,423.43 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

***See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents. (HMP, HMP cost estimate, Supporting documents file).*

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$526,192.62	Uncompleted
9001	1	Lump Sum	($40,781.70)	Uncompleted
3510	1	Lump Sum	($77,591.02)	Uncompleted

CRC Gross Cost	$407,819.90
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$407,819.90
Federal Share (90.00%)	$367,037.91
Non-Federal Share (10.00%)	$40,781.99

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard requirements.
- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA’s completion of the EHP review, it jeopardizes PA funding for the entire project.
- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a

violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).

- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.

Insurance

Additional Information

10/14/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if needed, providing administrative function and forwarding project for completion.

Jean-Carlo Echevarria, PA Insurance Specialist, CRC Atlantic, Guaynabo P.R.

6/24/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to re-establish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to reestablish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- ***Previous comment applies*** On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:31 PM PST

Review Comments

Project 1066738 proposed restoration includes: poles and structures (including their foundations), framing and insulators, load break switches (manual and automated), capacitor banks, voltage regulators, transformers (including lightning arresters and fuse cut-outs), conductors, guy wires, anchoring, grounding assemblies, underground cable, underground cable systems, fault interrupting equipment (fuses, reclosers, and sectionalizes), and any other associated components. V0 includes PA 428 funds only for a total of $6,785,158.23 federal share. V1 will include HM 406 funds.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/24/2026 6:09 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

v1

General Info

Project #	1066980 **P/W #** 108254	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
Project Size	Large	**Incident Start Date**	9/17/2017
Activity Completion Date	9/20/2027	**Incident End Date**	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

The proposed restoration includes repairs of eligible disaster damage up to required codes and standards and the upgrade of undamaged infrastructure to fully effectuate the restoration of disaster-damaged components and restore the system to an approved industry standard. The Detailed Scope of Work consists of the repair, removal and replacement of the following infrastructure: Line segment 5900 – San Juan SP – Crematorio TO (Remove 2 wood poles and replace with new round steel poles. Install 3 new round steel poles).

Damage #1387151; FAASt [5900 – San Juan SP – Crematorio TO]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 5900 - San Juan SP - Crematorio TO
- **Facility Description:** The facilities listed below are part of the 2 circuit miles of overhead transmission for 38kV Line 5900 – San Juan SP – Crematorio TO segment.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1387151 **FAASt [5900 – San Juan SP – Crematorio TO]**

********** **Version 1** **********

Version 1 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the hazard mitigation cost alignment that was pending in the previous version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

5.0 INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed.The SOW may include § 406 hazard mitigation proposals ("HMPs"). The SOW de?nes the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs,including drawings and cost estimates. FEMA also recognizes that, generally, architects and engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews.Therefore, in those cases, subrecipients must ensure to submit all the information described [in

the SOP] and not limit the submission to a drawing set. Refer to Part C - II. "Recipient/Subrecipient Checklist for Submissions as a guide to review completeness." SOP at 4.

This document contains the detailed SOW for FEMA PA Project 1066980– **Transmission Priority Pole Replacement Program Line 5900** under DR-4339-PR Public Assistance.The document provides a detailed description of the project, scope of Public Assistance "PA" construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for Public Assistance "PA" funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to "Subrecipient" herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

6.0 PROJECT DESCRIPTION

LUMA determined during a high-level assessment that the two (2) poles identi?ed in Section 7 of this DSOW were degraded. These two poles are part of the 5.1 circuit miles of overhead transmission for 38kV Line 5900. This project will replace the two (2) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis. The project will also install three additional (3) new poles. As a hazard mitigation measure, LUMA proposes to install a 12-sided galvanized steel poles to withstand 160mph winds.

7.0 FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

None.

7.2 FACILITIES LIST – OTHER FACILITIES

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any access roads or other line work, coordinates listed below are the beginning and end points.

Line Segment	Line Number	GPS Start	GPS End	Voltage (kV)
San Juan SP – Crematorio TO	5900	[redacted]	[redacted]	38

The following table identi?es the location of each pole to be replaced and installed in this project.

Pole	FID	Lat	Lo
1	14052208	[redacted]	
2	New		
3	New		
4	14052190		
5	New		

8.0 PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

See the map of the T-Pole 5900, in document: "*1066980-DR4339PR Detailed SOW Rev 4 T Pole Line 5900 2026-06-15 09_21.pdf*".

The proposed type of work for this project:

X Standard Project: Restores the facility/facilities to pre-disaster design and function to locally adopted codes/standards and FEMA-approved industry standards.

__ Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.

__ Subrecipient's request letter included, see **Appendix** ___.

__ Recipient's approval letter included, see **Appendix** ___.

__ Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

__ Subrecipient's request letter included, see **Appendix** ___.

__ Recipient's approval letter included, see **Appendix** ___.

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

1. Poles and components will be replaced per the design methodology and Project Design Criteria.

2. San Juan SP to Crematorio TO. Structures Scopes:

- Remove two (2) wood utility poles and cross arms and replace with new 70 ft steel galvanized round structures and hardware.
- Install three (3) new midspan 70 ft steel galvanized round structures and hardware.
    - Dig holes for 5 poles.
    - Excavate for all poles - 4' Diameter x 10' Length.
    - Erect steel plate poles.
- Remove ten (10) ceramic insulators and replace them with ten (10) polymer insulators.
- Install seventeen (17) new polymer insulators.
- Remove and replace the existing 50 kVA transformer located on structure FID: 14052190.

9.2 CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and FEMA-approved industry standards used for this project are provided below:

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

10.0 § 406 HAZARD MITIGATION PROPOSAL

FEMA PAPPG v.3.1 provides, "Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects." Subrecipient proposes to lessen or eliminate long-term risk to people and property from future natural hazards and their effects by performing the work described in this project to Subrecipient's Transmission Design Criteria, which exceeds required codes and standards. Doing so will directly reduce the potential of the future, similar negative consequences of damage to the T&D system as occurred after Hurricane Maria by improving the system's physical resilience, functional resiliency, and/ or both.

Below is a description of the proposed mitigation opportunity and the proposed scope of work.

10.1 § 406 HAZARD MITIGATION OPPORTUNITY

The transmission system's main objective is to provide ef?cient and reliable interconnection of generation sources with the load centers distributed throughout the island. LUMA's transmission grid connects power generation plants, transmission centers, sectionalizers, and distribution substations through a complex and extensive network of lines, all dependent on one another.

LUMA has included 406 Hazard Mitigation measures in its preliminary design that meet these new and higher standards described above. These standards increase the resiliency of transmission structures in higher-risk exposed areas and incorporate robust structures that can withstand higher wind speeds in vulnerable regions on the island.

10.2 § 406 SCOPE OF WORK

Poles

1. Replace ?ve (5) round steel galvanized poles of 145mph wind speed resistance ASCE/SEI 48-19 with new 70 ft steel galvanized, 12-sided, tapered shaft distribution poles to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

11.0 COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope and location of the selected activity.

X **Ground disturbance inside of the existing footprint**. If checked, provide a description of the ground disturbing activities, including the extent, location, and depth of the disturbance.

1. Installation of all ?ve (5) poles includes ground disturbance with 10' Deep x 5' Diameter.

2. **See: Appendix F Project Consideration for locations.**

3. Skid steer, excavator, dump trucks, manlifts, 120-Ton motor crane, boom trucks 45-ton crane, zoom boom, air compressor, truck digger and flatbed platform.

4. All equipment used will comply with Tier 4 EPA Emission Standards, if available.

__ **Soil testing or boring to be performed as part of pre-construction activities**. If checked, provide a description, location, and dimensions of the testing/boring activities.

__ **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

X **Vegetative Removal**. If checked, describe the removal work to be performed, its location, and its extent.

Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project **[Project 753786] FAAst [Region San Juan] High Density (Vegetation)** The vegetation removal process will be managed in accordance with federal and state regulations.

X **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) ?nal debris disposal location; and (4) ?nal debris disposal method.

1. The types of debris to be removed during the demolition process include insulated and bare aluminum and copper cables, PVC conduits, concrete, metal scrap, construction waste, and wood. The debris will be separated and taken to an authorized waste disposal facility.

2. PCBs (Polychlorinated Biphenyls), oil from the transformers, breakers, sealants, and chemical waste will be handled and disposed of according to applicable state and federal regulations. LUMA will provide actual disposal locations and quantities.

3. Pole disposal will be performed per applicable regulations.

X **Staging areas, landing areas for air transport, and access roads**. If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

1. The construction of **access roads** is not required for this scope of work. All work for this program will be performed within the current easement of the municipality(ies). Poles are near the roads and are site accessible without need for a new access road.

2. All materials will be stored and dispatched from LUMA's assigned Regional Warehouse. No additional or temporary staging areas are required to store or dispose of them. The existing Regional Warehouse to be utilized as a **staging area** for this project is the Palo Seco General Depot – Distribution Center Warehouse (A11), whose coordinates are [redacted].

X **Fill material**. If the project includes the use of ?ll material, provide the source of the ?ll material including the provider's name and address (if known).

1. Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the **Appendix A**-*Approved Supplier List Directory PR.*

__ **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands**. If checked, provide a description of the activities to be performed in water or wetlands.

12.0 PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) for completing the project are summarized in the table(s) below. The cost estimate(s) were developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate, refer to the referenced appendix/appendices.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 72,725.87**	**$ 1,302.91**	**$ 74,028.78**
(A&E) Permitting and Assessments	$ 3,356.68	$ 60.14	$ 3,416.82
(A&E) Environmental Documentation & Management	$ 9,550.41	$ 171.10	$ 9,721.51
(A&E) Engineering Services & Design	$ 59,818.78	$ 1,071.67	$ 60,890.45
MANAGEMENT	**$ 24,854.63**	**$ 445.28**	**$ 25,299.91**
(A&E) Design Development Project Management A&E	$ 881.02	$ 15.78	$ 896.80
(A&E) - Design Lodging & Per Diem A&E	$ 3,984.12	$ 71.38	$ 4,055.50
Project Management	$ 4,992.48	$ 89.44	$ 5,081.92
Construction Management	$ 7,831.34	$ 140.30	$ 7,971.64

Contracting, Procurement & Contract Administration	$ 3,250.01	$ 58.22	$ 3,308.23
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 3,915.67	$ 70.15	$ 3,985.82
Transmission Pole Replacement and Critical Repairs 38 KV L 5900 San Juan SP to Crematorio TO, FAAST #: 1066980	**$ 407,388.10**	**$ 7,295.00**	**$ 414,683.10**
Transmission Pole Replacement and Critical Repairs 38 KV L 5900 San Juan SP to Crematorio TO, FAAST #: 1066980, material, labor and equipment.	$ 339,032.07	$ 6,101.30	$ 345,133.37
Start Up/Commissioning	$ 5,085.88	$ 91.12	$ 5,177.00
Construction Trespass	$ 1,725.66	$ -	$ 1,725.66
Transportation Expenses	$ 1,695.29	$ 30.37	$ 1,725.66
Security (Field 24 hr)	$ 3,051.53	$ 54.67	$ 3,106.20
Insurance	$ 6,848.99	$ 122.70	$ 6,971.69
Contingency	$ 38,201.67	$ 684.39	$ 38,886.06
Escalation	$ 11,747.01	$ 210.45	$ 11,957.46
GENERAL CONDITIONS	**$ 21,224.02**	**$ 380.23**	**$ 21,604.25**
Sales Tax	$ 4,271.07	$ 76.52	$ 4,347.59
Municipal Construction Tax	$ 16,952.94	$ 303.72	$ 17,256.66
COST TOTALS	**$ 526,192.62**	**$ 9,423.42**	**$ 535,616.04**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE?		**$ -**

FAASt ALLOCATIONS	FAAST PROJECT #: 1066980 - 428	$ 407,819.90
	FAAST PROJECT #: 1066980 - 406 HM	$ 9,423.42
	FAAST PROJECT #: 1066980 TOTAL:	**$ 417,243.33**
	FAASt A&E # 335168 - 428	$ 77,591.01
	FAASt A&E # 335168 - 406 HM	$ 1,390.07
	FAASt A&E # 335168 TOTAL	**$ 78,981.08**
	FAASt E&M #673691 - 428	$ 40,781.70
	FAASt E&M #673691 - 406 HM	$ 6,101.30
	FAASt E&M #673691 TOTAL	**$ 46,883.00**

Refer to **Appendix E** - Detailed Cost Estimate.

428 Project Summary, Version 0:

Work to Be Completed (WTBC): $526,192.62

E&M Deduction (#673691) 428: -$40,781.70

A&E Deduction (Global A&E FAASt 335168): -$77,591.02 (used $0.02 to avoid rounding difference between Excel and GM total.)

Project Total Cost: $407,819.90

VERSION SUMMARY OF KEY CHANGES:
V0: $407,819.90 (WTBC)

V1: For hazard mitigation cost alignment

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document: "*1066980-DR4339PR Detailed SOW Rev 4 T Pole Line 5900 2026-06-15 09_21.pdf".*

2. Refer to detailed cost estimate in document: *"1066980-DR4339PR-Appendix E - Detailed Cost Estimate TL5900 Rev 8(1).xlsx*

3. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as show in in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

2. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and Materials, as shown in the table above. Only the base cost of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.

5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

6. Since in previous version the A&E and E&M dollar amount was deducted, now in version 1 a positive value has been added with the same amount to zero out the cost.

7. In the A&E Deduction cost used $0.02 to avoid rounding difference between Excel and GM total.

13.0 ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename
A	Approved Supplier List
B	General Arrangement
C	Engineering Plans
D	Consent to Federal Funding Letter – FEMA COR3
E	Detailed Cost Estimate TL 5900
F	Project Considerations
G	Cost Effective Hazard Mitigation Measures
H	HM Narrative TL5900
I	Staging Area Plan 5900

406 HMP Scope

Project number: [1066980] FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission)

Damage: 1387151; FAASt [5900 – San Juan SP – Crematorio TO]

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

Location: San Juan, Puerto Rico.

GPS Latitude/Longitude: Start: [redacted]; End: [redacted]

Hazard Mitigation Narrative

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

The Method of Repair (MOR) included the replacement of the damaged critical distribution pole (wood), cross-arms, insulators, guy wires, and all associated hardware needed for the new structure. The facilities listed below are part of the 2 circuit miles of 38kV Overhead Transmission Line 5900 from San Juan SP to Crematorio TO segment. The Subrecipient determined that two (2) poles were degraded during a high-level assessment. Given that, this project will replace the two (2) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis. The project will also install three additional (3) new poles. As a hazard mitigation measure, LUMA proposes to install 12-sided galvanized steel poles to withstand 160mph winds.

In order to minimize the damages in a future event, the sub-recipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a with new steel galvanized, 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 145mph sustained winds. However, the new 2021 PREPA Standard updates the design-criteria to a 160mph sustained winds resistant. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

In order to prevent, reduce and/or eliminate future natural disaster damage, the subrecipient proposed the following mitigation measures:

Mitigation Measures *(Replacement)*

To avoid damage in a future event, the Subrecipient proposes as a mitigation measure to increase the strength of the poles by replacing it with a 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind (160mph). The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V5.

➢ [Distribution Critical Poles Replacement] 406 Mitigation Scope of Work:

1. San Juan SP - Crematorio TO

Replace five (5) 70 ft round galvanized steel poles of 145mph windspeed resistance ASCE/SEI 48-19 with five (5) new 70ft 12-sided galvanized steel pole, tapered shaft distribution pole to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

–

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 7,011.63
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 2,411.80
Hazard Mitigation Total Cost =	**$ 9,423.43**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 6,101.30
Architecture and Engineering (A&E) =	$ 1,390.07
Construction Cost =	$ 1,932.06
Hazard Mitigation Total Cost =	**$9,423.43**

HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis, BCA, methodology evaluates the expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide, PAPPG, Version 3.1, April 2018, Chapter 2, Section VII.C, page 98, considers mitigation measures to be cost-effective when they are demonstrated through an acceptable BCA using FEMA's BCA methodologies and have a resulting Benefit-Cost Ratio, or BCR, equal to or greater than 1.0.

For PREPA infrastructure under FEMA DR-4339-PR, FEMA developed an Island Wide Benefit Cost Analysis, or IWBCA, to evaluate cost-effectiveness at the electrical system level rather than through separate project-specific BCAs. The IWBCA characterizes the PREPA/LUMA system as a single project for mitigation purposes, focuses on system-wide resiliency, and supports the development of cost-effective mitigation projects while avoiding double counting, or duplication, of benefits. The IWBCA applies one BCA to the entire FAASt project and includes benefits based on future costs avoided from physical damage to infrastructure, costs related to the response and reconnection effort, and loss of function for electric service caused by the storm.

The IWBCA established a maximum potential mitigation benefit for the PREPA system of $7.6 billion. This figure represents the estimated total potential mitigation benefit with the highest confidence and was developed using the incurred costs of the PREPA FEMA Accelerated Award Strategy, FAASt, fixed cost estimate, FCE, the mission assignments used for the reconnection effort, and costs associated with loss of service. The IWBCA results were developed by the PA Mitigation team using the best available data and were further refined and concurred with by FEMA Region 2 PA Mitigation team members and FEMA HQ groups, including the Community Infrastructure Resilience, CIR, Branch and Disaster Implementation, DI, Branch. This maximum potential benefit must be tracked to ensure that the combined cost of all approved mitigation proposals does not exceed the maximum potential benefit.

The Hazard Mitigation Proposal, HMP, described herein has a total Hazard Mitigation cost of $9,423.43. In accordance with FEMA's internal IWBCA benefit tracking, the maximum potential benefit remaining in the IWBCA is $4,968,703,450.28. The cost of this HMP, when combined with all other approved IWBCA-related proposals funded, does not exceed the remaining available IWBCA benefit. Therefore, this HMP is deemed cost-effective under the FEMA PAPPG Version 3.1, April 2018, Chapter 2, Section VII.C, BCA Rule, because the IWBCA demonstrates an acceptable BCA with a Benefit-Cost Ratio equal to or greater than 1.0.

For validation, reviewers should refer to the attached IWBCA Package, including the IWBCA narrative and backup documentation, which define the IWBCA methodology, inputs, and supporting calculations. Reviewers should also confirm that the project has been included in the current IWBCA benefit tracking record to verify that the total approved IWBCA-related mitigation costs remain below the maximum potential benefit and that no duplication of benefits has occurred.

This Hazard Mitigation Proposal meets the eligible repair and restoration cost-effectiveness requirements. See the Mitigation Profile Documents Tab in Grants Manager for the complete supporting documentation, including the HMP cost estimate and supporting documents file.

***See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents. (HMP, HMP cost estimate, Supporting documents file).*

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$526,192.62	Uncompleted
9001	1	Lump Sum	($40,781.70)	Uncompleted
3510	1	Lump Sum	($77,591.02)	Uncompleted

CRC Gross Cost	$407,819.90
Total 406 HMP Cost	$9,423.43
Total Insurance Reductions	$0.00
CRC Net Cost	$417,243.33
Federal Share (90.00%)	$375,519.00
Non-Federal Share (10.00%)	$41,724.33

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard requirements.
- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA’s completion of the EHP review, it jeopardizes PA funding for the entire project.
- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a

violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).

- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.
- 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

10/14/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if needed, providing administrative function and forwarding project for completion.

Jean-Carlo Echevarria, PA Insurance Specialist, CRC Atlantic, Guaynabo P.R.

6/24/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to re-establish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to reestablish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- ***Previous comment applies*** On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission) (HM Cost alignment version)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 10/27/2026 7:21 PM PST

Review Comments

Version 1 contemplates $8,481.09, (federal share) only HM Cost Alignment for [Priority Pole Replacement Program (Line 5900 San Juan SP to Crematorio TO)] / Former project 753786 (Transmission)

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 10/30/2026 8:10 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

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 #
0	10/8/2026	$367,037.91	90%	Accepted	4339DRPRP01082541
1	11/3/2026	$8,481.09	90%	Accepted	4339DRPRP01082541

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068647 **P/W #** 108271	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
Project Size	Small	**Incident Start Date**	9/17/2017
Activity Completion Date	9/20/2027	**Incident End Date**	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1366676; FAASt [Region 2-Arecibo Group B] (Vegetation)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Region 2-Arecibo Group B (Vegetation)
- **Facility Description:** The Puerto Rico Electric Power Authority (PREPA) owns more than 19,000 miles of transmission and distribution lines, as well as more than 400 substations. The facilities addressed in this project are all the overhead transmission and distribution lines (16,000+ miles), as well as substations. To ensure the functioning of this infrastructure to the level of service needed, keeping this equipment clear from vegetation is significant.
- **Approx. Year Built:** 1950
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1366676 **FAASt [Region 2-Arecibo Group B] (Vegetation)**

Project 136271 (hereinafter PREPA FAASt Project) authorized $9,459,885,412.39 (Federal Share) to be awarded to the Puerto Rico Electric Power Authority (PREPA, Subrecipient) as a fixed cost estimate (FAASt FCE agreement) based on eligible work without detailed scopes of work to restore disaster-damaged facilities. Eligible work for the Transmission and Distribution (T&D) system included restoration of:

Broken structures due to high winds such as poles/towers (counted as broken when poles where inclined, bent, torn, and/or cracked); and other damages/broken components such as transformers, insulators, conductors, grounding system, jumpers, Gang Operated Air Breakers (GOABs), pole hardware, guy wires and anchors.

FEMA deferred the 406 Hazard Mitigation Proposal (HMP) fixed cost offer in the PREPA FAASt Project until the Subrecipient submits its actual recovery solutions. FEMA also issued a clarification letter regarding whether hazard mitigation funding under Section 404 or Section 406 of the Stafford Act may be made available for the execution of a one-time, island-wide vegetation clearing and removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. See FEMA's letter to COR3, document Signed Vegetation Management March 24 2023.pdf. The Subrecipient's actual recovery solution seeks a one-time Island-wide vegetation clearance and removal operation intended to mitigate the threat to the

existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate Puerto Rico's electric T&D system, including areas without infrastructure repairs.

The actual recovery solution (scope and cost) will be captured in multiple individual projects (hereinafter Vegetation clearance HMP Sub-FAASt projects) to provide flexibility and enable multiple programmatic reviews simultaneously. The Vegetation clearance HMP Sub-FAASt projects do not include infrastructure repair work.

This project captures a portion of the Island-wide actual recovery solution, specifically the one-time vegetation clearance and removal operation intended to mitigate the Region 2 Arecibo (38kV) – non-sensitive (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue an FCE offer for the portion of the recovery solution that reduces risk of future similar damages. The Work to be Completed will be captured in the 406 HM scope section. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAASt Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: 38kV. See document 956345 DR4339PR FAAStVegetationHMPApproach_38kVTrans.pdf. The PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope. WTBC Cost (PA) = $15,433.57 per mile. Therefore, the total cost (PA) for this project will be $2,601.93.

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1366676	$15,433.57	0.17	$2,623.71	$(21.78)	$2,601.93

Work to be completed total: $2,623.71

A&E Deduction (Global A&E FAASt 335168): -$(21.78)

Project Total: $2,601.93

Project Notes:

1. This is a 38kV Transmission-Vegetation clearance HMP Sub-FAASt project.

2. Vegetation clearance HMP Sub-FAASt projects will be written according to line type (Distribution: 13.2kV and down, and Transmission: 38 kV, 115kV, and 230 kV) because of the different ROWs and other characteristics. Multiple projects of each type will be submitted and reviewed for eligible PA 406 HM funding. Vegetation clearing work will only be submitted for those areas that vegetation represents strike potential (may cause future similar damage to the T&D system when subject to high winds). In the submittal of this project the Subrecipient's Authorized Representative attests that only the vegetation clearance submitted is to reduce strike potential and that the ROW for these lines have been, and will be, counted only once to avoid duplication within the vegetation clearance projects.

3. For more details of the requirements and conditions for the execution of a one-time, island-wide vegetation clearance and removal operation considered as an eligible Section 406 hazard mitigation proposal (HMP), please refer to document labeled: Attachment A - FEMA letter dated March 24 2023.pdf.

4. For details on the SOW, refer to filename: 1068647- FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] Former project 740410 (vegetation)DSOW Rev1.pdf

5. Vegetation clearance funds will not be allocated to SubFAASt projects.

6. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as shown in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

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

406 HMP Scope

Project number: FAASt [1068647] FAASt [Region 2 Arecibo 38Kv – Non Sensitive]/ Former project 740410

(vegetation)

Damage #: 1366676

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

Location: Arecibo, Puerto Rico

GPS Latitude/Longitude: From: [redacted]

Introduction:

Puerto Rico's electrical grid infrastructure has been severely compromised by extreme weather events, particularly with Hurricane Maria in September 2017. The hurricane caused widespread disruptions to transmission and distribution systems, largely due to vegetation impacts that collapsed distribution and transmission lines. Substantial infrastructure was damage when trees downed utility power lines and poles, causing most of the transmission/distribution system fail. Post-hurricane vegetation clearance to enable grid repair and restoration progressed slowly, considerably delaying overall electrical recovery. Remaining excess vegetation continues to cause operational outages, as ground faults occur when vegetation contacts power lines even during normal weather events. After the passage of Hurricane María, minimal cleaning work was carried out exclusively to clear the areas to carry out emergency repairs to the electrical system. These works were covered by Category B - Emergency Protective Measure, but excess vegetation on the electrical system remains an outstanding vulnerability.

Puerto Rico's grid modernization and mitigation one time ROW clearance strategy will prioritize effective and proactive vegetation management protocols to prevent prolonged storm-related outages, thereby increasing the reliability of the electric system. These reliability and resiliency gaps are especially impactful to Puerto Rico, which has been facing increasingly frequent natural hazards such as hurricanes. This project is part of the for Vegetation Reset Program which will impact the Transmission and Distribution systems for each of the 78 municipalities.

Hazard Mitigation Narrative:

In order to minimize damages in a future event, the Subrecipient's actual recovery solution seeks a one-time Islandwide vegetation remediation clearance for the above work included in the PREPA FAASt Project, as according to the Public Assistance Alternative Procedures (PAAP) (Section 428) Guide for Permanent Work FEMA-4339-DR-PR (hereinafter PR PAAP Guide) and FEMA's letter to COR3, document Signed Island-Wide Vegetation Clearance March 24, 2023. Section 406 hazard mitigation are funds that can be added to projects for the restoration of disaster damaged facilities and must prevent future damage caused by the declared event. Under DR-4339-PR, Section 406 hazard mitigation funds are based on eligible, technically feasible, and cost- effective mitigation activities proposed to reduce risk to the function of the disaster- damaged facilities. The portion of the recovery solution that reduces risk of future damage may be considered as eligible 406 mitigation.

The island-wide transmission and distribution grid was significantly damaged by the strong winds and heavy rainfall during the atmospheric event hurricane Maria. This resulted in many trees and other vegetation becoming a direct hazard to the electrical grid. A one-time 406 hazard mitigation island-wide vegetation clearance will benefit the reliability and resiliency of the Puerto Rico electrical grid, including the number and duration of customer outages during and after the work to complete the repairs to the electrical grid through other PREPA 428 FAASt Projects. The scope of the global 406 Hazard Mitigation (HM) projects includes vegetation clearing across the entire width of the easement, plus a radius of 12 to 25 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems. Each 406 HM Vegetation Reset project is correlated with an eligible 428 T&D project, in association with PREPA's electrical grid. Different regional projects are developed to impact all lines of the electrical system, including distribution lines and high-voltage transmission lines. Also, projects are defined in terms of line type (distribution or transmission) and population density of the area (high or low) to simplify the evaluation by the Environmental and Historical Preservation team (EHP).

The global project was divided into the following regions:

- Region 1 – San Juan
- Region 2 – Arecibo
- Region 3 – Bayamón
- Region 4 – Caguas
- Region 5 – Mayagüez
- Region 6 – Ponce

For each Region of the island, there will be two types of projects to capture the Vegetation Clearing activities within scopes of work: (1) single transmission line projects based on LUMA's priority list, capturing the lines or segments of lines affected most by vegetation interference, and (2) Regional DSOWs divided into groups (Groups A – F), as follows:

- Region 1 – San Juan
- Region 2 – Arecibo
- Group A – High/Low Density Distribution Lines
- Group B – 38 kV Transmission.
- Group C – Overlapped Distribution and Transmission Lines
- Group D - 115 kV Facilities
- Group E - Substation and Telecommunication Facilities.
- Group F – 230 Kv Facilities (Non-Region – Specific)

This 406 HM work is limited to what is necessary to directly reduce the potential of future damage to the T&D system assets, that exceeds what is necessary to clear vegetation for accessing facilities when carrying out repairs which are already established as eligible for FEMA funding utilizing the 428 FAASt Grant. Each 406 HM will correlate with an eligible 428 Transmission and/or Distribution (T&D) project in association with the PREPA power grid. There will be 7 Regional DSOW's developed capturing planned actions within scopes of work formulated with established criteria detailed for Distribution and Transmission lines/facility locations. The first DSOW is Group A - High Density areas with a low reflection of infrared light; the second DSOW is Group A Low Density locations where more vegetation density is present, which is determined by a higher level of reflection of infrared associated with Vegetation for 13.2kV and below locations; the third DSOW is Group B locations at 38kV level; the fourth DSOW is Group C - with known local environmental sensitivities at 38kv and below levels locations; the fifth DSOW is 115kV Facilities; and the sixth DSOW is Substation and Telecommunication Facilities. There will also be 230 kV Facilities (these installations have a separate Vegetation Clearance project that is not region- specific).

FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation)

This is a project for 38kV transmission lines in region 2 Arecibo. The DSOW captures the scope of work and cost estimate for Vegetation Clearing intended to mitigate the threat that the existing vegetation, along 38kV lines within Arecibo (if left untended to), poses Puerto Rico's electric grid.

This SOW is aligned with and leverages FEMA's Island-Wide Benefits Cost Analysis (IWBCA), which was used for this purpose and fully supports the mitigation measures employed within this project scope of work.

The Subrecipient's authorized representative (LUMA) estimates that this 406 Hazard Mitigation proposal for island-wide vegetation clearance will have immediate and future widespread benefits, including:

- Mitigation of the hazards due to vegetation impacts and damages.
- 70% annual reduction of outages caused by vegetation.
- 35-45% annual reduction of customer interruptions.
- Faster restoration for impacted customers.

- Improved safety for utility workers and the public.
- Support the rebuilding of the grid and effective execution of large-scale construction projects.

The following terms, when used in this document, shall have the meaning described below.

Compatible Species – Compatible species are those that are congruent with the intended use of the site, and include small trees, shrubs and herbaceous vegetation that will never grow into conflict with overhead conductors.

Incompatible Species – Incompatible species are those that are not congruent with the intended use of the site and include tall growing trees and other plant forms (e.g., bamboo and palms) with the potential to conflict with overhead conductors.

Clearance - The minimum distance between two conductors, between conductors and their support or other objects, or between conductors and the ground. The National Electrical Safety Code (NESC) and PREPA's Technical Communication (See 12-02 attached) determine the minimum requirements regarding distances (vertical and horizontal) between an energized conductor or device and a structure, building or surface. Vegetation Clearing will be limited to clearing any vegetation affecting these clearances. This term is not synonymous with easement. Clearances can be met without being within an easement. Clearance requirements must be complied with either when the Authority builds its facilities, as well as when a third party builds a structure. Clearances, in both cases, must be complied with by regulation, regardless of whether an easement exists. regardless of whether an easement exists.

Easement - is a line imposed on a property for the benefit of another belonging to a different owner. The property, in favor of which the easement is constituted, is called the dominant estate; the one who suffers it, servant property. An easement for electrical power lines provides PREPA and Luma as its agent various rights including reasonable access to the electric infrastructure to provide maintenance, repair, expand, operate and is established on the strips or portions of land where facilities of the T & D system are located or will be located, such as lines, poles, towers, equipment, and accessories. These acquired rights make it easier to carry out vegetation clearing work.

The PREPA distribution and transmission systems are populated with millions of plants but only some have the conditions, growth characteristics, and/or locations that make them compatible or incompatible with the safe and reliable energy delivery service. The Subrecipient's authorized representative recognizes the diversity of species in tropical ecosystems, and the general remediation strategy is to control incompatible species while encouraging the growth of compatible species. Compatible species may, on occasion, need control if their height or density impedes the necessary line of sight for inspections or access to perform resilience work. Within Appendix A and B are lists of protected flora species and incompatible flora species expected to be encountered during scope performance.

(I) Proposed 428 Public Assistance Scope of Work (SOW):

This project includes Public Assistance (PA) works; however, PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope, $15,433.57 / mile calculation represents the PA Overlap.

PA incidental works will be deducted from the Section 406 Hazard Mitigation project costs to avoid duplication of works. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects.

FEMA performed an analysis to the PREPA FAASt documents and determined that vegetation clearing on each mile of 38 kV line requiring repair was on average 8.34%% related to the repair (428 PA) and 91.66% related to a mitigation measure (406 HM). The fixed-cost estimate for the PA scope is $15,433.57 per **0.17 miles,** with a total project cost of **$2,623.71.** For further details, refer to the document "FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"

(II) Hazard Mitigation Proposal (HMP) Scope of Work:

[1068647] FAASt [Region 2 Arecibo 38Kv – Non Sensitive]/ Former project 740410

As a result of DR-4339-PR, vegetation surrounding T&D assets are falling onto these facilities and interfering with the safe and reliable operation of the assets. The vegetation at present is currently causing outages when vegetation is in contact with the T&D assets. To mitigate the future damage across T&D assets and protect the 428 repairs and replacement along these facilities, clearing vegetation materials will be required. This 406 Hazard Mitigation Scope of Work is to directly reduce the potential of future, damages to the T&D system by clearing vegetative materials that pose an immediate threat to the power distribution lines, and identification for corrective actions related to clearing vegetation (consisting of shrubs, branches, limbs, stumps, bamboo, and trees that are directly impacting the resilience and productivity of the power grid) applicable to the existing PREPA electrical grid within Region 2 Arecibo TL of Puerto Rico.

The extent and execution of this scope includes performing verification of facilities, assets and condition assessments for determining the most appropriate remediation, preparing work orders for executing the necessary vegetation remediation, by ways of tree felling, vegetation remediation, mechanical vegetation remediation, vegetative debris disposal via chipping, mulching, hauling, and recycling where applicable in easement of the PREPA power Distribution lines. LUMA is not planning to construct access roads. If the work to be done is not adjacent to an existing road, our contractor tree crews will minimize environmental disturbance by utilizing vegetation crews hiking by foot in and out of our existing easement.

Parameters for Performing 406 Hazard Mitigation Vegetation Clearing

Regulation 7282 requires that only shrubs and plants (no trees) be planted within the easement under power lines. Climbing plants and vines, as well as bamboo, are prohibited from being planted within an easement. The branches of trees planted outside the easement must not obstruct free passage of the power lines. The National Electrical Safety Code (NESC) and PREPA's Technical Communication establish the minimum required distances, both vertical and horizontal, between an energized conductor or device and any structure, building, or surface. Vegetation clearing will be restricted to removing any vegetation that interferes with these clearances. For power distribution lines, NESC and Regulation 7282 define the vertical distance from vegetation as 12-15 feet. By law, any trees, shrubs, or plants planted in violation of Regulation 7282 may be uprooted, removed, or cut down in accordance with the provisions of Regulation 7282 – for both compatible and incompatible species.

Industry standard practices will determine how the work will be performed. A healthy tree is less likely to fall over in a storm and damage overhead lines; therefore, vegetation will be pruned according to ANSI A300 (Part 1) – 2017 Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning). Vegetation that is improperly pruned could become susceptible to disease and decay, resulting in a hazard to both the line and public safety. ANSI A300 is the tree care industry standard of care in the USA. It was developed by Tree Care Industry Association and maintained by a consensus of various industry stakeholders through periodically reviewing and updating the guidelines. These standards provide guidance on how and where to prune vegetation to achieve clearances and maintain a healthy plant. In all cases, Subrecipient's authorized representative's vegetation clearing contractors will be required to perform clearing activities in a manner consistent with ANSI A300, NESC, and Regulation 7282 alignment with Resolution 4987, Organic Law 83 (amended version), Communication 12-02, and PREPA 's Comprehensive Management Plan establishing standard Distribution easement widths. Easement Clearance widths for distribution lines are given in the table below:

Recommended Easement width for overhead Transmission & Sub-Transmission Lines (feet)				
Construction type	Area	Voltage(Kv)		
		38	115	230
Single Circuit	Urban	25 ft	30 ft	40 ft
	Rural	50 ft	100 ft	100 ft
Double Circuit, Same Structure	Urban	25 ft	40 ft	60 ft
	Rural	50 ft	100 ft	100 ft
Double Circuit, Different Structures	Rural	50 ft	100 ft	100 ft

Scope of Work Inside Easement – Incompatible Species

Incompatible species are those that are not congruent with the intended use of the site and include tall growing trees and other plant forms (e.g., bamboo and palms) with the potential to conflict with overhead conductors. For the power distribution lines, all Incompatible Species will be cleared from the full width of the easement. “Clearing” in this context includes the following activities: tree removal, severing of vines, cutting, vegetation mastication.

- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.

- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified working at ground level. The upper portion of the vine remains attached and is not removed.

- Cutting: Cutting typically involves the removal of small diameter Incompatible Species by hand.

- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

Scope of Work Inside Easement – Compatible Species:

Compatible vegetation species will be cleared consistent with the distances identified in Regulation 7282, which means that any species with the potential to encroach within 12 feet of the conductors at full size will be removed using the same methods discussed above. Even though the distances identified in Regulation 7282 are vertical clearances, Compatible Species encroaching on the conductors from any direction can pose a hazard to the distribution system, with the maximum edge of the conductors to be 12 feet wide centered on the pole. Therefore, the 12-foot clearance is being applied to both vertical and horizontal clearances. For areas with overhead distribution systems located in the backyard or side yard, the certified easement width from LUMA Land Records office will use for clearing.

In rare cases where Subrecipient's authorized representative encounters significant resistance from landowners or stakeholders to remediate vegetation, Subrecipient's authorized representative will work with landowners or stakeholders to determine if Incompatible and Compatible Species can be pruned to mitigate the hazard to the lines instead of being completely removed

Vegetation with the potential to encroach within 12 feet of conductor — Compatible or Incompatible.

Any vegetation species—whether Compatible or Incompatible—that have the potential (when at full size) to encroach within 20 feet of the conductor will be cleared using one of the methods discussed below:

- **Tree Removal**: Removing above-ground portions of trees while leaving stumps in place.

- **Severing of Vines**: Cutting vines at the base to create an air gap between the root system and the structure.

- **Cutting**: Hand removal of small-diameter incompatible species.

- **Vegetation Mastication**: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch. Using heavy equipment to reduce standing trees to woody debris.

All Other Incompatible Species within the Recommended Easement Width:

- All other Incompatible Species will be cleared from the full width of the recommended easement width. The clearing methods described above (tree removal, severing of vines, cutting, and vegetation mastication) will be utilized.

Scope of Work Outside Easement – Species Growing into the Easement

There is the potential for vegetation outside or along the boundary of the easement to interfere with the operation of power distribution lines. Appropriate clearances around the conductors must be achieved to protect the lines from future damage. For distribution lines, Subrecipient's authorized representative has established a minimum clearance distance of 12 feet from all conductors, with the maximum edge of the conductors to be 12 feet wide centered on the pole. This distance is consistent with the vertical distance established in Regulation 7282. If there are species encroaching on the 12-foot clearance outside or along the boundary of the easement, these species will be pruned to obtain at least 20 feet of clearance from the conductors at the time clearance work occurs. In cases where following ANSI A300 best practices require clearance beyond 12 feet, the maximum distance cleared will not exceed an additional 3 feet from set clearing distance. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-*"FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"*

- Tree pruning: Qualified personnel work from an aerial platform or while climbing within a crown of trees to prune the tree. All pruning work wounds the tree. Done poorly, pruning can result in an exaggerated regrowth response by adversely altering tree architecture and increasing exposure to decay organisms that can weaken the tree. These adverse consequences increase the likelihood of tree-initiated faults causing system interruptions and customer outages. Proper arboriculture techniques will be utilized.

- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.

- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified worker at ground level. The upper portion of the vine remains attached and is not removed.

- Cutting: Cutting typically involves the removal of small diameter species by hand.

- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

FEMA 38kV Assessment & Methodology:

LUMA documentation claims a 100% clearance for the entire project segment based on the total length of the feeder. This analysis would not be considered as the method for validation purposes.

Consequently, FEMA perform a 100% evaluation of each feeder to determine the quantity of miles of vegetation non-compatible. The tools used for this analysis are Google Earth, that allows a street view evaluation where the HM Specialist uses the imagery data for analyze the feeder lines adjacent to roads. Where the feeder is through mountains FEMA use top and 3D view maps that allows determine the elevations for mountains, forested areas (assess vegetation), and the topography of the land. When poles are at the top of mountains and lines run between mountains, only the vegetation around the poles will be considered. The total percentage of each line is the result of compiling all the sections analyzed. It is important to emphasize that after work completed, the subrecipient can submit additional eligible vegetation clearance distance not included in this vegetation clearance percent analysis.

FEMA Analysis:

		HMP	Cost Estimate
Total Project Miles:		1.19	1.19
Vegetation Miles at 100% of Work		0.00	0.00
Vegetation Miles at 50% of Work		0.30	0.15
Total Miles to Clean		0.30	0.15
Buffer Acceptance:		10%	10%
Vegetation Miles at 100% + Buffer		**0.00**	**0.00**

Vegetation Miles at 50% + Buffer	**0.33**	**0.17**
Total Miles to Clean with Buffer	**0.33**	**0.17**
% of Miles to Clean with Buffer	28%	14%

The total length to be cleared, according to the Hazard Mitigation Proposal (HMP)is **0.33 miles**, which includes a 10% buffer due the method of assessment (desktop review), providing sufficient funds to ensure vegetation works are covered. This amount is estimated value, that will be adjusted based on the amount of actual work performed.

The cost estimate is based on two vegetation clearance scenarios, (1) the full clearance represents those lines that at both side sides of the right of way have vegetation that needs to be cleared. (2) is the half clearance represented for those circuits alongside roadways and only needs clearance at one side of the right of way. As a result, the total miles used for the cost estimate is **.17 miles**, which reflects these adjustments for segments that do not require full clearing. This amount is estimated value, based on a desktop review that will be adjusted based on the amount of actual work performed and evidence of the actual work performed.

(III) Hazard Mitigation Proposal (HMP) Cost:

[1] Vegetation Clearance Cost per Mile (Base Cost) =	$176,173.47 / mile
Risk Factor approved by the DR4339-PR leadership (5%) =	$8,808.67 / mile
Vegetation Clearance Cost per Mile (w/Soft Cost) =	$184,982.14 /mile
[2] PA Vegetation Clearance Overlap per Mile (Deduction) =	($15,433.57/ mile)
Hazard Mitigation Total Cost per Mile =	**$169,548.57 / mile**
Project Total Miles with Vegetation: Buffer Acceptance:	0.15-miles 10%
Project Total Miles with Vegetation:	0.17 miles
Hazard Mitigation Total Cost =	**$28,823.26**

Note: The $169,548.57/mile calculation represents the total cost (base costs + soft costs – PA Overlap). For this project, breaking down that total cost further yields the approximate figures below. For additional information please see the attached document.[3]

Total Net Hazard Mitigation Cost (Base Cost) =	$27,450.72
+ HM (Management & General Conditions Factors) =	$1,372.54
Hazard Mitigation Total Cost =	**$28,823.26**

(IV) Hazard Mitigation Proposal (HMP) Cost Distribution:

Architecture and Engineering (A&E) =	$ 239.23	
Remaining Vegetation Clearance Cost =	$28,584.03	
Hazard Mitigation Total Cost =	**$28,823.26**	

(V) HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The HM Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

The Island Wide Benefit Cost Analysis (IWBCA) created for the PREPA infrastructure defines a maximum potential benefit using the incurred costs of the PREPA FEMA Accelerated Award Strategy (FAASt) fixed cost estimate, the mission assignments utilized for the reconnection effort, and the costs associated with loss of service. This maximum benefit has been developed to fund all mitigation projects from both Public Assistance Hazard Mitigation and the Hazard Mitigation Grant program.

It is the Subrecipient responsibility to maintain a record of approved IWBCA related projects to avoid running out of funds for their Mitigation portion projects. Please see attached IWBCA Package

The cost of the Hazard Mitigation Proposal (HMP) described herein corresponding to version 0 is **$28,823.26 (Hazard Mitigation Total Cost).** The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

**See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents *(HMP, HMP cost estimate, Supporting documents file)*.

(VI) Compliance and Assurance Requirements:

A) HMP GENERAL NOTES:

By agreeing to implement the hazard mitigation measures in this HMP, the Applicant/Sub-Applicant is bound by the specific guidelines listed within this document.

COSTS AND GENERAL CONDITIONS: The vegetation removal cost is established according to the average base cost of **$176,173.47 / mile**. Additionally, DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **$184,982.14 / mile**. After deducting Public Assistance (PA) $15,433.57 amount (incidental work- refer to document FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf), the final total obligated amount through PA 406 is **$169,548.57 / mile.**

DOCUMENTATION REQUIREMENTS: The subrecipient shall document all vegetation removal work, including but not limited to the following:

- Before and after photographs of the total distance included in the HMP Scope of work that clearly show the condition of the area before and after the vegetation clearance.

A digital map in ArcGIS format showing all areas where vegetation removal was performed. Location information must be provided, including the physical address, GPS coordinates from start to finish of clearance work, and contact information for private property (when applicable).

- Work orders must account for the entire feeder length distance and include a description of the sections both with and without vegetation. Material disposal documentation must specify whether the material was chipped and removed, left on-site, or transported to a landfill.

Note: All vegetation clearance projects must include the above documentation to define the work completed prior to project closeout.

COST DISTRIBUTION: Recognizing that the established cost is an average per mile, it is understood that actual expenses for each feeder or area may deviate (either underrun or overrun) from the estimated project amount. The 406 HMP scope and cost agreement sets an average cost per mile for vegetation clearance, allowing the subrecipient to manage funds across the various projects that comprise the vegetation asset. The *Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR, January 1, 2022 (PR PAAP Guide)*, states that if funds for 406 Mitigation are included in the fixed-cost subaward, the subrecipient must complete the approved Scope of Work (SOW) of the Hazard Mitigation Proposal (HMP) in order to retain the 406 Mitigation funding. Consequently, only completed distance in the HM Scope of work, supported by the necessary back-up documentation (e.g., verified mitigated clearance distance), will be eligible for fund retention. Any uncompleted work from the HM SOW (e.g., miles not documented with mitigated clearance distance) will be de-obligated during the closeout process.

SCOPE OF WORK DEVELOPMENT OF HAZARD MITIGATION: FEMA will evaluate each mitigation opportunity to first determine what measures or portions of solutions could be funded through Section 406 mitigation. FEMA analyzes the proposed mitigation measures for cost-effectiveness, technical feasibility, and compliance with EHP laws, regulations, and Eos. FEMA, the Applicant, Recipient, and Sub-recipients will develop and agree to scopes of work (SOW) and cost estimates to repair, restore, or replace eligible facilities including 406 Hazard Mitigation" (Page 6).

COMPLETION OF HAZARD MITIGATION SCOPE OF WORK: If this HMP is approved and the mitigation is not performed, the Applicant must apply for a change in the Scope of Work and a de-obligation of the HMP funding. Failure to complete the work of the HMP may limit future FEMA funding of repairs at the site in the event that a similar disaster event results in similar damage at the site.

CHANGES TO THE HAZARD MITIGATION SCOPE OF WORK FOR LARGE PROJECTS:

Per PAAP PA Process (Section 428), Guide for Permanent Work, February 10, 2020, "A Subrecipient may alter the 406-hazard mitigation SOW (HMP) after FEMA, the Recipient, and Subrecipient agree on the cost estimate for the initial proposal. After the project is obligated, the SOW for the HMP can be changed only once and the timeline for this change will be established based on a facility-by-facility basis. The proposed change will require evaluation by FEMA for eligibility and EHP. As part of the eligibility review, FEMA will evaluate the SOW, technical feasibility, the level of protection, the revised cost estimate, and cost effectiveness of the new hazard mitigation proposal, and, if approved, will adjust the scope and cost estimate accordingly." (Page 14)

HAZARD MITIGATION DESIGN: This HMP is for estimating purposes only and not to be construed as a project design. If the site's final placement and configuration are different than the preliminary estimate, the Applicant should submit a change in scope request. This HMP is subject to further review prior to award.

HAZARD MITIGATION CONSTRUCTION: The Applicant must provide & maintain competent & adequate engineering design & supervision during the construction phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & construction standards.

As a condition of the FEMA mitigation grant, the Applicant is responsible for the determination of and compliance with all applicable requirements, codes, standards and specifications in connection with the project, including but not limited to the Puerto Rico Building Code of 2018 (2018 PRBC), IBC, IRBC, NFIP Floodplain Management Regulations outlined in 44 C.F.R 60.3, ASCE 24, ASCE 7, and receiving all applicable permits & approvals prior to construction.

MAINTENANCE OF HAZARD MITIGATION: The Applicant shall ensure proper maintenance of the installed mitigation measures, per manufacturer and designer specifications. Any adaptations or installations not approved or that renders the hazard mitigation measure ineffective shall be removed by the Applicant. Examples include, but are not limited to, improper installation of roof-mounted equipment or installation of window-mounted air-conditioning units.

ENVIRONMENTAL AND HISTORIC PRESERVATION: Eligibility and funding for the mitigation at this site on this project will be subject to the compliance of all environmental laws, regulations, and executive orders applicable to the site. This project will undergo a EHP compliance review, after obligation any changes to the SOW will likely trigger an additional EHP compliance review of the revised SOW.

ATTACHMENTS:

Please refer to the following documents.

1. “Island-Wide Vegetation Clearance - FEMA letter dated March 24, 2023.pdf”
2. “FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf”
3. “Appendix A and B - Protected Flora and Incompatible Flora Species.pdf”
4. “IWBCA HMP Package.pdf”
5. “PN1068647-DR4339PR-HMP-20260728-REG.pdf"
6. “PN1068647-Arecibo 38KV.kmz”
7. “PN1068647-DR4339PR-HMCE-IEP-20260728-REG”

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$2,623.71	Uncompleted
3510	1	Lump Sum	($21.78)	Uncompleted

CRC Gross Cost	$2,601.93
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$2,601.93
Federal Share (90.00%)	$2,341.74
Non-Federal Share (10.00%)	$260.19

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.
- 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.
- 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.
- 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.
- 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 all of its small projects and compliance with all environmental and historic preservation requirements within 180 days of the applicant’s completion of its last small project, or the latest approved deadline, whichever is sooner.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.

Insurance

Additional Information

10/15/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if needed, providing administrative function and forwarding project for completion.

Jesus M. Vela Ayala, PA Senior Insurance Specialist - CRC Atlantic, Guaynabo, PR

7/31/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the Emergency Protective Measures represented on this project are typically not insured or insurable. No insurance relief is anticipated.

FEMA requires the applicant to make reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. The applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

Jesus M. Vela Ayala, PA Senior Insurance Specialist - CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:09 PM PST

Review Comments

The PA Scope of Work is limited to incidental vegetation clearance associated with 0.17 miles of 38kV transmission lines in Region 2–Arecibo; no permanent infrastructure repairs are included. The WTBC cost is $2,623.71, based on $15,433.57 per mile. The final PA project cost is $2,601.93. Due to limitation of transactions, HM funding will be processed in a separate version.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/23/2026 9:49 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

v1

General Info

Project #	1068647 **P/W #** 108271	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
Project Size	Small	**Incident Start Date**	9/17/2017
Activity Completion Date	9/20/2027	**Incident End Date**	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1366676; FAASt [Region 2-Arecibo Group B] (Vegetation)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Region 2-Arecibo Group B (Vegetation)
- **Facility Description:** The Puerto Rico Electric Power Authority (PREPA) owns more than 19,000 miles of transmission and distribution lines, as well as more than 400 substations. The facilities addressed in this project are all the overhead transmission and distribution lines (16,000+ miles), as well as substations. To ensure the functioning of this infrastructure to the level of service needed, keeping this equipment clear from vegetation is significant.
- **Approx. Year Built:** 1950
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1366676 **FAASt [Region 2-Arecibo Group B] (Vegetation)**

********** Version 1 **********

Version 1 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the hazard mitigation cost alignment that was pending in the previous version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

Project 136271 (hereinafter PREPA FAASt Project) authorized $9,459,885,412.39 (Federal Share) to be awarded to the Puerto Rico Electric Power Authority (PREPA, Subrecipient) as a fixed cost estimate (FAASt FCE agreement) based on eligible work without detailed scopes of work to restore disaster-damaged facilities. Eligible work for the Transmission and Distribution (T&D) system included restoration of:

Broken structures due to high winds such as poles/towers (counted as broken when poles where inclined, bent, torn, and/or cracked); and other damages/broken components such as transformers, insulators, conductors, grounding system, jumpers, Gang Operated Air Breakers (GOABs), pole hardware, guy wires and anchors.

FEMA deferred the 406 Hazard Mitigation Proposal (HMP) fixed cost offer in the PREPA FAASt Project until the

Subrecipient submits its actual recovery solutions. FEMA also issued a clarification letter regarding whether hazard mitigation funding under Section 404 or Section 406 of the Stafford Act may be made available for the execution of a one-time, island-wide vegetation clearing and removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. See FEMA's letter to COR3, document Signed Vegetation Management March 24 2023.pdf. The Subrecipient's actual recovery solution seeks a one-time Island-wide vegetation clearance and removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate Puerto Rico's electric T&D system, including areas without infrastructure repairs.

The actual recovery solution (scope and cost) will be captured in multiple individual projects (hereinafter Vegetation clearance HMP Sub-FAASt projects) to provide flexibility and enable multiple programmatic reviews simultaneously. The Vegetation clearance HMP Sub-FAASt projects do not include infrastructure repair work.

This project captures a portion of the Island-wide actual recovery solution, specifically the one-time vegetation clearance and removal operation intended to mitigate the Region 2 Arecibo (38kV) – non-sensitive (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue an FCE offer for the portion of the recovery solution that reduces risk of future similar damages. The Work to be Completed will be captured in the 406 HM scope section. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAASt Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: 38kV. See document 956345 DR4339PR FAAStVegetationHMPApproach_38kVTrans.pdf. The PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope. WTBC Cost (PA) = $15,433.57 per mile. Therefore, the total cost (PA) for this project will be $2,601.93.

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1366676	$15,433.57	0.17	$2,623.71	$(21.78)	$2,601.93

Work to be completed total: $2,623.71

A&E Deduction (Global A&E FAASt 335168): -$(21.78)

Project Total: $2,601.93

Version Summary of key changes

Version 0: $2,601.93

Version 1: HM Cost Alignment

Project Notes:

1. This is a 38kV Transmission-Vegetation clearance HMP Sub-FAASt project.

2. Vegetation clearance HMP Sub-FAASt projects will be written according to line type (Distribution: 13.2kV and down, and Transmission: 38 kV, 115kV, and 230 kV) because of the different ROWs and other characteristics. Multiple projects of each type will be submitted and reviewed for eligible PA 406 HM funding. Vegetation

clearing work will only be submitted for those areas that vegetation represents strike potential (may cause future similar damage to the T&D system when subject to high winds). In the submittal of this project the Subrecipient's Authorized Representative attests that only the vegetation clearance submitted is to reduce strike potential and that the ROW for these lines have been, and will be, counted only once to avoid duplication within the vegetation clearance projects.

3. For more details of the requirements and conditions for the execution of a one-time, island-wide vegetation clearance and removal operation considered as an eligible Section 406 hazard mitigation proposal (HMP), please refer to document labeled: Attachment A - FEMA letter dated March 24 2023.pdf.

4. For details on the SOW, refer to filename: 1068647- FAASt [Region 2 Arecibo 38Kv – Non-Sensitive] Former project 740410 (vegetation)DSOW Rev1.pdf

5. Vegetation clearance funds will not be allocated to SubFAASt projects.

6. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as shown in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

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

406 HMP Scope

Project number: FAASt [1068647] FAASt [Region 2 Arecibo 38Kv – Non Sensitive]/ Former project 740410

(vegetation)

Damage #: 1366676

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

Location: Arecibo, Puerto Rico

GPS Latitude/Longitude: From: [redacted]

Introduction:

Puerto Rico's electrical grid infrastructure has been severely compromised by extreme weather events, particularly with Hurricane Maria in September 2017. The hurricane caused widespread disruptions to transmission and distribution systems, largely due to vegetation impacts that collapsed distribution and transmission lines. Substantial infrastructure was damage when trees downed utility power lines and poles, causing most of the transmission/distribution system fail. Post-hurricane vegetation clearance to enable grid repair and restoration progressed slowly, considerably delaying overall electrical recovery. Remaining excess vegetation continues to cause operational outages, as ground faults occur when vegetation contacts power lines even during normal weather events. After the passage of Hurricane María, minimal cleaning work was carried out exclusively to clear the areas to carry out emergency repairs to the electrical system. These works were covered by Category B - Emergency Protective Measure, but excess vegetation on the electrical system remains an outstanding vulnerability.

Puerto Rico's grid modernization and mitigation one time ROW clearance strategy will prioritize effective and proactive vegetation management protocols to prevent prolonged storm-related outages, thereby increasing the reliability of the electric system. These reliability and resiliency gaps are especially impactful to Puerto Rico, which has been facing increasingly frequent natural hazards such as hurricanes. This project is part of the for Vegetation Reset Program which will impact the Transmission and Distribution systems for each of the 78 municipalities.

Hazard Mitigation Narrative:

In order to minimize damages in a future event, the Subrecipient's actual recovery solution seeks a one-time Islandwide vegetation remediation clearance for the above work included in the PREPA FAASt Project, as according to the Public Assistance Alternative Procedures (PAAP) (Section 428) Guide for Permanent Work FEMA-4339-DR-PR (hereinafter PR PAAP Guide) and FEMA's letter to COR3, document Signed Island-Wide Vegetation Clearance March 24, 2023. Section 406 hazard

mitigation are funds that can be added to projects for the restoration of disaster damaged facilities and must prevent future damage caused by the declared event. Under DR-4339-PR, Section 406 hazard mitigation funds are based on eligible, technically feasible, and cost- effective mitigation activities proposed to reduce risk to the function of the disaster- damaged facilities. The portion of the recovery solution that reduces risk of future damage may be considered as eligible 406 mitigation.

The island-wide transmission and distribution grid was significantly damaged by the strong winds and heavy rainfall during the atmospheric event hurricane Maria. This resulted in many trees and other vegetation becoming a direct hazard to the electrical grid. A one-time 406 hazard mitigation island-wide vegetation clearance will benefit the reliability and resiliency of the Puerto Rico electrical grid, including the number and duration of customer outages during and after the work to complete the repairs to the electrical grid through other PREPA 428 FAASt Projects. The scope of the global 406 Hazard Mitigation (HM) projects includes vegetation clearing across the entire width of the easement, plus a radius of 12 to 25 feet from energized conductors to directly reduce the potential for future damage to the “transmission and/or distribution” (T&D) systems. Each 406 HM Vegetation Reset project is correlated with an eligible 428 T&D project, in association with PREPA's electrical grid. Different regional projects are developed to impact all lines of the electrical system, including distribution lines and high-voltage transmission lines. Also, projects are defined in terms of line type (distribution or transmission) and population density of the area (high or low) to simplify the evaluation by the Environmental and Historical Preservation team (EHP).

The global project was divided into the following regions:

- Region 1 – San Juan
- Region 2 – Arecibo
- Region 3 – Bayamón
- Region 4 – Caguas
- Region 5 – Mayagüez
- Region 6 – Ponce

For each Region of the island, there will be two types of projects to capture the Vegetation Clearing activities within scopes of work: (1) single transmission line projects based on LUMA’s priority list, capturing the lines or segments of lines affected most by vegetation interference, and (2) Regional DSOWs divided into groups (Groups A – F), as follows:

- Region 1 – San Juan
- Region 2 – Arecibo
- Group A – High/Low Density Distribution Lines
- Group B – 38 kV Transmission.
- Group C – Overlapped Distribution and Transmission Lines
- Group D - 115 kV Facilities
- Group E - Substation and Telecommunication Facilities.
- Group F – 230 Kv Facilities (Non-Region – Specific)

This 406 HM work is limited to what is necessary to directly reduce the potential of future damage to the T&D system assets, that exceeds what is necessary to clear vegetation for accessing facilities when carrying out repairs which are already established as eligible for FEMA funding utilizing the 428 FAASt Grant. Each 406 HM will correlate with an eligible 428 Transmission and/or Distribution (T&D) project in association with the PREPA power grid. There will be 7 Regional DSOW’s developed capturing planned actions within scopes of work formulated with established criteria detailed for Distribution and Transmission lines/facility locations. The first DSOW is Group A - High Density areas with a low reflection of infrared light; the second DSOW is Group A Low Density locations where more vegetation density is present, which is determined by a higher level of reflection of infrared associated with Vegetation for 13.2kV and below locations; the third DSOW is Group B locations at 38kV level; the fourth DSOW is Group C - with known local environmental sensitivities at 38kv and below levels locations; the fifth DSOW is 115kV Facilities; and the sixth DSOW is Substation and Telecommunication Facilities. There will also be 230 kV Facilities (these installations have a separate Vegetation Clearance project that is not region- specific).

FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation)

This is a project for 38kV transmission lines in region 2 Arecibo. The DSOW captures the scope of work and cost estimate for Vegetation Clearing intended to mitigate the threat that the existing vegetation, along 38kV lines within Arecibo (if left untended to), poses Puerto Rico's electric grid.

This SOW is aligned with and leverages FEMA's Island-Wide Benefits Cost Analysis (IWBCA), which was used for this purpose and fully supports the mitigation measures employed within this project scope of work.

The Subrecipient's authorized representative (LUMA) estimates that this 406 Hazard Mitigation proposal for island-wide vegetation clearance will have immediate and future widespread benefits, including:

- Mitigation of the hazards due to vegetation impacts and damages.
- 70% annual reduction of outages caused by vegetation.
- 35-45% annual reduction of customer interruptions.
- Faster restoration for impacted customers.
- Improved safety for utility workers and the public.
- Support the rebuilding of the grid and effective execution of large-scale construction projects.

The following terms, when used in this document, shall have the meaning described below.

Compatible Species – Compatible species are those that are congruent with the intended use of the site, and include small trees, shrubs and herbaceous vegetation that will never grow into conflict with overhead conductors.

Incompatible Species – Incompatible species are those that are not congruent with the intended use of the site and include tall growing trees and other plant forms (e.g., bamboo and palms) with the potential to conflict with overhead conductors.

Clearance - The minimum distance between two conductors, between conductors and their support or other objects, or between conductors and the ground. The National Electrical Safety Code (NESC) and PREPA's Technical Communication (See 12-02 attached) determine the minimum requirements regarding distances (vertical and horizontal) between an energized conductor or device and a structure, building or surface. Vegetation Clearing will be limited to clearing any vegetation affecting these clearances. This term is not synonymous with easement. Clearances can be met without being within an easement. Clearance requirements must be complied with either when the Authority builds its facilities, as well as when a third party builds a structure. Clearances, in both cases, must be complied with by regulation, regardless of whether an easement exists. regardless of whether an easement exists.

Easement - is a line imposed on a property for the benefit of another belonging to a different owner. The property, in favor of which the easement is constituted, is called the dominant estate; the one who suffers it, servant property. An easement for electrical power lines provides PREPA and Luma as its agent various rights including reasonable access to the electric infrastructure to provide maintenance, repair, expand, operate and is established on the strips or portions of land where facilities of the T & D system are located or will be located, such as lines, poles, towers, equipment, and accessories. These acquired rights make it easier to carry out vegetation clearing work.

The PREPA distribution and transmission systems are populated with millions of plants but only some have the conditions, growth characteristics, and/or locations that make them compatible or incompatible with the safe and reliable energy delivery service. The Subrecipient's authorized representative recognizes the diversity of species in tropical ecosystems, and the general remediation strategy is to control incompatible species while encouraging the growth of compatible species. Compatible species may, on occasion, need control if their height or density impedes the necessary line of sight for inspections or access to perform resilience work. Within Appendix A and B are lists of protected flora species and incompatible flora species expected to be encountered during scope performance.

(I) Proposed 428 Public Assistance Scope of Work (SOW):

This project includes Public Assistance (PA) works; however, PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope, $15,433.57 / mile calculation represents the PA Overlap.

PA incidental works will be deducted from the Section 406 Hazard Mitigation project costs to avoid duplication of works. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects.

FEMA performed an analysis to the PREPA FAASt documents and determined that vegetation clearing on each mile of 38 kV line requiring repair was on average 8.34%% related to the repair (428 PA) and 91.66% related to a mitigation measure (406 HM). The fixed-cost estimate for the PA scope is $15,433.57 per **0.17 miles,** with a total project cost of **$2,623.71.** For further details, refer to the document "FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"

(II) Hazard Mitigation Proposal (HMP) Scope of Work:

[1068647] FAASt [Region 2 Arecibo 38Kv – Non Sensitive]/ Former project 740410

As a result of DR-4339-PR, vegetation surrounding T&D assets are falling onto these facilities and interfering with the safe and reliable operation of the assets. The vegetation at present is currently causing outages when vegetation is in contact with the T&D assets. To mitigate the future damage across T&D assets and protect the 428 repairs and replacement along these facilities, clearing vegetation materials will be required. This 406 Hazard Mitigation Scope of Work is to directly reduce the potential of future, damages to the T&D system by clearing vegetative materials that pose an immediate threat to the power distribution lines, and identification for corrective actions related to clearing vegetation (consisting of shrubs, branches, limbs, stumps, bamboo, and trees that are directly impacting the resilience and productivity of the power grid) applicable to the existing PREPA electrical grid within Region 2 Arecibo TL of Puerto Rico.

The extent and execution of this scope includes performing verification of facilities, assets and condition assessments for determining the most appropriate remediation, preparing work orders for executing the necessary vegetation remediation, by ways of tree felling, vegetation remediation, mechanical vegetation remediation, vegetative debris disposal via chipping, mulching, hauling, and recycling where applicable in easement of the PREPA power Distribution lines. LUMA is not planning to construct access roads. If the work to be done is not adjacent to an existing road, our contractor tree crews will minimize environmental disturbance by utilizing vegetation crews hiking by foot in and out of our existing easement.

Parameters for Performing 406 Hazard Mitigation Vegetation Clearing

Regulation 7282 requires that only shrubs and plants (no trees) be planted within the easement under power lines. Climbing plants and vines, as well as bamboo, are prohibited from being planted within an easement. The branches of trees planted outside the easement must not obstruct free passage of the power lines. The National Electrical Safety Code (NESC) and PREPA's Technical Communication establish the minimum required distances, both vertical and horizontal, between an energized conductor or device and any structure, building, or surface. Vegetation clearing will be restricted to removing any vegetation that interferes with these clearances. For power distribution lines, NESC and Regulation 7282 define the vertical distance from vegetation as 12-15 feet. By law, any trees, shrubs, or plants planted in violation of Regulation 7282 may be uprooted, removed, or cut down in accordance with the provisions of Regulation 7282 – for both compatible and incompatible species.

Industry standard practices will determine how the work will be performed. A healthy tree is less likely to fall over in a storm and damage overhead lines; therefore, vegetation will be pruned according to ANSI A300 (Part 1) – 2017 Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning). Vegetation that is improperly pruned could become susceptible to disease and decay, resulting in a hazard to both the line and public safety. ANSI A300 is the tree care industry standard of care in the USA. It was developed by Tree Care Industry Association and maintained by a consensus of various industry stakeholders through periodically reviewing and updating the guidelines. These standards provide guidance on how and where to prune vegetation to achieve clearances and maintain a healthy plant. In all cases, Subrecipient's authorized representative's vegetation clearing contractors will be required to perform clearing activities in a manner consistent with ANSI A300, NESC, and Regulation 7282 alignment with Resolution 4987, Organic Law 83 (amended version), Communication 12-02, and PREPA 's Comprehensive Management Plan establishing standard Distribution easement widths. Easement Clearance widths for distribution lines are given in the table below:

Recommended Easement width for overhead Transmission & Sub-Transmission Lines (feet)				
Construction type	Area	Voltage(Kv)		
		38	115	230
Single Circuit	Urban	25 ft	30 ft	40 ft

	Rural	50 ft	100 ft	100 ft
Double Circuit, Same Structure	Urban	25 ft	40 ft	60 ft
	Rural	50 ft	100 ft	100 ft
Double Circuit, Different Structures	Rural	50 ft	100 ft	100 ft

Scope of Work Inside Easement – Incompatible Species

Incompatible species are those that are not congruent with the intended use of the site and include tall growing trees and other plant forms (e.g., bamboo and palms) with the potential to conflict with overhead conductors. For the power distribution lines, all Incompatible Species will be cleared from the full width of the easement. “Clearing” in this context includes the following activities: tree removal, severing of vines, cutting, vegetation mastication.

- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.

- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified working at ground level. The upper portion of the vine remains attached and is not removed.

- Cutting: Cutting typically involves the removal of small diameter Incompatible Species by hand.

- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

Scope of Work Inside Easement – Compatible Species:

Compatible vegetation species will be cleared consistent with the distances identified in Regulation 7282, which means that any species with the potential to encroach within 12 feet of the conductors at full size will be removed using the same methods discussed above. Even though the distances identified in Regulation 7282 are vertical clearances, Compatible Species encroaching on the conductors from any direction can pose a hazard to the distribution system, with the maximum edge of the conductors to be 12 feet wide centered on the pole. Therefore, the 12-foot clearance is being applied to both vertical and horizontal clearances. For areas with overhead distribution systems located in the backyard or side yard, the certified easement width from LUMA Land Records office will use for clearing.

In rare cases where Subrecipient's authorized representative encounters significant resistance from landowners or stakeholders to remediate vegetation, Subrecipient's authorized representative will work with landowners or stakeholders to determine if Incompatible and Compatible Species can be pruned to mitigate the hazard to the lines instead of being completely removed

Vegetation with the potential to encroach within 12 feet of conductor — Compatible or Incompatible.

Any vegetation species—whether Compatible or Incompatible—that have the potential (when at full size) to encroach within 20

feet of the conductor will be cleared using one of the methods discussed below:

- **Tree Removal**: Removing above-ground portions of trees while leaving stumps in place.
- **Severing of Vines**: Cutting vines at the base to create an air gap between the root system and the structure.
- **Cutting**: Hand removal of small-diameter incompatible species.
- **Vegetation Mastication**: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch. Using heavy equipment to reduce standing trees to woody debris.

All Other Incompatible Species within the Recommended Easement Width:

- All other Incompatible Species will be cleared from the full width of the recommended easement width. The clearing methods described above (tree removal, severing of vines, cutting, and vegetation mastication) will be utilized.

Scope of Work Outside Easement – Species Growing into the Easement

There is the potential for vegetation outside or along the boundary of the easement to interfere with the operation of power distribution lines. Appropriate clearances around the conductors must be achieved to protect the lines from future damage. For distribution lines, Subrecipient's authorized representative has established a minimum clearance distance of 12 feet from all conductors, with the maximum edge of the conductors to be 12 feet wide centered on the pole. This distance is consistent with the vertical distance established in Regulation 7282. If there are species encroaching on the 12-foot clearance outside or along the boundary of the easement, these species will be pruned to obtain at least 20 feet of clearance from the conductors at the time clearance work occurs. In cases where following ANSI A300 best practices require clearance beyond 12 feet, the maximum distance cleared will not exceed an additional 3 feet from set clearing distance. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-*"FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"*

- Tree pruning: Qualified personnel work from an aerial platform or while climbing within a crown of trees to prune the tree. All pruning work wounds the tree. Done poorly, pruning can result in an exaggerated regrowth response by adversely altering tree architecture and increasing exposure to decay organisms that can weaken the tree. These adverse consequences increase the likelihood of tree-initiated faults causing system interruptions and customer outages. Proper arboriculture techniques will be utilized.
- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.
- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified worker at ground level. The upper portion of the vine remains attached and is not removed.
- Cutting: Cutting typically involves the removal of small diameter species by hand.
- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

FEMA 38kV Assessment & Methodology:

LUMA documentation claims a 100% clearance for the entire project segment based on the total length of the feeder. This analysis would not be considered as the method for validation purposes.

Consequently, FEMA perform a 100% evaluation of each feeder to determine the quantity of miles of vegetation non-compatible. The tools used for this analysis are Google Earth, that allows a street view evaluation where the HM Specialist uses the imagery data for analyze the feeder lines adjacent to roads. Where the feeder is through mountains FEMA use top and 3D view maps that allows determine the elevations for mountains, forested areas (assess vegetation), and the topography of the land. When poles are at the top of mountains and lines run between mountains, only the vegetation around the poles will be considered. The total percentage of each line is the result of compiling all the sections analyzed. It is important to emphasize that after work completed, the subrecipient can submit additional eligible vegetation clearance distance not included in this vegetation clearance percent analysis.

FEMA Analysis:

		HMP	Cost Estimate
Total Project Miles:		1.19	1.19
Vegetation Miles at 100% of Work		0.00	0.00
Vegetation Miles at 50% of Work		0.30	0.15
Total Miles to Clean		0.30	0.15
Buffer Acceptance:		10%	10%
Vegetation Miles at 100% + Buffer		**0.00**	**0.00**
Vegetation Miles at 50% + Buffer		**0.33**	**0.17**
Total Miles to Clean with Buffer		**0.33**	**0.17**
% of Miles to Clean with Buffer		28%	14%

The total length to be cleared, according to the Hazard Mitigation Proposal (HMP)is **0.33 miles**, which includes a 10% buffer due the method of assessment (desktop review), providing sufficient funds to ensure vegetation works are covered. This amount is estimated value, that will be adjusted based on the amount of actual work performed.

The cost estimate is based on two vegetation clearance scenarios, (1) the full clearance represents those lines that at both side sides of the right of way have vegetation that needs to be cleared. (2) is the half clearance represented for those circuits alongside roadways and only needs clearance at one side of the right of way. As a result, the total miles used for the cost estimate is **.17 miles**, which reflects these adjustments for segments that do not require full clearing. This amount is estimated value, based on a desktop review that will be adjusted based on the amount of actual work performed and evidence of the actual work performed.

(III) Hazard Mitigation Proposal (HMP) Cost:

[1] Vegetation Clearance Cost per Mile (Base Cost) =	$176,173.47 / mile
Risk Factor approved by the DR4339-PR leadership (5%) =	$8,808.67 / mile
Vegetation Clearance Cost per Mile (w/Soft Cost) =	$184,982.14 /mile
[2] PA Vegetation Clearance Overlap per Mile (Deduction) =	($15,433.57/ mile)
Hazard Mitigation Total Cost per Mile =	**$169,548.57 / mile**

Project Total Miles with Vegetation: Buffer Acceptance:	0.15-miles 10%
Project Total Miles with Vegetation:	0.17 miles
Hazard Mitigation Total Cost =	**$28,823.26**

Note: The $169,548.57/mile calculation represents the total cost (base costs + soft costs – PA Overlap). For this project, breaking down that total cost further yields the approximate figures below. For additional information please see the attached document.[3]

Total Net Hazard Mitigation Cost (Base Cost) =	$27,450.72
+ HM (Management & General Conditions Factors) =	$1,372.54
Hazard Mitigation Total Cost =	**$28,823.26**

(IV) Hazard Mitigation Proposal (HMP) Cost Distribution:

Architecture and Engineering (A&E) =	$ 239.23	
Remaining Vegetation Clearance Cost =	$28,584.03	
Hazard Mitigation Total Cost =	**$28,823.26**	

(V) HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis, BCA, methodology evaluates the expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide, PAPPG, Version 3.1, April 2018, Chapter 2, Section VII.C, page 98, considers mitigation measures to be cost-effective when they are demonstrated through an acceptable BCA using FEMA's BCA methodologies and have a resulting Benefit-Cost Ratio, or BCR, equal to or greater than 1.0.

For PREPA infrastructure under FEMA DR-4339-PR, FEMA developed an Island Wide Benefit Cost Analysis, or IWBCA, to evaluate cost-effectiveness at the electrical system level rather than through separate project-specific BCAs. The IWBCA characterizes the PREPA/LUMA system as a single project for mitigation purposes, focuses on system-wide resiliency, and supports the development of cost-effective mitigation projects while avoiding double counting, or duplication, of benefits. The IWBCA applies one BCA to the entire FAASt project and includes benefits based on future costs avoided from physical damage to infrastructure, costs related to the response and reconnection effort, and loss of function for electric service caused by the storm.

The IWBCA established a maximum potential mitigation benefit for the PREPA system of $7.6 billion. This figure represents the estimated total potential mitigation benefit with the highest confidence and was developed using the incurred costs of the PREPA FEMA Accelerated Award Strategy, FAASt, fixed cost estimate, FCE, the mission assignments used for the reconnection effort, and costs associated with loss of service. The IWBCA results were developed by the PA Mitigation team using the best available data and were further refined and concurred with by FEMA Region 2 PA Mitigation team members and FEMA HQ groups, including the Community Infrastructure Resilience, CIR, Branch and Disaster Implementation, DI, Branch. This maximum potential benefit must be tracked to ensure that the combined cost of all approved mitigation proposals does not exceed the maximum potential benefit.

The Hazard Mitigation Proposal, HMP, described herein has a total Hazard Mitigation cost of**$28,823.26**. In accordance with FEMA's internal IWBCA benefit tracking, the maximum potential benefit remaining in the IWBCA is **$4,968,258,617.01**. The cost of this HMP, when combined with all other approved IWBCA-related proposals funded, does not exceed the remaining available IWBCA benefit. Therefore, this HMP is deemed cost-effective under the FEMA PAPPG Version 3.1, April 2018, Chapter 2, Section VII.C, BCA Rule, because the IWBCA demonstrates an acceptable BCA with a Benefit-Cost Ratio equal to or greater than 1.0.

For validation, reviewers should refer to the attached IWBCA Package, including the IWBCA narrative and backup documentation, which define the IWBCA methodology, inputs, and supporting calculations. Reviewers should also confirm that the project has been included in the current IWBCA benefit tracking record to verify that the total approved IWBCA-related mitigation costs remain below the maximum potential benefit and that no duplication of benefits has occurred.

This Hazard Mitigation Proposal meets the eligible repair and restoration cost-effectiveness requirements. See the Mitigation Profile Documents Tab in Grants Manager for the complete supporting documentation, including the HMP cost estimate and supporting documents file.

(VI) Compliance and Assurance Requirements:

A) HMP GENERAL NOTES:

By agreeing to implement the hazard mitigation measures in this HMP, the Applicant/Sub-Applicant is bound by the specific guidelines listed within this document.

COSTS AND GENERAL CONDITIONS: The vegetation removal cost is established according to the average base cost of **$176,173.47 / mile**. Additionally, DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **$184,982.14 / mile**. After deducting Public Assistance (PA) $15,433.57 amount (incidental work- refer to document FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf), the final total obligated amount through PA 406 is **$169,548.57 / mile.**

DOCUMENTATION REQUIREMENTS: The subrecipient shall document all vegetation removal work, including but not limited to the following:

- Before and after photographs of the total distance included in the HMP Scope of work that clearly show the condition of the area before and after the vegetation clearance.
A digital map in ArcGIS format showing all areas where vegetation removal was performed. Location information must be provided, including the physical address, GPS coordinates from start to finish of clearance work, and contact information for private property (when applicable).

- Work orders must account for the entire feeder length distance and include a description of the sections both with and without vegetation. Material disposal documentation must specify whether the material was chipped and removed, left on-site, or transported to a landfill.

Note: All vegetation clearance projects must include the above documentation to define the work completed prior to project closeout.

COST DISTRIBUTION: Recognizing that the established cost is an average per mile, it is understood that actual expenses for each feeder or area may deviate (either underrun or overrun) from the estimated project amount. The 406 HMP scope and cost agreement sets an average cost per mile for vegetation clearance, allowing the subrecipient to manage funds across the various projects that comprise the vegetation asset. The *Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR, January 1, 2022 (PR PAAP Guide)*, states that if funds for 406 Mitigation are included in the fixed-cost subaward, the subrecipient must complete the approved Scope of Work (SOW) of the Hazard Mitigation Proposal (HMP) in order to retain the 406 Mitigation funding. Consequently, only completed distance in the HM Scope of work, supported by the necessary back-up documentation (e.g., verified mitigated clearance distance), will be eligible for fund retention. Any uncompleted work from the HM SOW (e.g., miles not documented with mitigated clearance distance) will be de-obligated during

the closeout process.

SCOPE OF WORK DEVELOPMENT OF HAZARD MITIGATION: FEMA will evaluate each mitigation opportunity to first determine what measures or portions of solutions could be funded through Section 406 mitigation. FEMA analyzes the proposed mitigation measures for cost-effectiveness, technical feasibility, and compliance with EHP laws, regulations, and Eos. FEMA, the Applicant, Recipient, and Sub-recipients will develop and agree to scopes of work (SOW) and cost estimates to repair, restore, or replace eligible facilities including 406 Hazard Mitigation" (Page 6).

COMPLETION OF HAZARD MITIGATION SCOPE OF WORK: If this HMP is approved and the mitigation is not performed, the Applicant must apply for a change in the Scope of Work and a de-obligation of the HMP funding. Failure to complete the work of the HMP may limit future FEMA funding of repairs at the site in the event that a similar disaster event results in similar damage at the site.

CHANGES TO THE HAZARD MITIGATION SCOPE OF WORK FOR LARGE PROJECTS:

Per PAAP PA Process (Section 428), Guide for Permanent Work, February 10, 2020, "A Subrecipient may alter the 406-hazard mitigation SOW (HMP) after FEMA, the Recipient, and Subrecipient agree on the cost estimate for the initial proposal. After the project is obligated, the SOW for the HMP can be changed only once and the timeline for this change will be established based on a facility-by-facility basis. The proposed change will require evaluation by FEMA for eligibility and EHP. As part of the eligibility review, FEMA will evaluate the SOW, technical feasibility, the level of protection, the revised cost estimate, and cost effectiveness of the new hazard mitigation proposal, and, if approved, will adjust the scope and cost estimate accordingly." (Page 14)

HAZARD MITIGATION DESIGN: This HMP is for estimating purposes only and not to be construed as a project design. If the site's final placement and configuration are different than the preliminary estimate, the Applicant should submit a change in scope request. This HMP is subject to further review prior to award.

HAZARD MITIGATION CONSTRUCTION: The Applicant must provide & maintain competent & adequate engineering design & supervision during the construction phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & construction standards.

As a condition of the FEMA mitigation grant, the Applicant is responsible for the determination of and compliance with all applicable requirements, codes, standards and specifications in connection with the project, including but not limited to the Puerto Rico Building Code of 2018 (2018 PRBC), IBC, IRBC, NFIP Floodplain Management Regulations outlined in 44 C.F.R 60.3, ASCE 24, ASCE 7, and receiving all applicable permits & approvals prior to construction.

MAINTENANCE OF HAZARD MITIGATION: The Applicant shall ensure proper maintenance of the installed mitigation measures, per manufacturer and designer specifications. Any adaptations or installations not approved or that renders the hazard mitigation measure ineffective shall be removed by the Applicant. Examples include, but are not limited to, improper installation of roof-mounted equipment or installation of window-mounted air-conditioning units.

ENVIRONMENTAL AND HISTORIC PRESERVATION: Eligibility and funding for the mitigation at this site on this project will be subject to the compliance of all environmental laws, regulations, and executive orders applicable to the site. This project will undergo a EHP compliance review, after obligation any changes to the SOW will likely trigger an additional EHP compliance review of the revised SOW.

ATTACHMENTS:

Please refer to the following documents.

1. "Island-Wide Vegetation Clearance - FEMA letter dated March 24, 2023.pdf"
2. "FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"
3. "Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"
4. "IWBCA HMP Package.pdf"
5. "PN1068647-DR4339PR-HMP-20261015-REG.pdf"
6. "PN1068647-Arecibo 38KV.kmz"
7. "PN1068647-DR4339PR-HMCE-IEP-20260728-REG"

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$2,623.71	Uncompleted
3510	1	Lump Sum	($21.78)	Uncompleted

CRC Gross Cost	$2,601.93
Total 406 HMP Cost	$28,823.26
Total Insurance Reductions	$0.00
CRC Net Cost	$31,425.19
Federal Share (90.00%)	$28,282.68
Non-Federal Share (10.00%)	$3,142.51

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.
- 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.
- 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.
- 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.
- 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 all of its small projects and compliance with all environmental and historic preservation requirements within 180 days of the applicant’s completion of its last small project, or the latest approved deadline, whichever is sooner.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.

- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard requirements.
- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA's completion of the EHP review, it jeopardizes PA funding for the entire project.
- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.

Insurance

Additional Information

10/15/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if needed, providing administrative function and forwarding project for completion.

Jesus M. Vela Ayala, PA Senior Insurance Specialist - CRC Atlantic, Guaynabo, PR

7/31/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the Emergency Protective Measures represented on this project are typically not insured or

insurable. No insurance relief is anticipated.

FEMA requires the applicant to make reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. The applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

Jesus M. Vela Ayala, PA Senior Insurance Specialist - CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to

comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.

- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Region 2 Arecibo 38Kv – Non-Sensitive]/ Former project 740410 (vegetation) (HM Cost Alignment)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 11/02/2026 7:10 PM PST

Review Comments

Version 1 is being processed solely for HM Cost Alignment to incorporate the applicable Section 406 HMP funding of $28,823.26, with no changes to the previously obligated PA costs.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 11/04/2026 3:02 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
10/26/2026	4339DRPRP01082711	20174J4U-10262026	10/23/2026	$2,341.74

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	10/8/2026	$2,341.74	90%	Accepted	4339DRPRP01082711
1	11/6/2026	$25,940.94	90%	Accepted	4339DRPRP01082711

Exhibit 2

(public version, confidential version to be filed under seal of confidentiality)

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068664 **P/W #** 108275	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Ciales Streetlighting] / Former project 724669 (Distribution)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1335558; FAASt [Distribution Streetlighting - Ciales] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Streetlighting - Ciales
- **Facility Description:** There are an estimated 500,000 streetlights in Puerto Rico that are owned by Puerto Rico Electric Power Authority "PREPA" and serviced by LUMA. While assessing the distribution streetlighting system, it is anticipated that numerous damaged streetlights will be identified that require immediate repair to avoid safety hazards, violations of federal or local ordinance, and imminent equipment failures. Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1335558 **FAASt [Distribution Streetlighting - Ciales] (Distribution)**

INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed. The SOW defines the activities that will be performed using Public Assistance ("PA") funding and may include § 406 hazard mitigation proposals ("HMPs").

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs,including drawings and cost estimates. FEMA also recognizes that, generally, architects and/or engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews. Therefore, in those cases, subrecipients must ensure to submit all the information described [in the SOP] and not limit the submission to a drawing set. Refer to Part C - II. Recipient/Subrecipient Checklist for Submissions as a guide to review completeness."

This document contains the detailed SOW for FEMA PA Project 1068664 FAASt [Ciales Streetlighting] / Former project 724669 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates.

LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document. LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to "Subrecipient" herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

PROJECT DESCRIPTION

The proposed scope of work addresses the impacts on the streetlight facilities caused by Hurricane María. The project's objectives are to repair, replace, and upgrade the existing streetlight components to consensus-based codes and/or standards and mitigate future similar damage.

The project's final deliverables will include fully functional and upgraded streetlight facilities. These deliverables include replacing existing lighting components, poles, foundations, and disposal of hazardous materials. The proposed § 406 Hazard Mitigation Scope of Work (Section 10.2 below) will also increase the strength of the poles, aluminum poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160 mph . The completion of the project will ensure improved lighting infrastructure, enhanced safety measures, and increased resilience to future challenges.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

None

FACILITIES LIST

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any access roads or other line work, coordinates listed below are the beginning and end points.

Name	Damage Number	GPS Location
Ciales Municipality	1335558	Please refer to Appendix B for a list of all GPS lo to be impacted by this project.

Existing Lighting Components:

The existing lighting components include photo controls, luminaires, arms, and associated hardware. These components are installed on various poles throughout the municipality.

Existing Streetlight Poles:

The streetlight poles are made of aluminum, wood, steel, or concrete. Concrete poles are octagonal, varying in height from 33ft to 35ft, and installed to a depth of 5ft to 6ft. Aluminum poles are typically 30ft high, with increased strength versions reaching 40ft in height. Secondary wood poles and 35ft steel poles are also present, designed to withstand specific wind forces.

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see the attached map identified as **Work Zone Map** at **Appendix A**

428 SCOPE OF WORK

The proposed type of work for this project:

[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.

[] Subrecipient's request letter included, see **Appendix _**.

[] Recipient's approval letter included, see **Appendix _**.

[] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

[] Subrecipient's request letter included, see **Appendix _**.

[] Recipient's approval letter included, see **Appendix _**.

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The proposed restoration includes the repair of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure that must be addressed to fully effectuate the restoration of disaster-damaged components to restore the system's function to an approved industry standard. The Detailed Scope of Work consists of the repair, removal, replacement, and addition of the following infrastructure to restore this facility to codes and standards. Refer to **Appendix D – Project Considerations Ciales Municipality**.

Scope of Work	Number of Points
Components only, does not require pole replacement, installation, removal	1668
Components only, does not require pole replacement, installation, removal. Luminarie Location Change (LLC)	4
Secondary pole removal only, with third party attachments, Luminaire Location Change	13
Secondary pole removal only, without third party attachments, Luminaire Location Change (LLC)	1
Secondary pole replacement, installation, removal, with third party attachments	589
Secondary pole replacement, installation, removal, without third party attachments	520
Secondary pole replacement, installation, removal, without third party attachments, Luminaire Location Change	8
Streetlight pole replacement, installation, removal	34
Grand Total	**2837**

Lighting Components Replaced

- Remove existing lighting components, including photo controls, luminaires, arms, and associated hardware, and replace them with new lighting components. Quantities for these replacements are provided in the table above.
- Brush vegetation, as identified, to gain access to the pole and conduct repairs.
- Perform site evaluation and dispose of universal bulbs and photocells in an authorized facility.

Pole Replacement

- Remove and replace existing streetlight poles, including lighting components. Quantities for these replacements are provided in the table above. The locations of the poles and description of work on each pole are described in **Appendix D – Project Considerations Ciales Municipality**.
- Brush vegetation, as identified, to gain access to the pole and conduct repairs.
- Remove existing foundations in identified points and replace them with concrete foundations, following design criteria.
- All work for this program will be performed within the municipality's existing electrical easement.

CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and/or FEMA-approved industry standards used for this project are provided below:

- LUMA Distribution Design Manual (See Applicant Profile)
- LUMA Streetlighting Construction Standards (See Applicant Profile)

For § 406 HAZARD MITIGATION PROPOSAL see document labeled: "1068664-DR4339PR-Ciales Streetlight-Detailed Scope of Work Rev. 5".

COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope extent and location of the selected activity.

[X] **Ground disturbance outside of existing footprint**. If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.

- All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.
- **Streetlights Poles**: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see "Soil area and depth impact" column).
- **Concrete Pole Base**: The poles that will require replacement of the existing foundations can be found in Appendix C of the "Labor & Materials" tab, column named "Concrete Pole Base (40 feet)," filter by values equal to 1. This represents the same information as Appendix D, column N ("Concrete Foundation"), filtered by values equal to YES. Furthermore, the dimensions for the foundations are 10 feet deep by 3 feet in diameter. The depth of the foundation can be found in Appendix D, column D ("Soil area and depth impact").

- Equipment to be used includes Skid Steer, Excavator, 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, Filtering Machine, and Flatbed platform.

[] **Soil testing or boring to be performed as part of pre-construction activities**. If checked, provide a description, location, and dimensions of the testing/boring activities.

[] **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

[X] **Vegetative Removal**. If checked, describe the removal work to be performed, its location, and its extent.

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in 728827 FAASt [Region 2 - Arecibo Group A] High Density (Vegetation), 750067 FAASt [Region 2 - Arecibo Group A] Low Density (Vegetation), 727540 FAASt [Region 2 - Arecibo Group C] (Vegetation), 727694 FAASt [Region 4 - Caguas Group C] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

[X] **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.

- **Construction Debris**: The **debris** that will be produced during removal is luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
- Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
- The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
- GPS location of temporary debris storage sites, final debris disposal location, and final debris disposal method have not been identified yet.

[X] **Staging areas, landing area for air transport, and access roads**. If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

- **Staging Areas**: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.
  - o All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Arecibo Warehouse, ([redacted]).
- **Access Roads**: The construction of access roads is not required for this scope of work. (Refer to **Appendix D** in the "Site Accessible" column.).

[X] **Fill material**. If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).

- Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the *Approved Supplier List Directory PR* (see Applicant Profile).

[] **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands**. If checked, provide a description of the activities to be performed in water or wetlands.

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to **Appendix C – Cost Estimate**.

Distribution Streetlights Estimate Summary - Ciales					
Cost Element	**Total Cost Estimate**	**Cost Factor**	**FAASt Project 1068664 (428 Cost Estimate)**	**FAASt Project 1068664 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**
Planning, Permits and Applications (A&E)	$100,071.12	1.00%	$ 0.00	$5,739.35	$94,331.77
Environmental Management (A&E)	$300,213.36	3.00%	$ 0.00	$17,218.05	$282,995.31

Project Management (A&E)	$100,071.12	1.00%	$ 0.00	$5,739.35	$94,331.77
Engineering - A&E Estimate	$624,941.00	6.24%	$ 0.00	$35,842.05	$589,098.95
Engineering - Owners Engineering (A&E)	$500,355.60	5.00%	$ 0.00	$28,696.74	$471,658.86
Construction - Labour & Materials	$10,007,111.92	100.00%	$9,433,177.04	$573,934.88	$ 0.00
Construction – Project Management	$400,284.48	4.00%	$377,327.08	$22,957.40	$ 0.00
Construction - Site Management	$500,355.60	5.00%	$471,658.86	$28,696.74	$ 0.00
Construction - Quality Inspections	$300,213.36	3.00%	$282,995.31	$17,218.05	$ 0.00
Construction - Contingency	$700,497.83	7.00%	$660,322.39	$40,175.44	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$13,534,115.39**		**$11,225,480.68**	**$776,218.05**	**$1,532,416.66**

428 Cost Summary Section:

Work to be Completed (WTBC): $11,225,480.68

A&E Deduction (Global A&E FAASt 335168): -$0.00 (See project note 3)

E&M Deduction (Global E&M FAASt 673691): -$0.00 (See project note 3)

Project Total: $11,225,480.68

Project Notes:

1. Refer to detailed SOW provided in document labeled:" 1068664-DR4339PR-Ciales Streetlight-Detailed Scope of Work Rev. 5".pdf".

2. Refer to detailed Cost Estimate provided in document labeled: "1068664-DR4339PR-Ciales Streetlight-Appendix C - Cost Estimate Ciale Municipality Rev2.xlsx"

3. Regarding the Equipment and Materials(E&M) and A&E cost in this project see the PDMG clarification in the document labeled: "1068664-DR4339PR-Clarification.pdf"

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

5. Attachments:

A Ciales Work Zones Map
B Ciales Work Zones FIDs SIDs and Coordinates
C Cost Estimate Ciales Municipality
D Project Considerations Ciales
E FEMA 406 Justification: Streetlight Program

406 HMP Scope

406 HMP Scope

Project number: [724669] FAASt [Distribution Streetlighting – Ciales] (Distribution)

Damage #1335558; FAASt [Distribution Streetlighting – Ciales] (Distribution)

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

Location: Ciales, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Ciales Municipality, PREPA has a total of 2,837 streetlights luminaries. The Method of Repair (MOR) include the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure, will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of aluminum and concrete poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG

V3.1.

406 Mitigation Scope of Work:

- Replace (9ea) 33ft octagonal concrete poles by (9ea) 35ft octagonal concrete poles.
- Replace (1,109ea) 35ft S3 galvanized poles by (1,109ea) 35ft S3.5 galvanized poles.
- Replace (25ea) 30ft aluminum poles by (25ea) 40ft aluminum poles.
- Replace (25ea) 90 mph breakaway bases by (25ea) 160 mph breakaway bases.
- Replace (25ea) Concrete bases [2.5ft(D) x 5.5ft(H)] by (25ea) 40ft aluminum poles concrete bases [3ft(D) x 10ft(H)]

.

Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) = $573,934.88

+ HM (Applicant A&E, Management & General Conditions) = $199,198.86

Hazard Mitigation Total Cost = **$773,133.74**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) = $500,159.00

Architecture and Engineering (A&E) = $113,108.63

Construction Cost = $159,866.11

Hazard Mitigation Total Cost = **$773,133.74**

HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The Hazard Mitigation Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

The Island Wide Benefit Cost Analysis (IWBCA) created for the PREPA infrastructure defines a maximum potential benefit using the incurred costs of the PREPA FEMA Accelerated Award Strategy (FAASt) fixed cost estimate, the mission assignments utilized for the reconnection effort, and the costs associated with loss of service. This maximum benefit has been developed to fund all mitigation projects from both Public Assistance Hazard Mitigation and the Hazard Mitigation Grant program.

It is the applicant's responsibility to maintain a record of approved IWBCA related projects to avoid running out of funds for their Mitigation portion projects.". Please see attached IWBCA Package

The cost of the Hazard Mitigation Proposal (HMP) described herein is $773,133.74 (Hazard Mitigation Total Cost). The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

**See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents (HMP, HMP cost estimate, Supporting

documents file).

Date Downloaded: 11/4/26 6:15am PST

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$11,225,480.68	Uncompleted

CRC Gross Cost	$11,225,480.68
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$11,225,480.68
Federal Share (90.00%)	$10,102,932.62
Non-Federal Share (10.00%)	$1,122,548.06

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard

requirements.

- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA's completion of the EHP review, it jeopardizes PA funding for the entire project.
- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.

Insurance

Additional Information

7/24/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

Olga Renta, PA Insurance Specialist
CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Ciales Streetlighting] / Former project 724669 (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Ciales Streetlighting] / Former project 724669 (Distribution)**.

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.
- a. The Subrecipient and/or Subrecipient's contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. 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. d. 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.
- Conditions for Chilabothrus Inornatus (Puerto Rican Boa) a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas. c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue.

- e. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior. f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own. h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.
- The below conservation measures apply to the following species: Puerto Rican parrot (Amazona vittata), Puerto Rican broad-winged hawk (Buteo platypterus brunnescens), Puerto Rican sharp-shinned hawk (Accipiter striatus venator) and Agelaius xanthomus (Puerto Rican yellow shouldered blackbird). a. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. During breeding seasons (see below), nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside breeding season no nest surveys are required. However, some bird species may nest year-round, therefore, if a nest is encountered while the project is being conducted, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and do not flush the bird until it leaves on its own. Nesting seasons: *. Puerto Rican parrot: February-June. *. Puerto Rican broad-winged hawk: December-June. *. Puerto Rican sharp-shinned hawk: December-June. *. Yellow-shouldered blackbird: February-November. For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at Caribbean_es@fws.gov. Office phone: 786-244-0081.
- Conditions for Auerodendron pauciflorum, Cordia bellonis, Ottoschulzia rhodoxylon, Schoepfia arenaria, Juglans jamaicensis, Cyathea dryopteroides, Tectaria estremerana, all endangered and threatened plants: Before initiating any work within the range of listed plant species and in areas with suitable habitat, applicants must conduct plant surveys. In the event that listed species are discovered at the project site, the Service must be notified through the Office Direct Line: 786-244-0081. Email: caribbean_es@fws.gov When listed species are discovered at the project site, the conservation measures below apply to each species. a. Where threatened and endangered plants are identified, flag individuals and avoid to the extent feasible. If the plants cannot be avoided, they should be salvaged and replanted as close to the impact area as possible. b. If space allows, leave a 5-foot buffer around individuals and/or clusters c. For trees and palm trees, if space allows, leave a 15-foot buffer around the tree d. When pruning, prune dead branches. If pruning live branches do not prune more than 10%. Please contact the USFWS Field Office if additional pruning is necessary for a listed plant species: Office Direct Line: 786-244-0081. Email: caribbean_es@fws.gov
- Conditions for the Puerto Rican harlequin butterfly (Atlantea tulita) a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species.
- e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related

activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 5-meter (16 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own. f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: *. Clearly mark the host plant with flagging tape. *. Establish a 5-meter (16-foot) buffer zone around the bush for its protection. *. Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. *. Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service's Caribbean Ecological Service Field Office at caribbean_es@fws.gov.

- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- The contractor/sub-recipient will be responsible for the proper disposition of construction debris, unusable equipment, white goods, scrap metal, bituminous, non-recyclable material and damaged transformers in authorized landfills providing FEMA the name, location, coordinates and permits of the facility to FEMA by closeout. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA by closeout as part of the permanent project file.
- 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.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Ciales Streetlighting] / Former project 724669 (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 10/19/2026 1:53 PM PST

Review Comments

Version 0 contemplates $10,102,932.62, (federal share) for [Ciales Streetlighting] / Former project 724669 (Distribution). Reviewed, found eligible and reasonable. CLG 10/19/2026

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 10/26/2026 9:28 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

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 #
0	11/3/2026	$10,102,932.62	90%	Accepted	4339DRPRP01082751

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068670 **P/W #** 108280	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Penuelas Streetlighting] / Former project 724781 (Distribution)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1335734; FAASt Penuelas Streetlighting (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Penuelas Streetlighting
- **Facility Description:** There are an estimated 500,000 streetlights in Puerto Rico that are owned by Puerto Rico Electric Power Authority "PREPA" and serviced by LUMA. While assessing the distribution streetlighting system, it is anticipated that numerous damaged streetlights will be identified that require immediate repair to avoid safety hazards, violations of federal or local ordinance, and imminent equipment failures. Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1335734 **FAASt Penuelas Streetlighting (Distribution)**

INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed. The SOW defines the activities that will be performed using Public Assistance ("PA") funding and may include § 406 hazard mitigation proposals ("HMPs"). The SOW defines the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates. FEMA also recognizes that, generally, architects and/or engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews. Therefore, in those cases, subrecipients must ensure to submit all the information

described [in the SOP] and not limit the submission to a drawing set. Refer to Part C - II. Recipient/Subrecipient Checklist for Submissions as a guide to review completeness."

This document contains the detailed SOW for FEMA PA Project 1068670 FAASt [Penuelas Streetlighting] / Former project 724781 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to "Subrecipient" herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

PROJECT DESCRIPTION

The proposed scope of work addresses the impacts on the streetlight facilities caused by Hurricane María. The project's objectives are to repair, replace, and upgrade the existing streetlight components to consensus-based codes and/or standards and mitigate future similar damage.

The project's final deliverables will include fully functional and upgraded streetlight facilities. These deliverables include replacing existing lighting components, poles, foundations, and disposal of hazardous materials. The proposed § 406 Hazard Mitigation Scope of Work (Section 10.2 below) will also increase the strength of the poles, aluminum poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160 mph . The completion of the project will ensure improved lighting infrastructure, enhanced safety measures, and increased resilience to future challenges.

FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

None

7.2 FACILITIES LIST

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any access roads or other line work, coordinates listed below are the beginning and end points.

Name	Damage Number	GPS Location
Peñuelas Municipality	1335734	Please refer to Appendix B for a list of all GPS locations to be impacted by t project.

7.2.1. Existing Lighting Components:

The existing lighting components include photo controls, luminaires, arms, and associated hardware. These components are installed on various poles throughout the municipality.

7.2.2. Existing Streetlight Poles:

The streetlight poles are made of aluminum, wood, steel, or concrete. Concrete poles are octagonal, varying in height from 33ft to 35ft, and installed to a depth of 5ft to 6ft. Aluminum poles are typically 30ft high, with increased strength versions reaching 40ft in height. Secondary wood poles and 35ft steel poles are also present, designed to withstand specific wind forces.

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see the attached map identified as **Work Zone Map** at **Appendix A**.

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§ 428 SCOPE OF WORK

The proposed type of work for this project:

[x] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.

[] Subrecipient's request letter included, see **Appendix** ___.

[] Recipient's approval letter included, see **Appendix** ___.

[] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

[] Subrecipient's request letter included, see **Appendix** ___.

[] Recipient's approval letter included, see **Appendix** ___.

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The proposed restoration includes the repair of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure that must be addressed to fully effectuate the restoration of disaster-damaged components to restore the system's function to an approved industry standard. The Detailed Scope of Work consists of the repair, removal, replacement, and addition of the following infrastructure to restore this facility to codes and standards. Refer to **Appendix D – Project Considerations Peñuelas Municipality**.

Work Description	**Number o Points**
Components only, does not require pole replacement, installation, removal	1384
Secondary pole replacement, installation, removal, with third party attachments	438
Secondary pole replacement, installation, removal, without third party attachments	157
Secondary pole removal, with third party attachments, Luminaire Location Change (LLC)	15
Secondary pole, removal, without third party attachments, Luminaire Location Change (LLC)	6
Streetlight pole replacement, installation, removal	33
Streetlight pole, removal, Luminaire Location Change (LLC)	1
Grand Total	**2034**

9.1.1. Lighting Components Replaced

· Remove existing lighting components, including photo controls, luminaires, arms, and associated hardware, and replace them with new lighting components. Quantities for these replacements are provided in the table above.

· Brush vegetation, as identified, to gain access to the pole and conduct repairs.

· Perform site evaluation and dispose of universal bulbs and photocells in an authorized facility.

9.1.2. Pole Replacement

· Remove and replace existing streetlight poles, including lighting components. Quantities for these replacements are provided in the table above. The locations of the poles and description of work on each pole are described in **Appendix D – Project Considerations Peñuelas Municipality**.

· Brush vegetation, as identified, to gain access to the pole and conduct repairs.

· Remove existing foundations in identified points and replace them with concrete

foundations, following design criteria.

· All work for this program will be performed within the municipality's existing electrical easement.

9.2 CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and/or FEMA-approved industry standards used for this project are provided below:

· LUMA Distribution Design Manual (See Applicant Profile)

· LUMA Streetlighting Construction Standards (See Applicant Profile)

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§ 406 HAZARD MITIGATION PROPOSAL

FEMA PAPPG v.3.1 provides, "Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects." Subrecipient proposes to lessen or eliminate long-term risk to people and property from future natural hazards and their effects by performing the work described in this project to Subrecipient's **Distribution** Design Criteria, which exceeds required codes and standards. Doing so will directly reduce the potential of future, similar negative consequences of damage to the T&D system as occurred after Hurricane Maria by improving the system's physical resilience, functional resiliency, or both.

Below is a description of the proposed mitigation opportunity and the proposed scope of work.

10.1 § 406 HAZARD MITIGATION OPPORTUNITY

To avoid damage in a future event, the Applicant is proposing, as a mitigation measure, to increase the strength of the poles, aluminum poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160 mph. These mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

10.2 § 406 SCOPE OF WORK

The measures/items below are developed to standards that exceed FEMA consensus-based codes

and standards, as explained in the "Justification/Benefit" column of the table below:

Material Item	**Consensus-Based Codes and Standards**	**Hazard Mitigation Design**	**Justification/ Benefit**

Octagonal concrete poles	• 33ft high and installed to a depth of 5ft • Wind resistance 90 mph	• 35ft high and installed to a depth of 6ft • Wind resistance 160 mph	Increasing pole strength to withs extreme weather events and avo pole tilting.
Aluminum poles	• 30ft high • Wind resistance 90 mph	• 40ft high • Wind resistance 160 mph	Increasing pole strength to withs extreme weather events.
Wood/Steel Secondary poles	Secondary wood poles and 35ft steel poles (35ft Galv.@52 kips-ft)	Secondary 35ft-S3.5 Galv. Poles (35ft-S3.5 Galv. @96 kips-ft)	Increasing pole ultimate force to withstand extreme weather even

Breakaway base	90 mph	160 mph	Increasing base strength to withs extreme weather events.
Concrete precast base	5ft-6in long and 2ft diameter	10ft long and 3ft diameter	Increasing the installation depth improve the resistance to pole ti during extreme weather events.

COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope extent and location of the selected activity.

[x] **Ground disturbance outside of existing footprint**. If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.

· All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.

· **Streetlights Poles**: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see “Soil area and depth impact” column).

· **Concrete Pole Base**: The poles that will require replacement of the existing foundations can be found in Appendix C of the “Labor & Materials” tab, column named “Concrete Pole Base (40 feet),” filter by values equal to 1. This represents the same information as Appendix D, column N (“Concrete Foundation”), filtered by values equal to YES. Furthermore, the dimensions for the foundations are 10

feet deep by 3 feet in diameter. The depth of the foundation can be found in Appendix D, column D ("Soil area and depth impact").

· Equipment to be used includes Skid Steer, Excavator, 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, Filtering Machine, and Flatbed platform.

[] **Soil testing or boring to be performed as part of pre-construction activities**. If checked, provide a description, location, and dimensions of the testing/boring activities.

[] **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

[x] **Vegetative Removal**. If checked, describe the removal work to be performed, its location, and its extent.

· Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in **727530 FAASt [Region 6 -Ponce Group C] (Vegetation), 750063 FAASt [Region 6 -Ponce Group A] Low Density (Vegetation), and 727531 FAASt [Region 6 - Ponce Group A] High Density (Vegetation)**. The vegetation removal process will be managed in accordance with federal and state regulations.

[x] **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.

· **Construction Debris**: The **debris** that will be produced during removal is luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.

· Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.

· The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.

· GPS location of temporary debris storage sites, final debris disposal location, and final debris disposal method have not been identified yet.

[x] **Staging areas, landing area for air transport, and access roads**. If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

· **Staging Areas**: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.

o All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Ponce Warehouse, ([redacted]).

· **Access Roads**: The construction of access roads is not required for this scope of work. (Refer to **Appendix D** in the "Site Accessible" column.).

[x] **Fill material**. If the project includes the use of fill material, provide the source of the fill

material including the provider's name and address (if known).

· Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the *Approved Supplier List Directory PR* (see Applicant Profile).

[] **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands**. If checked, provide a description of the activities to be performed in water or wetlands.

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to **Appendix C – Cost Estimate**.

Distribution Streetlights Estimate Summary - Peñuelas

Cost Element	Total Cost Estimate	Cost Factor	FAASt Project 1068670 (428 Cost Estimate)	FAASt Project 1068670 (406 Cost Estimate)	A&E FAASt Project 335168 (428)
Planning, Permits and Applications (A&E)	$71,268.79	1.00%	$ 0.00	$3,005.38	$68,263.41
Environmental Management (A&E)	$213,806.36	3.00%	$ 0.00	$9,016.14	$204,790.22
Project Management (A&E)	$71,268.79	1.00%	$ 0.00	$3,005.38	$68,263.41
Engineering - A&E Estimate	$498,411.50	6.99%	$ 0.00	$21,017.85	$477,393.65
Engineering - Owners Engineering (A&E)	$356,343.94	5.00%	$ 0.00	$15,026.91	$341,317.03
Construction - Labour & Materials	$7,126,878.75	100.00%	$6,826,340.64	$300,538.11	$ 0.00
Construction – Project Management	$285,075.15	4.00%	$273,053.63	$12,021.52	$ 0.00
Construction - Site Management	$356,343.94	5.00%	$341,317.03	$15,026.91	$ 0.00
Construction - Quality Inspections	$213,806.36	3.00%	$204,790.22	$9,016.14	$ 0.00
Construction - Contingency	$498,881.51	7.00%	$477,843.84	$21,037.67	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$9,692,085.09**		**$8,123,345.36**	**$408,712.01**	**$1,160,027.72**

Refer to **Appendix C – Cost Estimate.**

428 Project Summary, Version 0:

Work to Be Completed (WTBC): $8,123,345.36

E&M Deduction (#673691) 428: $0.00 (See Project Note #5)

A&E Deduction (Global A&E FAASt 335168): $0.00 (See Project Note #5)

Project Total Cost: $8,123,345.36

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document: *"1068670-DR4339PR-Detailed SOW Peñuelas-DSOW-WtbC Rev6.pdf"*

2. As confirmed by PDMG the cost estimate to be used is the one in the DSOW document: "*1068670- DR4339PR- Appendix C - Cost Estimate Peñuelas Municipality Rev 2.xlsx"*

3. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

4. Regarding the Equipment and Materials(E&M) cost in this project see PDMG clarification in the document labeled: *"1068666 Material Cost Clarification email.pdf".*

ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename
A	Peñuelas Work Zones Map
B	Peñuelas Municipality Work Zones FIDs SIDs and Coordinates
C	Cost Estimate Peñuelas Municipality
D	Project Considerations Peñuelas Municipality
E	FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: 1068670; FAASt [Penuelas Streetlighting] / Former project 724781 (Distribution)

Damage #1335734; FAASt Penuelas Streetlighting (Distribution

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

Location: Penuelas, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Penuelas Municipality, PREPA has a total of 2,034 streetlights luminaries. The Method of Repair (MOR) includes the replacement of damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, and the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. **Note:** The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of aluminum and concrete poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. These mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (28ea) 33ft octagonal concrete poles by (28ea) 35ft octagonal concrete poles.
- Replace (595ea) 35ft galvanized poles by (595ea) 35ft S3.5 galvanized poles.
- Replace (5ea) 30ft aluminum poles by (5ea) 40ft aluminum poles.
- Replace (5ea) 30ft aluminum poles breakaway bases by (5ea) 40ft aluminum poles breakaway bases.
- Replace (5ea) 30ft aluminum poles concrete bases [2.5ft(D) x 5.5ft(H)] by (5ea) 40ft aluminum poles concrete bases [3ft(D) x 10ft(H)].

Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 300,538.11
+ HM (Applicant A&E, Management & General Conditions) =	$ 108,173.90
Hazard Mitigation Total Cost =	**$ 408,712.01**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 0.00
Architecture and Engineering (A&E) =	$ 51,071.66
Construction Cost=	$ 357,640.35
Hazard Mitigation Total Cost =	**$ 408,712.01**

(V) HMP Cost-Effectiveness Calculations

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The Hazard Mitigation Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

The Island Wide Benefit Cost Analysis (IWBCA) created for the PREPA infrastructure defines a maximum potential benefit using the incurred costs of the PREPA FEMA Accelerated Award Strategy (FAASt) fixed cost estimate, the mission assignments utilized for the reconnection effort, and the costs associated with loss of service. This maximum benefit has been developed to fund all mitigation projects from both Public Assistance Hazard Mitigation and the Hazard Mitigation Grant program.

It is the applicant's responsibility to maintain a record of approved IWBCA related projects to avoid running out of funds for their Mitigation portion projects.". Please see attached IWBCA Package.

The cost of the Hazard Mitigation Proposal (HMP) described herein is $408,712.01 (Hazard Mitigation Total Cost). The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

****See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents *(HMP, HMP cost estimate, Supporting documents file).***

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$8,123,345.36	Uncompleted

CRC Gross Cost	$8,123,345.36
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$8,123,345.36
Federal Share (90.00%)	$7,311,010.83
Non-Federal Share (10.00%)	$812,334.53

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard

requirements.

- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA's completion of the EHP review, it jeopardizes PA funding for the entire project.
- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.

Insurance

Additional Information

7/30/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries, and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Penuelas Streetlighting] / Former project 724781 (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Penuelas Streetlighting] / Former project 724781 (Distribution)**.

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.
- The Subrecipient and/or Subrecipient's contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- 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.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The 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.
- 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.
- Recipients or Sub-recipients must provide a copy of the Federal Consistency Certi?cate from the Puerto Rico Planning Board, Coastal Zone Unit, for the proposed project at closeout.
- Conservation Measures for Accipiter striatus venator, Amazona vittata, Antrostomus noctitherus and Buteo platypterus brunnescens. 1. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. During breeding seasons: Accipiter striatus venator and Buteo platypterus brunnescens (December-June), Amazona vittata (February-June) and Antrostomus noctitherus (February-August) nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside breeding season no nest surveys are required. However, some bird species may nest year-round, therefore, if a nest is encountered while the project is being conducted, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and

do not flush the bird until it leaves on its own. For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at: Caribbean_es@fws.gov. Office phone: 786-244-0081.

- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- Conservation Measures for Atlantea tulita. a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 5-meter (16 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own.
- Conservation Measures for Atlantea tulita (Cont.) f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: *. Clearly mark the host plant with flagging tape. *. Establish a 5-meter (16-foot) buffer zone around the bush for its protection. *. Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatches, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. *. Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service's Caribbean Ecological Service Field Office at caribbean_es@fws.gov.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- Conservation Measures for Chilabothrus inornatus. a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas. c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience of this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop in that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harms way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue. e. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior.
- Conservation Measures for Chilabothrus inornatus (Cont.). f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own. h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from

forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles are left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures have been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.

- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- The contractor/sub-recipient will be responsible for the proper disposition of construction debris, unusable equipment, white goods, scrap metal, bituminous, non-recyclable material and damaged transformers in authorized land?lls providing FEMA the name, location, coordinates and permits of the facility to FEMA by closeout. All coordination pertaining to ?nal disposal activities should be documented and forwarded to FEMA by closeout as part of the permanent project ?le.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Penuelas Streetlighting] / Former project 724781 (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 10/19/2026 1:59 PM PST

Review Comments

Version 0 contemplates $7,311,010.83, (federal share) for Penuelas Streetlighting.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 10/27/2026 8:35 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project does not apply to the Department of Energy's executive order. This means that FEMA is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

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 #
0	11/3/2026	$7,311,010.83	90%	Accepted	4339DRPRP01082801

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068671 **P/W #** 108281	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Quebradillas Streetlighting] / Former project 724716 (Distribution)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1335655; FAASt Quebradillas Streetlight (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Quebradillas Streetlight
- **Facility Description:** There are an estimated 500,000 streetlights in Puerto Rico that are owned by Puerto Rico Electric Power Authority "PREPA" and serviced by LUMA. While assessing the distribution streetlighting system, it is anticipated that numerous damaged streetlights will be identified that require immediate repair to avoid safety hazards, violations of federal or local ordinance, and imminent equipment failures. Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1335655 **FAASt Quebradillas Streetlight (Distribution)**

INTRODUCTION

Pursuant to FEMA's Post-Fixed Cost Estimate Obligation SOP (the "SOP") for FAASt projects, FAASt subrecipients must provide to FEMA recovery project scopes of work ("SOW") for the proposed construction work to be performed. The SOW defines the activities that will be performed using Public Assistance ("PA") funding and may include § 406 hazard mitigation proposals ("HMPs"). The SOW defines the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates. FEMA also recognizes that, generally, architects and/or engineers do not include or delineate the information needed to enable FEMA to complete programmatic reviews. Therefore, in those cases, subrecipients must ensure to submit all the information described [in the SOP] and

not limit the submission to a drawing set. Refer to Part C - II. Recipient/Subrecipient Checklist for Submissions as a guide to review completeness."

This document contains the detailed SOW for FEMA PA Project 1068671 FAASt [Quebradillas Streetlighting] / Former project 724716 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA, as agent of PREPA, to undertake work in connection with any Federal Funding requests related to the T&D System submitted to FEMA. References to "Subrecipient" herein refer to PREPA pursuant to this agreement and consent for LUMA to act as its agent with respect to federal funds.

PROJECT DESCRIPTION

The proposed scope of work addresses the impacts on the streetlight facilities caused by Hurricane María. The project's objectives are to repair, replace, and upgrade the existing streetlight components to consensus-based codes and/or standards and mitigate future similar damage.

The project's final deliverables will include fully functional and upgraded streetlight facilities. These deliverables include replacing existing lighting components, poles, foundations, and disposal of hazardous materials. The proposed § 406 Hazard Mitigation Scope of Work (Section 10.2 below) will also increase the strength of the poles, aluminum poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160 mph. The completion of the project will ensure improved lighting infrastructure, enhanced safety measures, and increased resilience to future challenges.

FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:

None

7.2 FACILITIES LIST

The following list includes the name and GPS coordinates identifying the areas of work for other types of facilities. For any access roads or other line work, coordinates listed below are the beginning and end points.

Name	Damage Number	GPS Location
Quebradillas Municipality	1335655	Please refer to Appendix B for a list of all GPS locations to be impacted by this project.

7.2.1. Existing Lighting Components:

The existing lighting components include photo controls, luminaires, arms, and associated hardware. These components are installed on various poles throughout the municipality.

7.2.2. Existing Streetlight Poles:

The streetlight poles are made of aluminum, wood, steel, or concrete. Concrete poles are octagonal, varying in height from 33ft to 35ft, and installed to a depth of 5ft to 6ft. Aluminum poles are typically 30ft high, with increased strength versions reaching 40ft in height.
Secondary wood poles and 35ft steel poles are also present, designed to withstand specific wind forces.

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see the attached map identified as **Work Zone Map** at **Appendix A**.

428 SCOPE OF WORK

The proposed type of work for this project:

[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.

[] Subrecipient's request letter included, see **Appendix** __.

[] Recipient's approval letter included, see **Appendix** __.

[]Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

[] Subrecipient's request letter included, see **Appendix** __.

[] Recipient's approval letter included, see **Appendix** __.

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The proposed restoration includes the repair of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure that must be addressed to fully effectuate the restoration of disaster-damaged components to restore the system's function to an approved industry standard. The Detailed Scope of Work consists of the repair, removal, replacement, and addition of the following infrastructure to restore this facility to codes and standards. Refer to **Appendix D – Project Considerations Quebradillas Municipality**.

Work Description	**Number of Points**
Components only, does not require pole replacement, installation, removal	
Secondary pole replacement, installation, removal, with third party attachments	
Secondary pole replacement, installation, removal, with third party attachments. Luminaire Location Change (LLC).	
Secondary pole replacement, installation, removal, without third party attachments	
Secondary pole replacement, installation, removal, without third party attachments. Luminaire Location Change (LLC).	
Streetlight pole replacement, installation, removal.	
Streetlight pole replacement, installation, removal. Luminaire Location Change (LLC).	
Grand Total	

9.1.1. Lighting Components Replaced

· Remove existing lighting components, including photo controls, luminaires, arms, and associated hardware, and replace them with new lighting components. Quantities for these replacements are provided in the table above.

· Brush vegetation, as identified, to gain access to the pole and conduct repairs.

· Perform site evaluation and dispose of universal bulbs and photocells in an authorized facility.

9.1.2. Pole Replacement

· Remove and replace existing streetlight poles, including lighting components. Quantities for these replacements are provided in the table above. The locations of the poles and description of work on each pole are described in **Appendix D – Project Considerations Quebradillas Municipality**.

· Brush vegetation, as identified, to gain access to the pole and conduct repairs.

· Remove existing foundations in identified points and replace them with concrete foundations, following design criteria.

· All work for this program will be performed within the municipality's existing electrical easement.

9.2 CODES & STANDARDS

Per FEMA's SOP, the locally adopted codes/standards and/or FEMA-approved industry standards used for this project are provided below:

· LUMA Distribution Design Manual (See Applicant Profile)

· LUMA Streetlighting Construction Standards (See Applicant Profile)

HAZARD MITIGATION PROPOSAL

For Hazard Mitigation details please refer to the labeled document: 1068671-DR4339PR-Quebradillas Streetlight-Detailed Scope of Work-Rev.5.pdf

COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, provide a description of the scope extent and location of the selected activity.

[X] **Ground disturbance outside of existing footprint**. If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.

· All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.

· **Streetlights Poles**: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see "Soil area and depth impact" column).

· **Concrete Pole Base**: The poles that will require replacement of the existing foundations can be found in Appendix C of the "Labor & Materials" tab, column named "Concrete Pole Base (40 feet)," filter by values equal to 1. This represents the same information as Appendix D, column N ("Concrete Foundation"), filtered by values equal to YES. Furthermore, the dimensions for the foundations are 10 feet deep by 3 feet in diameter. The depth of the foundation can be found in Appendix D, column D ("Soil area and depth impact").

· Equipment to be used includes Skid Steer, Excavator, 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, Filtering Machine, and Flatbed platform.

[] **Soil testing or boring to be performed as part of pre-construction activities**. If checked, provide a description, location, and dimensions of the testing/boring activities.

[] **Relocation of utilities**. If checked, include a description of the relocation including the type of utility, relocation coordinates, and the extent

and depth of associated ground disturbance.

[X] **Vegetative Removal**. If checked, describe the removal work to be performed, its location, and its extent.

· Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in **727540 FAASt [Region 2 -Arecibo Group C] (Vegetation), 750067 FAASt [Region 2 -Arecibo Group A] Low Density (Vegetation), and 728827 FAASt [Region 2 -Arecibo Group A] High Density (Vegetation)**. The vegetation removal process will be managed in accordance with federal and state regulations.

[X] **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.

· **Construction Debris**: The **debris** that will be produced during removal is luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
· Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
· The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
· GPS location of temporary debris storage sites, final debris disposal location, and final debris disposal method have not been identified yet.

[X] **Staging areas, landing area for air transport, and access roads**. If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).

· **Staging Areas**: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.
o All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Mayaguez Warehouse, ([redacted]).
· **Access Roads**: The construction of access roads is not required for this scope of work. (Refer to **Appendix D** in the "Site Accessible" column.).

[X] **Fill material**. If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).

· Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the *Approved Supplier List Directory PR* (see Applicant Profile).

[] **Work in water including coffer dams, dredging, placement of equipment in water, or other work in wetlands**. If checked, provide a description of the activities to be performed in water or wetlands.

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to **Appendix C – Cost Estimate**.

Distribution Streetlights Estimate Summary - Quebradillas					
Cost Element	**Total Cost Estimate**	**Cost Factor**	**FAASt Project 1068671 (428 Cost Estimate)**	**FAASt Project 1068671 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**

Planning, Permits and Applications (A&E)	$94,975.81	1.00%	$ 0.00	$4,627.78	$90,348.03
Environmental Management (A&E)	$284,927.43	3.00%	$ 0.00	$13,883.35	$271,044.08
Project Management (A&E)	$94,975.81	1.00%	$ 0.00	$4,627.78	$90,348.03
Engineering - A&E Estimate	$638,794.50	6.73%	$ 0.00	$31,125.85	$607,668.65
Engineering - Owners Engineering (A&E)	$474,879.05	5.00%	$ 0.00	$23,138.92	$451,740.13
Construction - Labour & Materials	$9,497,581.06	100.00%	$9,034,802.61	$462,778.45	$ 0.00
Construction – Project Management	$379,903.24	4.00%	$361,392.10	$18,511.14	$ 0.00
Construction - Site Management	$474,879.05	5.00%	$451,740.13	$23,138.92	$ 0.00
Construction - Quality Inspections	$284,927.43	3.00%	$271,044.08	$13,883.35	$ 0.00
Construction - Contingency	$664,830.67	7.00%	$632,436.18	$32,394.49	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$12,890,674.05**		**$10,751,415.10**	**$628,110.03**	**$1,511,148.92**

Refer to **Appendix C – Cost Estimate.**

Work to be Completed (WTBC): $10,751,415.10

A&E Deduction (Global A&E FAASt 335168): $0.00 (See ProjectNote #4)

E&M Deduction (673691) 428: $0.00 (See ProjectNote #4)

Project Total Cost: $10,751,415.10

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: “1068671-DR4339PR-Quebradillas Streetlight-Detailed Scope of Work-Rev.5.pdf”

2. Refer to detailed Cost Estimate provided in document labeled: “1068671-DR4339PR-Quebradillas Streetlight-Appendix C - Cost Estimate Quebradillas Municipality Rev2.xlsx”

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

4. Regarding the Equipment and Materials(E&M) and A&E cost in this project see the PDMG clarification in the document labeled: “1068671-DR4339PR-Clarification.pdf”

5. Attachments:

A. Quebradillas Work Zones Map

B. Quebradillas Municipality Work Zones FIDs SIDs and Coordinates

C. Cost Estimate Quebradillas Municipality

D. Project Considerations Quebradillas Municipality

E. FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: 1068671; FAASt Quebradillas Streetlighting / Former project 724716 (Distribution)

Damage # 1335655; FAASt Quebradillas Streetlight (Distribution)

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

Location: Quebradillas, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Quebradillas Municipality, PREPA has a total of 3,119 ea. streetlights luminaries. The Method of Repair (MOR) include the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections and the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, arms, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure, will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, arms, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (29 ea.) 33ft octagonal concrete poles by (29 ea.) 35ft octagonal concrete poles.
- Replace (960 ea.) 35ft galvanized poles by (960 ea.) 35ft S3.5 galvanized poles.
- Replace (4 ea.) 30ft aluminum poles by (4 ea.) 40ft aluminum poles.
- Replace (2 ea.) 30ft aluminum poles breakaway bases by (2 ea.) 40ft aluminum poles breakaway bases.
- Replace (4 ea.) 30ft aluminum poles concrete bases [2.5ft(D) x 5.5ft(H)] by (4 ea.) 40ft aluminum poles concrete bases [3ft(D) x 10ft(H)].

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $ 462,778.45

+ HM (Applicant A&E, Management & General Conditions) = $ 165,331.58

Hazard Mitigation Total Cost = **$ 628,110.03**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Architecture and Engineering (A&E) = $ 77,403.68
Construction Cost = $ 550,706.35
Hazard Mitigation Total Cost = **$ 628,110.03**

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HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The Hazard Mitigation Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

The Island Wide Benefit Cost Analysis (IWBCA) created for the PREPA infrastructure defines a maximum potential benefit using the incurred costs of the PREPA FEMA Accelerated Award Strategy (FAASt) fixed cost estimate, the mission assignments utilized for the reconnection effort, and the costs associated with loss of service. This maximum benefit has been developed to fund all mitigation projects from both Public Assistance Hazard Mitigation and the Hazard Mitigation Grant program.

It is the applicant's responsibility to maintain a record of approved IWBCA related projects to avoid running out of funds for their Mitigation portion projects.". Please see attached IWBCA Package

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$628,110.03 (Hazard Mitigation Total Cost).** The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

****See Mitigation Profile Documents Tab in Grants Manager for complete version of this HMP and supporting documents (HMP, HMP cost estimate, Supporting documents file).**

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$10,751,415.10	Uncompleted

CRC Gross Cost	$10,751,415.10
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$10,751,415.10
Federal Share (90.00%)	$9,676,273.59
Non-Federal Share (10.00%)	$1,075,141.51

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard

requirements.

- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA's completion of the EHP review, it jeopardizes PA funding for the entire project.
- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.

Insurance

Additional Information

9/1/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if needed, providing administrative function and forwarding project for completion.

Jesus M. Vela Ayala, PA Senior Insurance Specialist - CRC Atlantic, Guaynabo, PR

7/20/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the facilities represented on this project are typically not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. The applicant must notify grantee and FEMA of such

recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

Jesus M. Vela Ayala, PA Senior Insurance Specialist - CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Quebradillas Streetlighting] / Former project 724716 (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Quebradillas Streetlighting] / Former project 724716 (Distribution)**.

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.
- 2. Construction Phase: a. The Subrecipient and/or Subrecipient's contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. 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. d. 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.

- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- Endangered Species Act (ESA) Conditions for the Puerto Rican Boa (Chilabothrus inornatus) for Quebradillas Streetlighting: Part 1 a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas. c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue.
- Endangered Species Act (ESA) Conditions for the Puerto Rican Boa (Chilabothrus inornatus) for Quebradillas Streetlighting: Part 2 e. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior. f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own. h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.
- ESA conditions for the Puerto Rican harlequin butterfly (Atlantea tulita) for Quebradillas Streetlighting: Part 1 The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species.
- ESA conditions for the Puerto Rican harlequin butterfly (Atlantea tulita) for Quebradillas Streetlighting: Part 2 e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 5-meter (16 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own. f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour

search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: *. Clearly mark the host plant with flagging tape. *. Establish a 5-meter (16-foot) buffer zone around the bush for its protection. *. Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. *. Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service's Caribbean Ecological Service Field Office at caribbean_es@fws.gov.

- ESA conditions for Auerodendron pauciflorum (No common name), Banara vanderbiltii (Palo de ramon), Calyptronoma rivalis (Puerto Rico manac), Daphnopsis hellerana (Heller's cieneguillo), Goetzea elegans (Goetzea, beautiful), Myrcia paganii (Ausu), Ottoschulzia rhodoxylon (Pincho Palo de rosa), Schoepfia arenaria (Arana), Zanthoxylum thomasianum (Pricklyash, St. Thomas), Tectaria estremerana (No common name) for Quebradillas Streetlighting: Before initiating any work within the range of listed plant species and in areas with suitable habitat, applicants must conduct plant surveys. In the event that listed species are discovered at the project site, the Service must be notified through the Office Direct Line: 786-244-0081. Email: caribbean_es@fws.gov When listed species are discovered at the project site, the conservation measures below apply to each species. a. Where threatened and endangered plants are identified, flag individuals and avoid to the extent feasible. If the plants cannot be avoided, they should be salvaged and replanted as close to the impact area as possible. b. If space allows, leave a 5-foot buffer around individuals and/or clusters c. For trees and palm trees, if space allows, leave a 15-foot buffer around the tree d. When pruning, prune dead branches. If pruning live branches do not prune more than 10%. Please contact the USFWS Field Office if additional pruning is necessary for a listed plant species: Office Direct Line: 786-244-0081. Email: caribbean_es@fws.gov
- ESA conditions for Peltophryne lemur (Puerto Rican crested toad) for Quebradillas Streetlighting: The PRCT is difficult to detect outside breeding events. The species seems to be more active at night, from 7:30 pm to 1:00 am, and have been observed using small holes and crevices to access underground chambers as daytime retreats. The Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the PRCT and its habitat. a. Inform all project personnel about the potential presence of the PRCT in areas where the proposed work will be conducted. A pre-construction meeting must be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PRCTs. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected must be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas. c. Strict measures must be established to minimize toad casualties by motor vehicles or other equipment in areas where the species is known to occur. Once the access routes are determined, maintain the traffic (human and vehicle) within designated access to minimize affecting toads and habitat. Personnel shall pay attention in those access routes particularly at night, and after heavy rains to avoid mortality of toads. d. Before earth movement, vegetation clearing, or debris removal activities commence each workday, biologist or personnel with experience identifying and searching for toads shall survey the work area to ensure that no toads are present or can be affected by the work activities for that day. If a crested toad is observed any time within the operational area of the project, cease or delay activities in this area until the toads move out of the area on their own. Activities at other work sites, where no toads have been found after surveying, may continue. e. We recommend the use of sound recorders and monitoring of ponds, if present, within or near the project area to detect toad activities and breeding events, particularly during the rainy season. f. Avoid impacts to drainages and avoid interrupting water flow and potential movement pathways for toads. g. If a PRCT is in an imminent risk of being affected by the project, contact PRDNER Rangers and the Service. h. For all PRCT sightings (dead or alive), record the time and date of the sighting and the specific location and send the information to the caribbean_es@fws.gov or Office phone 786-244-0081.
- The contractor/sub-recipient will be responsible for the proper disposition of construction debris, unusable equipment, white goods, scrap metal, bituminous, non-recyclable material and damaged transformers in authorized landfills providing FEMA the name, location, coordinates and permits of the facility to FEMA by closeout. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA by closeout as part of the permanent project file.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Quebradillas Streetlighting] / Former project 724716 (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 10/14/2026 5:14 PM PST

Review Comments

The proposed scope of work addresses the impacts on the streetlight facilities caused by Hurricane María. The project's objectives are to repair, replace, and upgrade the existing streetlight components to consensus-based codes and/or standards and mitigate future similar damage. Project has been reviewed, found eligible and cost reasonable. The subrecipient and its agents are responsible for complying with all grants and subgrant conditions, including any applicable Federal, State and local requirements.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 10/23/2026 2:00 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

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 #
0	11/3/2026	$9,676,273.59	90%	Accepted	4339DRPRP01082811

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1070365 **P/W #** 108329	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [38kV Line 6500 – Entire Line] (Vegetation)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1872607; FAASt [38kV Transmission Line 6500 – Entire Line] (Vegetation)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** FAASt [38kV Transmission Line 6500 – Entire Line] (Vegetation)
- **Facility Description:** The Puerto Rico Electric Power Authority (PREPA) owns more than 19,000 miles of transmission and distribution lines, as well as more than 400 substations. The facilities addressed in this project are all the overhead transmission and distribution lines (16,000+ miles), as well as substations. To ensure the functioning of this infrastructure to the level of service needed, keeping this equipment clear from vegetation is significant.
- **Approx. Year Built:** 1950
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1872607 **FAASt [38kV Transmission Line 6500 – Entire Line] (Vegetation)**

Project 136271 (hereinafter PREPA FAASt Project) authorized $9,459,885,412.39 (Federal Share) to be awarded to the Puerto Rico Electric Power Authority (PREPA, Subrecipient) as a fixed cost estimate (FAASt FCE agreement) based on eligible work withou detailed scopes of work to restore disaster-damaged facilities. Eligible work for the Transmission and Distribution (T&D) system included restoration of:

Broken structures due to high winds such as poles/towers (counted as broken when poles where inclined, bent, torn, and/or cracked); and other damages/broken components such as transformers, insulators, conductors, grounding system, jumpers, Gang Operated Air Breakers (GOABs), pole hardware, guy wires and anchors.

FEMA deferred the 406 Hazard Mitigation Proposal (HMP) fixed cost o?er in the PREPA FAASt Project until the Subrecipient submits its actual recovery solutions. FEMA also issued a clarification letter regarding whether hazard mitigation funding under Section 404 or Section 406 of the Sta?ord Act may be made available for the execution of a one-time, island-wide vegetation clearing and removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. See FEMA's letter to COR3, document Signed Vegetation

Management March 24 2023.pdf. The Subrecipient's actual recovery solution seeks a one-time Island-wide vegetation clearance and

removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate Puerto Rico's electric T&D system, including areas without infrastructure repairs.

The actual recovery solution (scope and cost) will be captured in multiple individual projects (hereinafter Vegetation clearance HMP Sub-FAASt projects) to provide flexibility and enable multiple programmatic reviews simultaneously. The Vegetation clearance HMP Sub-FAASt projects do not include infrastructure repair work.

This project captures a portion of the Island-wide actual recovery solution, specifically the onetime vegetation clearance and removal operation intended to mitigate the 38kV Line 6500 – Entire Line (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue an FCE o?er for the portion of the recovery solution that reduces risk of future similar damages. The Work to be Completed will be captured in the 406 HM scope section. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAASt Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: 38kV. See document 956345 DR4339PR FAAStVegetationHMPApproach_38kVTrans.pdf.The PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope. WTBC Cost (PA) = $15,433.57 per mile. Therefore, the total cost (PA) for this project will be $244,492.90

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1872607	$15,433.57	16.34	$252,184.53	$(7,691.63)	$244,492.90

Work to be completed total: $252,184.53

A&E Deduction (Global A&E FAASt 335168): -$7,691.63

Project Total: $244,492.90

Project Notes:

1. This is a 38kV Transmission-Vegetation clearanceHMP Sub-FAASt project.
2. Vegetation clearance HMP Sub-FAASt projects will be written according to line type (Distribution: 13.2kV and down, and Transmission: 38 kV, 115kV, and 230 kV) because of the di?erent ROWs and other characteristics. Multiple projects of each type will be submitted and reviewed for eligible PA 406 HM funding. Vegetation clearing work will only be submitted for those areas that vegetation represents strike potential (may cause future similar damage to the T&D system when subject to high winds). In the submittal of this project the Subrecipient's Authorized Representative attests that only the vegetation clearance submitted is to reduce strike potential and that the ROW for these lines has been, and will be, counted only once to avoid duplication within the vegetation clearance projects.
3. For more details of the requirements and conditions for the execution of a one-time, island-wide vegetation clearance and removal operation considered as an eligible Section406 hazard mitigation proposal (HMP), please refer to document labeled: Attachment A FEMA letter dated March 24 2023.pdf.
4. For details on the SOW, refer to filename 1070365-FAASt [38kV Line 6500 – Entire Line] (Vegetation) DSOW.pdf
5. Vegetation clearance funds will not be allocated to SubFAASt projects.
6. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as shown in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.
7. This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project.

406 HMP Scope

Project number: 1070365; FAASt [38kV Line 6500 – Entire Line] (Vegetation)

Damage #: 1872607; FAASt [38kV Transmission Line 6500 – Entire Line] (Vegetation)

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

Location: Caguas, Puerto Rico

GPS Latitude/Longitude: [redacted]

Introduction:

Puerto Rico's electrical grid infrastructure has been severely compromised by extreme weather events, particularly with Hurricane Maria in September 2017. The hurricane caused widespread disruptions to transmission and distribution systems, largely due to vegetation impacts that collapsed distribution and transmission lines. Substantial infrastructure was damage when trees downed utility power lines and poles, causing most of the transmission/distribution system fail. Post-hurricane vegetation clearance to enable grid repair and restoration progressed slowly, considerably delaying overall electrical recovery. Remaining excess vegetation continues to cause operational outages, as ground faults occur when vegetation contacts power lines even during normal weather events. After the passage of Hurricane María, minimal cleaning work was carried out exclusively to clear the areas to carry out emergency repairs to the electrical system. These works were covered by Category B - Emergency Protective Measure, but excess vegetation on the electrical system remains an outstanding vulnerability.

The Puerto Rico's grid modernization and mitigation one time ROW clearance strategy will prioritize effective and proactive vegetation management protocols to prevent prolonged storm-related outages, thereby increasing the reliability of the electric system. These reliability and resiliency gaps are especially impactful to Puerto Rico which has been facing increasingly frequent natural hazards such as hurricanes. This project is part of the for Vegetation Reset Program which will impact the Transmission and Distribution systems for each of the 78 municipalities.

Hazard Mitigation Narrative:

In order to minimize damages in a future event, the Subrecipient's actual recovery solution seeks a one-time Islandwide vegetation remediation clearance for the above work included in the PREPA FAASt Project, as according to the Public Assistance Alternative Procedures (PAAP) (Section 428) Guide for Permanent Work FEMA-4339-DR-PR (hereinafter PR PAAP Guide) and FEMA's letter to COR3, document Signed Island-Wide Vegetation Clearance March 24, 2023. Section 406 hazard mitigation are funds that can be added to projects for the restoration of disaster damaged facilities and must prevent future damage to that caused by the declared event. Under DR-4339-PR, Section 406 hazard mitigation funds are based on eligible, technically feasible, and cost- effective mitigation activities proposed to reduce risk to the function of the disaster- damaged facilities. The portion of the recovery solution that reduces risk of future damages may be considered as eligible 406 mitigation.

The island-wide transmission and distribution grid was significantly damaged by the strong winds and heavy rainfall during the atmospheric event hurricane Maria. This resulted in many trees and other vegetation becoming a direct hazard to the electrical grid. A one-time 406 hazard mitigation island-wide vegetation clearance will benefit the reliability and resiliency of the Puerto Rico electrical grid, including the number and duration of customer outages during and after the work to complete the repairs to the electrical grid through other PREPA 428 FAASt Projects. The scope of the global 406 Hazard Mitigation (HM) projects includes vegetation clearing across the entire width of the easement, plus a radius of 12 to 25 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems. Each 406 HM Vegetation Reset project is correlated with an eligible 428 T&D project, in association with PREPA's electrical grid. Different regional projects are developed to impact all lines of the electrical system, including distribution lines and high-voltage transmission lines. Also, projects are defined in terms of line type (distribution or transmission) and population density of the area (high or low) to simplify the evaluation by the Environmental and Historical Preservation team (EHP).

The global project was divided into the following regions:

- Region 1 – San Juan
- Region 2 – Arecibo
- Region 3 – Bayamón
- Region 4 – Caguas
- Region 5 – Mayagüez
- Region 6 – Ponce

For each Region of the island, there will be two types of projects to capture the Vegetation Clearing activities within scopes of work: (1) single transmission line projects based on LUMA's priority list, capturing the lines or segments of lines affected most by vegetation interference, and (2) Regional DSOWs divided into groups (Groups A – F), as follows:

- Region 1 – San Juan
- Region 2 – Arecibo
- Group A – High/Low Density Distribution Lines
- Group B – 38 kV Transmission.
- Group C – Overlapped Distribution and Transmission Lines
- Group D - 115 kV Facilities
- Group E - Substation and Telecommunication Facilities.
- Group F – 230 Kv Facilities (Non Region – Specific)

This 406 HM work is limited to what is necessary to directly reduce the potential of future damage to the T&D system assets, that exceeds what is necessary to clear vegetation for accessing facilities when carrying out repairs which are already established as eligible for FEMA funding utilizing the 428 FAASt Grant. Each 406 HM will correlate to an eligible 428 Transmission and/or Distribution (T&D) project in association with the PREPA power grid. There will be 7 Regional DSOW's developed capturing planned actions within scopes of work formulated with an established criteria detailed for Distribution and Transmission lines/facility locations. The first DSOW is Group A - High Density areas with a low reflection of infrared light; the second DSOW is Group A Low Density locations where more vegetation density is present, which is determined by a higher level of reflection of infrared associated with Vegetation for 13.2kV and below locations; the third DSOW is Group B locations at 38kV level; the fourth DSOW is Group C - with known local environmental sensitivities at 38kv and below levels locations; the fifth DSOW is 115kV Facilities; and the sixth DSOW is Substation and Telecommunication Facilities. There will also be a 230 kV Facilities (these installations have a separate Vegetation Clearance project that is not region- specific).

FAASt [38kV Transmission Line 6500 – Entire Line] (Vegetation)

This is a project for 38kV transmission lines in Region 4 Caguas. The DSOW captures the scope of work and cost estimate for Vegetation Clearing intended to mitigate the threat that the existing vegetation, along 38kV lines within Caguas (if left untended to), poses to Puerto Rico's electric grid.

This SOW is aligned with and leverages FEMA's Island-Wide Benefits Cost Analysis (IWBCA), which was used for this purpose and fully support the mitigation measures employed within this project scope of work.

The Subrecipient's authorized representative (LUMA) estimates that this 406 Hazard Mitigation proposal for island-wide vegetation clearance will have immediate and future widespread benefits, including:

- Mitigation of the hazards due to vegetation impacts and damages.
- 70% annual reduction of outages caused by vegetation.
- 35-45% annual reduction of customer interruptions.
- Faster restoration for impacted customers.
- Improved safety for utility workers and the public.
- Support the rebuilding of the grid and effective execution of large-scale construction projects.

The following terms, when used in this document, shall have the meaning described below.

Compatible Species – Compatible species are those that are congruent with the intended use of the site, and include small trees, shrubs and herbaceous vegetation that will never grow into conflict with overhead conductors.

Incompatible Species – Incompatible species are those that are not congruent with the intended use of the site and include tall growing trees and other plant forms (e.g., bamboo and palms) with the potential to conflict with overhead conductors.

Clearance - The minimum distance between two conductors, between conductors and their supports or other objects, or between conductors and the ground. The National Electrical Safety Code (NESC) and PREPA's Technical Communication (See 12-02 attached) determine the minimum requirements regarding distances (vertical and horizontal) between an energized conductor or device and a structure, building or surface. Vegetation Clearing will be limited to clearing any vegetation affecting these clearances. This term is not synonymous with easement. Clearances can be met without being within an easement. Clearance requirements must be complied with either when the Authority builds its facilities, as well as when a third party builds a structure. Clearances, in both cases, must be complied with by regulation, regardless of whether an easement exists. regardless of whether an easement exists.

Easement - is a lien imposed on a property for the benefit of another belonging to a different owner. The property, in favor of which the easement is constituted, is called the dominant estate; the one who suffers it, servant property. An easement for electrical power lines provides PREPA and Luma as its agent various rights including: reasonable access to the electric infrastructure to provide maintenance, repair, expand, operate and is established on the strips or portions of land where facilities of the T & D system are located or will be located, such as: lines, poles, towers, equipment, and accessories. These acquired rights make it easier to carry out vegetation clearing work.

The PREPA distribution and transmission systems are populated with millions of plants but only some have the conditions, growth characteristics, and/or locations that make them compatible or incompatible with the safe and reliable energy delivery service. The Subrecipient's authorized representative recognizes the diversity of species in tropical ecosystems, and the general remediation strategy is to control incompatible species while encouraging the growth of compatible species. Compatible species may, on occasion, need control if their height or density impedes the necessary line of sight for inspections or access to perform resilience work. Within Appendix A and B are lists of protected flora species and incompatible flora species expected to be encountered during scope performance.

(I) Proposed 428 Public Assistance Scope of Work (SOW):

This project includes Public Assistance (PA) works; however, PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope, $15,433.57 / mile calculation represents the PA Overlap.

PA incidental works will be deducted from the Section 406 Hazard Mitigation project costs to avoid duplication of works. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects.

FEMA performed an analysis to the PREPA FAASt documents and determined that vegetation clearing on each mile of 38 kV line requiring repair was on average 8.34% related to the repair (428 PA) and 91.66% related to a mitigation measure (406 HM). The fixed-cost estimate for the PA scope is $15,433.57 per **16.34 mile**, with a total project cost of **$252,184.53**. For further details, refer to the document "FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"

(II) Hazard Mitigation Proposal (HMP) Scope of Work:

DI 1872607; FAASt [38kV Transmission Line 6500 – Entire Line] (Vegetation)

As a result of DR-4339-PR, vegetation surrounding T&D assets are falling onto these facilities and interfering with the safe and reliable operation of the assets. The vegetation at present is currently causing outages when vegetation is in contact with the T&D assets. To mitigate the future damage across T&D assets and protect the 428 repairs and replacement along these facilities, clearing vegetation materials will be required. This 406 Hazard Mitigation Scope of Work is to directly reduce the potential of future, damages to the T&D system by clearing vegetative materials that pose an immediate threat to the power distribution lines, and identification for corrective actions related to clearing vegetation (consisting of shrubs, branches, limbs, stumps, bamboo, and trees that are directly impacting the resilience and productivity of the power grid) applicable to the existing PREPA electrical grid within Region 4 Caguas TL of Puerto Rico.

The extent and execution of this scope includes performing verification of facilities, assets and condition assessments for determining the most appropriate remediation, preparing work orders for executing the necessary vegetation remediation, by ways of tree felling, vegetation remediation, mechanical vegetation remediation, vegetative debris disposal via chipping, mulching, hauling, and recycling where applicable in easement of the PREPA power Distribution lines. LUMA is not planning to construct access roads. If the work to be done is not adjacent to an existing road, our contractor tree crews will minimize environmental disturbance by utilizing vegetation crews hiking by foot in and out of our existing easement.

Parameters for Performing 406 Hazard Mitigation Vegetation Clearing

Regulation 7282 requires that only shrubs and plants (no trees) be planted within the easement under power lines. Climbing plants and vines, as well as bamboo, are prohibited from being planted within an easement. The branches of trees planted outside the easement must not obstruct free passage of the power lines. The National Electrical Safety Code (NESC) and PREPA's Technical Communication establish the minimum required distances, both vertical and horizontal, between an energized conductor or device and any structure, building, or surface. Vegetation clearing will be restricted to removing any vegetation that interferes with these clearances. For power distribution lines, NESC and Regulation 7282 defines the vertical distance from vegetation as 12-15 feet. By law, any trees, shrubs, or plants planted in violation of Regulation 7282 may be uprooted, removed, or cut down in accordance with the provisions of Regulation 7282 – for both compatible and incompatible species.

Industry standard practices will determine how the work will be performed. A healthy tree is less likely to fall over in a storm and damage overhead lines; therefore, vegetation will be pruned according to ANSI A300 (Part 1) – 2017 Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning). Vegetation that is improperly pruned could become susceptible to disease and decay, resulting in a hazard to both the line and public safety. ANSI A300 is the tree care industry standard of care in the USA. It was developed by Tree Care Industry Association and maintained by a consensus of various industry stakeholders through periodically reviewing and updating the guidelines. These standards provide guidance on how and where to prune vegetation to achieve clearances and maintain a healthy plant. In all cases, Subrecipient's authorized representative's vegetation clearing contractors will be required to perform clearing activities in a manner consistent with ANSI A300, NESC, and Regulation 7282 alignment with Resolution 4987, Organic Law 83 (amended version), Communication 12-02, and PREPA 's Comprehensive Vegetation Management Plan establishing standard Distribution easement widths. Easement Clearance widths for distribution lines are given in the table below:

Recommended Easement width for overhead Transmission & Sub-Transmission Lines (feet)				
Construction type	Area	Voltage(Kv)		
		38	115	230
Single Circuit	Urban	25 ft	30 ft	40 ft
	Rural	50 ft	100 ft	100 ft
Double Circuit, Same Structure	Urban	25 ft	40 ft	60 ft
	Rural	50 ft	100 ft	100 ft
Double Circuit, Different Structures	Rural	50 ft	100 ft	100 ft

Scope of Work Inside Easement – Incompatible Species

Incompatible species are those that are not congruent with the intended use of the site and include tall growing trees and other plant forms (e.g., bamboo and palms) with the potential to conflict with overhead conductors. For the power distribution lines, all Incompatible Species will be cleared from the full width of the easement. "Clearing" in this context includes the following activities: tree removal, severing of vines, cutting, vegetation mastication.

- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.
- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified working at ground level. The upper portion of the vine remains attached and is not removed.
- Cutting: Cutting typically involves the removal of small diameter Incompatible Species by hand.
- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

Scope of Work Inside Easement – Compatible Species:

Compatible vegetation species will be cleared consistent with the distances identified in Regulation 7282, which means that any species with the potential to encroach within 12 feet of the conductors at full size will be removed using the same methods discussed above. Even though the distances identified in Regulation 7282 are vertical clearances, Compatible Species encroaching on the conductors from any direction can pose a hazard to the distribution system, with the maximum edge of the conductors to be 12 feet wide centered on the pole. Therefore, the 12-foot clearance is being applied to both vertical and horizontal clearances. For areas with overhead distribution systems located in the backyard or side yard, the certified easement width from LUMA Land Records office will use for clearing.

In rare cases where Subrecipient's authorized representative encounters significant resistance from landowners or stakeholders to remediate vegetation, Subrecipient's authorized representative will work with landowners or stakeholders to determine if Incompatible and Compatible Species can be pruned to mitigate the hazard to the lines instead of being completely removed

Vegetation with the potential to encroach within 12 feet of conductor — Compatible or Incompatible.

Any vegetation species—whether Compatible or Incompatible—that have the potential (when at full size) to encroach within 20 feet of the conductor will be cleared using one of the methods discussed below:

- **Tree Removal**: Removing above-ground portions of trees while leaving stumps in place.
- **Severing of Vines**: Cutting vines at the base to create an air gap between the root system and the structure.
- **Cutting**: Hand removal of small-diameter incompatible species.
- **Vegetation Mastication**: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch. Using heavy equipment to reduce standing trees to woody debris.

All Other Incompatible Species within the Recommended Easement Width:

- All other Incompatible Species will be cleared from the full width of the recommended easement width. The clearing methods described above (tree removal, severing of vines, cutting, and vegetation mastication) will be utilized.

Scope of Work Outside Easement – Species Growing into the Easement

There is the potential for vegetation outside or along the boundary of the easement to interfere with the operation of power distribution lines. Appropriate clearances around the conductors must be achieved to protect the lines from future damage. For distribution lines, Subrecipient's authorized representative has established a minimum clearance distance of 12 feet from all conductors, with the maximum edge of the conductors to be 12 feet wide centered on the pole. This distance is consistent with the vertical distance established in Regulation 7282. If there are species encroaching on the 12-foot clearance outside or along the boundary of the easement, these species will be pruned to obtain at least 20 feet of clearance from the conductors at the time clearance work occurs. In cases where following ANSI A300 best practices require clearance beyond 12 feet, the maximum distance cleared will not exceed an additional 3 feet from set clearing distance. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-*"FAASt VegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"*

- Tree pruning: Qualified personnel work from an aerial platform or while climbing within a crown of trees to prune the tree. All pruning work wounds the tree. Done poorly, pruning can result in an exaggerated regrowth response by adversely altering tree architecture and increasing exposure to decay organisms that can weaken the tree. These adverse consequences increase the likelihood of tree-initiated faults causing system interruptions and customer outages. Proper arboriculture techniques will be utilized.
- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.
- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified worker at ground level. The upper portion of the vine remains attached and is not removed.
- Cutting: Cutting typically involves the removal of small diameter species by hand.
- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

FEMA 38kV Assessment & Methodology:

LUMA documentation claims a 100% clearance for the entire project segment based on the total length of the feeder. This analysis would not be considered as the method for validation purposes.

Consequently, FEMA perform a 100% evaluation of each feeder to determine the quantity of miles of vegetation non-compatible. The tools used for this analysis are Google Earth, that allows a street view evaluation where the HM Specialist uses the imagery data for analyze the feeder lines adjacent to roads. Where the feeder is through mountains FEMA use top and 3D view maps that allows determine the elevations for mountains, forested areas (assess vegetation), and the topography of the land. When poles are at the top of mountains and lines run between mountains, only the vegetation around the poles will be considered. The total percentage of each line is the result of compiling all the sections analyzed. It is important to emphasis, that after work completed, the subrecipient can submit additional eligible vegetation clearance distance not included in this vegetation clearance percent analysis.

FEMA Analysis:

	HMP	Cost Estimate
Total Project Miles:	41.58	41.58

Vegetation Miles at 100% of Work	12.86	12.86
Vegetation Miles at 50% of Work	3.99	1.99
Total Miles to Clean	16.85	14.86
Buffer Acceptance:	10%	10%
Vegetation Miles at 100% + Buffer	**14.15**	**14.15**
Vegetation Miles at 50% + Buffer	**4.39**	**2.19**
Total Miles to Clean with Buffer	**18.54**	**16.34**
% of Miles to Clean with Buffer	45%	39%

The total length to be cleared, according to the Hazard Mitigation Proposal (HMP), is **18.54 miles**, which includes a 10% buffer due to the method of assessment (desktop review), providing sufficient funds to ensure vegetation works are covered. This amount is estimated value, that will be adjusted based on the amount of actual work performed.

The cost estimate is based on two vegetation clearance scenarios, (1) the full clearance represents those lines that at both side sides of the right of way have vegetation that needs to be cleared. (2) is the half clearance represented for those circuits alongside roadways and only needs clearance at one side of the right of way. As a result, the total miles used for the cost estimate is **16.34 miles,** which reflects these adjustments for segments that do not require full clearing. This amount is estimated value, based on a desktop review that will be adjusted based on the amount of actual work performed and evidence of the actual work performed.

(III) Hazard Mitigation Proposal (HMP) Cost:

Vegetation Clearance Cost per Mile (Base Cost) =	$176,173.47 / mile
Risk Factor approved by DR4339-PR leadership (5%) =	$8,808.67 / mile
Vegetation Clearance Cost per Mile (w/Soft Cost) =	$184,982.14 /mile
PA Vegetation Clearance Overlap per Mile (Deduction) =	($15,433.57/ mile)
Hazard Mitigation Total Cost per Mile =	**$169,548.57 / mile**

Project Total Miles with Vegetation: Buffer Acceptance:	14.15-miles 10%
Project Total Miles with Vegetation:	16.34 miles
Hazard Mitigation Total Cost =	**$2,770,423.63**

Note: The $169,548.57 / mile calculation represents the total cost (base costs + soft costs – PA Overlap). For this project, breaking down that total cost further yields the approximate figures below. For additional information please see the attached document.

Total Net Hazard Mitigation Cost (Base Cost) =	$2,638
+ HM (Management & General Conditions Factors) =	$131
Hazard Mitigation Total Cost =	**$2,770**

(IV) Hazard Mitigation Proposal (HMP) Cost Distribution:

Architecture and Engineering (A&E) =	$84
Remaining Vegetation Clearance Cost =	$2,685
Hazard Mitigation Total Cost =	**$2,770**

(V) HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis, BCA, methodology evaluates the expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide, PAPPG, Version 3.1, April 2018, Chapter 2, Section VII.C, page 98, considers mitigation measures to be cost-effective when they are demonstrated through an acceptable BCA using FEMA's BCA methodologies and have a resulting Benefit-Cost Ratio, or BCR, equal to or greater than 1.0.

For PREPA infrastructure under FEMA DR-4339-PR, FEMA developed an Island Wide Benefit Cost Analysis, or IWBCA, to evaluate cost-effectiveness at the electrical system level rather than through separate project-specific BCAs. The IWBCA characterizes the PREPA/LUMA system as a single project for mitigation purposes, focuses on system-wide resiliency, and supports the development of cost-effective mitigation projects while avoiding double counting, or duplication, of benefits. The IWBCA applies one BCA to the entire FAASt project and includes benefits based on future costs avoided from physical damage to infrastructure, costs related to the response and reconnection effort, and loss of function for electric service caused by the storm.

The IWBCA established a maximum potential mitigation benefit for the PREPA system of $7.6 billion. This figure represents the estimated total potential mitigation benefit with the highest confidence and was developed using the incurred costs of the PREPA FEMA Accelerated Award Strategy, FAASt, fixed cost estimate, FCE, the mission assignments used for the reconnection effort, and costs associated with loss of service. The IWBCA results were developed by the PA Mitigation team using the best available data and were further refined and concurred with by FEMA Region 2 PA Mitigation team members and FEMA HQ groups, including the Community Infrastructure Resilience, CIR, Branch and Disaster Implementation, DI, Branch. This maximum potential benefit must be tracked to ensure that the combined cost of all approved mitigation proposals does not exceed the maximum potential benefit.

The Hazard Mitigation Proposal, HMP, described herein has a total Hazard Mitigation cost of **$2,770,423.63**. In accordance with FEMA's internal IWBCA benefit tracking, the maximum potential benefit remaining in the IWBCA is **$5,000,823,317.35.** The cost of this HMP, when combined with all other approved IWBCA-related proposals funded, does not exceed the remaining available IWBCA benefit. Therefore, this HMP is deemed cost-effective under the FEMA PAPPG Version 3.1, April 2018, Chapter 2, Section VII.C, BCA Rule, because the IWBCA demonstrates an acceptable BCA with a Benefit-Cost Ratio equal to or greater than 1.0.

For validation, reviewers should refer to the attached IWBCA Package, including the IWBCA narrative and backup documentation, which define the IWBCA methodology, inputs, and supporting calculations. Reviewers should also confirm that the project has been included in the current IWBCA benefit tracking record to verify that the total approved IWBCA-related mitigation costs remain below the maximum potential benefit and that no duplication of benefits has occurred.

This Hazard Mitigation Proposal meets the eligible repair and restoration cost-effectiveness requirements. See the Mitigation Profile Documents Tab in Grants Manager for the complete supporting documentation, including the HMP cost estimate and supporting documents file.

(VI) Compliance and Assurance Requirements:

A) HMP GENERAL NOTES:

By agreeing to implement the hazard mitigation measures in this HMP, the Applicant/Sub-Applicant is bound by the specific guidelines listed within this document.

COSTS AND GENERAL CONDITIONS: The vegetation removal cost is established according to the average base cost of **$176,173.47 / mile**. Additionally, DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **$184,982.14 / mile**. After deducting Public Assistance (PA) $15,433.57 amount (incidental work- refer to document FAASt\VegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf), the final total obligated amount through PA 406 is **$169,548.57 / mile**.

DOCUMENTATION REQUIREMENTS: The subrecipient shall document all vegetation removal work, including but not limited to the following:

- Before and after photographs of the total distance included in the HMP Scope of work that clearly show the condition of the area before and after the vegetation clearance.
- A digital map in ArcGIS format showing all areas where vegetation removal was performed. Location information must be provided, including the physical address, GPS coordinates from start to finish of clearance work, and contact information for private property (when applicable).
- Work orders must account for the entire feeder length distance and include a description of the sections both with and without vegetation. Material disposal documentation must specify whether the material was chipped and removed, left on-site, or transported to a landfill.

Note: All vegetation clearance projects must include the above documentation to define the work completed prior to project closeout.

COST DISTRIBUTION: Recognizing that the established cost is an average per mile, it is understood that actual expenses for each feeder or area may deviate (either underrun or overrun) from the estimated project amount. The 406 HMP scope and cost agreement sets an average cost per mile for vegetation clearance, allowing the subrecipient to manage funds across the various projects that comprise the vegetation asset. The *Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR, January 1, 2022 (PR PAAP Guide)*, states that if funds for 406 Mitigation are included in the fixed-cost subaward, the subrecipient must complete the approved Scope of Work (SOW) of the Hazard Mitigation Proposal (HMP) in order to retain the 406 Mitigation funding. Consequently, only completed distance in the HM Scope of work, supported by the necessary back-up documentation (e.g., verified mitigated clearance distance), will be eligible for fund retention. Any uncompleted work from the HM SOW (e.g., miles not documented with mitigated clearance distance) will be de-obligated during the closeout process.

SCOPE OF WORK DEVELOPMENT OF HAZARD MITIGATION: FEMA will evaluate each mitigation opportunity to first determine what measures or portions of solutions could be funded through Section 406 mitigation. FEMA analyzes the proposed mitigation measures for cost-effectiveness, technical feasibility, and compliance with EHP laws, regulations, and Eos. FEMA, the Applicant, Recipient, and Sub-recipients will develop and agree to scopes of work (SOW) and cost estimates to repair, restore, or replace eligible facilities including 406 Hazard Mitigation" (Page 6).

COMPLETION OF HAZARD MITIGATION SCOPE OF WORK: If this HMP is approved and the mitigation is not performed, the Applicant must apply for a change in the Scope of Work and a de-obligation of the HMP funding. Failure to complete the work of the HMP may limit future FEMA funding of repairs at the site in the event that a similar disaster event results in similar damage at the site.

CHANGES TO THE HAZARD MITIGATION SCOPE OF WORK FOR LARGE PROJECTS:

Per PAAP PA Process (Section 428), Guide for Permanent Work, February 10, 2020, "A Subrecipient may alter the 406-hazard mitigation SOW (HMP) after FEMA, the Recipient, and Subrecipient agree on the cost estimate for the initial proposal. After the project is obligated, the SOW for the HMP can be changed only once and the timeline for this change will be established based on a facility-by-facility basis. The proposed change will require evaluation by FEMA for eligibility and EHP. As part of the eligibility review, FEMA will evaluate the SOW, technical feasibility, the level of protection, the revised cost estimate, and cost effectiveness of the new hazard mitigation proposal, and, if approved, will adjust the scope and cost estimate accordingly." (Page 14)

HAZARD MITIGATION DESIGN: This HMP is for estimating purposes only and not to be construed as a project design. If the site's final placement and configuration are different than the preliminary estimate, the Applicant should submit a change in scope request. This HMP is subject to further review prior to award.

HAZARD MITIGATION CONSTRUCTION: The Applicant must provide & maintain competent & adequate engineering design & supervision during the construction phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & construction standards.

As a condition of the FEMA mitigation grant, the Applicant is responsible for the determination of and compliance with all applicable requirements, codes, standards and specifications in connection with the project, including but not limited to the Puerto Rico Building Code of 2018 (2018 PRBC), IBC, IRBC, NFIP Floodplain Management Regulations outlined in 44 C.F.R 60.3, ASCE 24, ASCE 7, and receiving all applicable permits & approvals prior to construction.

MAINTENANCE OF HAZARD MITIGATION: The Applicant shall ensure proper maintenance of the installed mitigation measures, per manufacturer and designer specifications. Any adaptations or installations not approved or that renders the hazard mitigation measure ineffective shall be removed by the Applicant. Examples include, but are not limited to, improper installation of roof-mounted equipment or installation of window-mounted air-conditioning units.

ENVIRONMENTAL AND HISTORIC PRESERVATION: Eligibility and funding for the mitigation at this site on this project will be subject to the compliance of all environmental

laws, regulations, and executive orders applicable to the site. This project will undergo a EHP compliance review, after obligation any changes to the SOW will likely trigger an additional EHP compliance review of the revised SOW.

ATTACHMENTS:

Please refer the following documents.

1. *"Island-Wide Vegetation Clearance - FEMA letter dated March 24, 2023.pdf"*
2. *"FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"*
3. *"Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"*
4. *"IWBCA HMP Package.pdf"*
5. *"PN1070365-TL6500_38KV.kmz"*
6. *"PN1070365-DR4339PR-HMCE-IEP-20261005-JIIR.xlsx"*
7. *"PN1070365-DR4339PR-HMP-20261005-JIIR.pdf"*

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$252,184.53	Uncompleted
3510	1	Lump Sum	($7,691.63)	Uncompleted

CRC Gross Cost	$244,492.90
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$244,492.90
Federal Share (90.00%)	$220,043.61
Non-Federal Share (10.00%)	$24,449.29

Subgrant Conditions

- Applicants must retain all source documentation for each large project for three years after the date the Recipient submits to FEMA certification of completion of the project and all source documentation for small projects for three years after the Recipient submits to FEMA certification of the applicant's last small project. See Title 2 Code of Federal Regulations (C.F.R.) § 200.334. Recipients may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.
- 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 in effect at the time of the declaration. 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 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. DHS Standard Terms and Conditions are viewable at https://www.dhs.gov/publication/dhs-standard-terms-and-conditions.
- The applicant acknowledges that 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 200.110.
- The applicant acknowledges that PA funding must be used exclusively for the work specified in the approved project. If a change to the approved scope of work is needed, the applicant must submit a written request through the Recipient to FEMA before it commences work associated with a change.
- Applicants must inform FEMA of each purchased equipment item with a fair market value over $10,000 after it is no longer needed for federally funded programs or projects. Applicants must also inform FEMA of any unused residual supplies when the aggregate total exceeds $10,000. See Title 2 C.F.R. §§ 200.313 and 200.314. FEMA reduces eligible funding by this amount.
- The Recipient must submit its certification of the subrecipient’s completion of all of its small projects and compliance with all environmental and historic preservation requirements within 180 days of the applicant’s completion of its last small project, or the latest approved deadline, whichever is sooner.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies that all work claimed was or will be delivered in an impartial manner without discrimination as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination.
- The Applicant certifies that all impacts/damage claimed was a direct result of the Presidential declaration, was not pre-exisiting damage, and did not result from a lack of maintenance.
- The applicant certifies that all work claimed was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant’s legal responsibility.
- The applicant certifies that all costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of work as required by 44 C.F.R. § 206.228 and 2 C.F.R. § 200.404.
- The applicant certifies that no work or costs claimed are covered by another funding source. 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 applicant acknowledges it is required to notify FEMA through the recipient if it receives assistance for the same work or costs from another Federal agency, insurance, or any other source and return any duplicated funds to FEMA.
- The applicant certifies that all facilities are being restored in accordance with all federal and SLTT code and standard requirements.
- The applicant acknowledges it must comply with EHP laws, regulations, and Executive Orders (EO), including but not limited to, the

Endangered Species Act (ESA), National Environmental Policy Act (NEPA), and the National Historic Preservation Act (NHPA). The applicant must afford FEMA the opportunity to perform EHP reviews prior to starting any work that has potential to impact the environment or historic properties, including archaeological resources. If the applicant starts work prior to FEMA's completion of the EHP review, it jeopardizes PA funding for the entire project.

- The applicant acknowledges that under 2 C.F.R. Part 200, it must follow their documented procurement procedures, provided they conform to federal procurement and contracting requirements. The applicant certifies that it is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. §§ 200.317 - 200.327. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions.
- The applicant certifies that all information provided is true and correct. Upon submittal this project application becomes a legal document. The False Claims Act (31 U.S.C. §§ 3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571).
- The applicant acknowledges that it must obtain and maintain insurance coverage for all buildings, contents, equipment, and vehicles in an amount equal to or greater than the total cost, prior to any reductions as required by the Stafford Act § 311, 42 U.S.C. §5154, 44 C.F.R §§ 206.251 - 206.253, and in accordance with FEMA Policy 206-086-1 Public Assistance Policy on Insurance.
- 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

10/7/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if needed, providing administrative function and forwarding project for completion.

Jean-Carlo Echevarria, PA Insurance Specialist, CRC Atlantic, Guaynabo P.R.

9/9/2026

Does the Applicant have a Commercial Policy: Yes.

Does the Applicant's Commercial Policy extend coverage for the damage described in this project: No.

Property insurance coverage for the electrical distribution facilities represented on this project are not insured or insurable. No insurance relief is anticipated. No Obtain and Maintain requirement will be made.

FEMA requires the applicant to take reasonable efforts to pursue claims to recover insurance proceeds that it is entitled to receive from its insurer(s). In the event that any insurance proceeds are received for these expenses those proceeds must be reduced from FEMA Public Assistance funding to ensure no duplication of benefits has occurred.

No duplication of benefits from insurance is anticipated for work described in this application. In the event any part or all costs are paid by an insurance policy, a duplication of benefits from insurance will occur. Applicant must notify grantee and FEMA of such recoveries and the Sub-Grant award amount must be reduced by actual insurance proceeds.

No insurance requirements will be required for this project. Insurance requirements are specific to permanent work to replace, restore, repair, reconstruct, or construct buildings, contents, equipment, or vehicles. (FEMA Recovery Policy FP 206-086-1).

No insurance narrative will be produced or uploaded into documents or attachments.

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [38kV Line 6500 – Entire Line] (Vegetation)**.

406 Mitigation

There is no additional mitigation information on **FAASt [38kV Line 6500 – Entire Line] (Vegetation)**.

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.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.

- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [38kV Line 6500 – Entire Line] (Vegetation)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 10/19/2026 1:29 PM PST

Review Comments

Version 0 contemplates $220,043.61 (federal share) for incidental vegetation clearance associated with 16.34 miles of the 38kV Line 6500 – Entire Line. No permanent infrastructure repairs are included in the approved Scope of Work. The Work to Be Completed cost is $252,184.53, based on $15,433.57 per mile, and the final PA project cost is $244,492.90.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 10/26/2026 6:18 PM PST

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
No Records							

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 #
0	11/3/2026	$220,043.61	90%	Accepted	4339DRPRP01083291

Exhibit 3

[*Excel spreadsheet, to be submitted via email*]